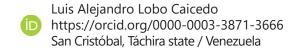
# Inflation, free cash flow and profitability in companies in the food and beverage sector of the municipality of San Cristóbal, period 2014-2018

Inflación, flujo de caja libre y rentabilidad en las empresas del sector de alimentos y bebidas del municipio San Cristóbal, período 2014-2018



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# **Abstract**

The objective of the research was to determine the relationship between inflation and free cash flow with the profitability of companies in the food and beverage sector, San Cristóbal municipality, Táchira state, period 2014-2018. The research is descriptive, supported by descriptive-correlational, field research that uses the inductive method. The selected population was made up of 115 food and beverage outlets in restaurants, cafes and other establishments with table service and counters, the sample was made up of the same population, the main data collection technique applied was the interview combined with review of documents, where the financial statements of the companies were used, supported by the interview used with the general managers. Frequency distribution tables, bar and dispersion graphs, and correlations were used to analyze the data, which determine the behavior of the variables.

Keywords: Inflation, profitability, free cash flow.

# Resumen

La investigación tuvo como objetivo determinar la relación entre la inflación y el flujo de caja libre con la rentabilidad de las empresas del sector de alimentos y bebidas, municipio San Cristóbal, estado Táchira, periodo 2014-2018. La investigación es de tipo descriptivo, apoyada en una investigación descriptiva-correlacional, de campo, que utiliza el método inductivo. La población seleccionada estuvo constituida por 115 establecimientos de expendio de comidas y bebidas en restaurantes, cafés y otros establecimientos con servicio de mesa y mostradores, la muestra estuvo dada por la misma población, la técnica de recolección de datos principal aplicada fue la entrevista aunada a revisión de documentos, donde se utilizaron los estados financieros de las empresas, apuntalada con la entrevista empleada al gerente general. Para el análisis de los datos se emplearon tablas de distribución de frecuencia, gráficos de barras y dispersión, correlaciones, que determinan el comportamiento de las variables.

Palabras clave: Inflación, rentabilidad, flujo de caja libre.

## Introduction

The present research reflects that inflation in Venezuela has a direct impact on the daily operations of businesses, especially those in the food and beverage sector, as the National Consumer Price Index (NCPI) generally shows an upward trend during the study periods. This is due to the limited availability of foreign currency resulting from the decline in oil prices, affecting the level of imports and thus goods and services.



Inflation is an economic phenomenon related to the progressive increase in population. Meanwhile, national and global policy measures have brought unexpected changes to the economy, such as the rise in prices of basic basket products, oil prices, and international conflicts, which have affected Venezuela in recent decades.

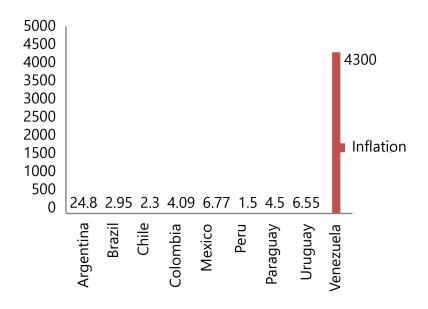
The level of inflation in Venezuela affects the performance of companies in the food and beverage sector, as they strive to remain competitive in the market and achieve efficiency and effectiveness in their core processes to benefit their management. Therefore, their financial situation was analyzed, which in most countries constitutes an activity that contributes to the economy and is beneficial for the population.

Currently, one of the main issues in the global financial sphere is inflation, as explained by Behar (2015). Although a decrease in product and/or service prices is not what is needed, several nations were showing signs of deflation, as seen in the case of Colombia's inflation, which was 0.19% in July 2015. This provided hope for the Banco de la República, which decided to maintain intervention rates at 4.5%, with a strong expectation that the Consumer Price Index (CPI) would begin to decrease and stabilize close to target values in 2016.

Moreover, paraphrasing Behar (2015), this is not an isolated event in Colombia, nor in Latin America, except for isolated incidents like Venezuela, Brazil, and Argentina, with macroeconomic incidents and problems.

According to historical data from the World Bank for the years 2016-2017, average inflation world-wide decreased from average levels of 3.7% in 2012 to 2.5% in 2014, and although the trend appears to stabilize, it continued to decline more slowly. In this regard, the behavior in Latin America for the years 2016-2017 showed stable conduct, except in countries like Argentina, Mexico, and Venezuela, as can be observed in Graph 1.

Graph 1
Inflation (%) for the year 2017



Note: Compiled with data taken from the International Monetary Fund, 2020.



As shown in Graph 1, inflation in Venezuela displayed behavior well above the global average, which leads to the understanding that the effect of the devaluation of money over time was worsening in both social and business aspects. In this regard, Behar (2015) states that "the business activity of any country is exposed to economic factors that influence its development and, consequently, its results, as is the specific case of inflation." This phenomenon has been an ongoing economic reality in Venezuela for years, affecting prices, costs, wages, salaries, property values, and all money-related aspects.

However, because of the strict control over inflation being implemented by the Central Bank of Venezuela (BCV), there has been a significant contraction in the supply and demand of economic activity. Consequently, López (2017) asserts that an uncontrolled increase in prices has been observed in Venezuela. The state of Táchira, during the period 2013–2017, experienced higher rates compared to other regions of the country due to its proximity to the Colombian border.

In 2018, according to Castro (2018), the state of Táchira was significantly impacted in the areas of food and beverages, as the closure of the border affected the region's legitimate commercial activities. On the contrary, it increased informality and financial crimes.

Regarding the case of Mora's Restaurant, located on Carabobo Avenue in the San Cristóbal municipality, data provided during an interview with the general manager revealed that, during the first quarter of 2018, although sales increased in monetary terms, the profit margin did not reflect the same growth. This resulted in reduced cash flows and profitability. Table 1 below shows the sales figures and profit percentages for the first quarter of 2018.

**Table 1** *Income and profit margin for the first quarter of 2018* 

Month (2018)	Income (Bs)	Increase (%)	Profit margin (%)	Decrease (%)
January	32.000.000	21,88	31	4
February	48.350.000	93,40	25	10
March	66.000.000	164,00	32	3
April	48.783.333	93,09	29,33	5,66

Source: Data provided by the company owner.



Therefore, the increase was determined based on the fixed value for december 2017, which amounted to 25,000,000 Bs, concerning the months of january, february, and march. Meanwhile, the decrease was calculated using a profit margin of 35% for December 2017. It was concluded that, although the company increases its monthly revenue by an average of 93.09%, it experiences an average decrease of 5.66%, with average monthly sales of 48,783,333 Bs.

From this perspective, the main objective of this research was to analyze the relationship between inflation and free cash flow, as well as between inflation and profitability, during the 2014–2018 period for the food and beverage sector in the municipality of San Cristóbal, Táchira state. This analysis was subsequently subjected to simulation using different inflation rates applied to the revenues and expenses generated by the investment. This approach may serve as a useful tool for decision-makers in an inflationary context.

The research is justified from three aspects: methodological, practical, and theoretical. Firstly, by correlating macroeconomic variables with internal variables, recommendations can be derived to improve the financial conditions of the company, thereby fostering growth in the sector and/or subsector under study. Maintaining sustainable economic activity at the local, regional, and national levels is crucial, as it promotes employment and development.

It should be noted that in the city of San Cristóbal, approximately 21,003 companies were registered in 2017 (34% of the total in the state). However, only 315 of these are classified as industries, while the rest are engaged in commercial activities. According to the Chamber of Commerce and Industry of Táchira State, commercial activity began to decline in 2018, mainly due to financial issues and government policies.

For the companies studied, this research provides financial strategies that can ensure their sustainability in a complex market such as the food and beverage sector in the municipality of San Cristóbal, Táchira state. Moreover, all social organizations must fulfill their basic financial objectives, and the correlation between external and internal variables can facilitate this process. Lastly, this research will serve as a methodological framework for future studies on inflation, cash flow, and profitability in the food and beverage sector and other areas of economic activity.

On an international level, Macas & Luna (2014) conducted a thesis titled Analysis of Inflation and Economic and Financial Profitability in the Marketing and Export Company of Bioaquatics for the Periods 2012–2013 at the National University of Loja, located in Loja, Ecuador. Their objectives included analyzing inflation and economic and financial profitability in the company, determining the behavior of inflation, identifying trends in profitability, and proposing improvements for the company.

The research methodology employed was fieldwork, utilizing a questionnaire as the instrument under the survey technique, which was applied to a total of 55 workers. Among their findings, they observed a correlation of 0.91 between inflation and profitability, significantly impacting the company's financial environment. Their strategy focused on reducing administrative expenses by at least 8%, targeting costs not essential to the organization's core activities

For this research, this precedent provides guidance on the type of research to use, as well as the techniques and instruments for data collection. It facilitated the development of analy-



ses, data processing, and the identification of relevant aspects.

Similarly, at the national level, Arias (2012) conducted a thesis to obtain a master's degree in business management, specializing in Financial Management, at the University of Zulia. The thesis was titled "Inflation and Budget Management in Mixed Companies of the Oil Sector in Zulia State." Its objective was to analyze the impact of inflation on budget management in mixed companies of the oil sector. The study examined the behavior of the inflation rate, budget management, budget deviations, and the relationship between the inflation rate and budget management in mixed companies of the oil sector.

Methodologically, the research was descriptive and field-based, with a non-experimental design. The population consisted of three employees from a mixed oil sector company in the municipality of San Francisco, Zulia state. For data collection, a questionnaire containing 55 multiple-choice items with four alternatives was designed. Reliability was calculated using Cronbach's Alpha coefficient, achieving a very high magnitude of r = 0.925.

The study concluded that in Venezuela, the root cause of high inflation is primarily the fiscal deficit monetized by the Central Bank of Venezuela (BCV). Inflation was measured by the variation in the Consumer Price Index (CPI). The correlation obtained was r = 0.353, classified as low, positive, and non-significant. Therefore, it was affirmed that there is no consistent relationship between inflation and budget management.

This research will serve as methodological support, particularly regarding the techniques and instruments used for data collection, such as descriptive, non-experimental research and the use of a questionnaire featuring both closed and open-ended questions.

# Methodology

Regarding the level of this research, given the characteristics of the problem and the formulated objectives, it was considered descriptive in nature. This study was of a descriptive level since, for the systematic development of the objectives, it was necessary to collect information to identify and define the key aspects of inflation, free cash flow, and profitability for companies in the food and beverage sector in the municipality of San Cristóbal, Táchira state, during the period 2014–2018.

The research design was field-based, with data collection conducted within the defined population over a specific period, without manipulating variables. This was achieved through the interview technique and the questionnaire instrument. Additionally, a documentary review was conducted to describe, characterize, and analyze the behavior of the variables: inflation, free cash flow, and profitability. The population in this case consisted of food and beverage establishments located in the municipality of San Cristóbal, Táchira state.

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For this research, an intentional sampling method was used, representing 115 establishments

that met the requirement of belonging to the food and beverage sector in the municipality of San Cristóbal, Táchira state. Initially, the interview technique was employed. The data collection instrument was an interview guide. Quantitative data analysis was performed using tables and graphs.

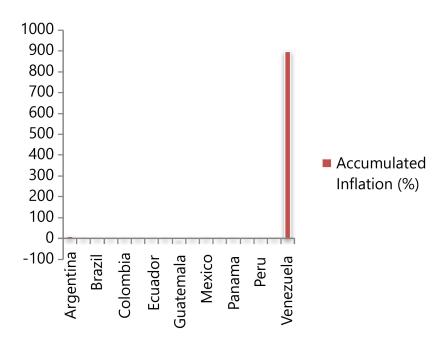
# **Results**

In this analysis of results, it is important to consider the behavior of inflation for the period 2014-2018. In this regard, it is worth noting that according to the World Bank (2018):

For the fifth consecutive year, the Latin America and Caribbean region faces a decline in growth as a result of an adverse external environment, especially for exporters and companies in the food and beverage sector. A contraction of 1% is expected for the year 2018" (p. 912).

This is primarily affected by the slowdown in the Venezuelan economy, which experiences economic instability and such high inflation compared to other countries that it only drives away foreign investors. Graph 2 shows the accumulated and monthly inflation of the main countries in Latin America. Similarly, in Graph 2, the percentage variation of inflation in Venezuela for the period 2014-2018 can be observed.

**Graph 2** *Behavior of accumulated inflation in Latin America for the period 2014-2018* 

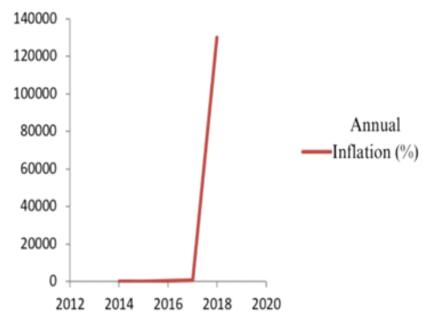


Note: GlobalScope (2019).



For the case of Venezuela, Figure 4 shows the inflation during the period 2014-2018.

**Graph 3** *Percentage variation of inflation in Venezuela for the period 2014-2018* 



Note: BCV (2019).

The main cause of hyperinflation is the growth of the money supply, defined by Marshall (1890) as "the total amount of money in circulation in an economy" (p. 189). According to the Central Bank of Venezuela, the money supply for the study period 2014-2018 behaved as shown in Table 2.

Table 2
Money supply in Venezuela for the period 2014-2018).

Year	Monetary mass (%)	Variation (%)	Trend
2014	70,90		
2015	62,80	-11,42	Decrease
2016	101,40	61,46	Increase
2017	161,30	59,07	Increase
2018	1.129,60	600,31	Increase



Note: BCV (2019).

Now, it is necessary to demonstrate the existence of a correlation between the macroeconomic variables of inflation and money supply. Before carrying out the statistical correlation process, it is essential to observe the data of the related variables. Therefore, Table 3 provides a summary of the nominal values of the study variables.

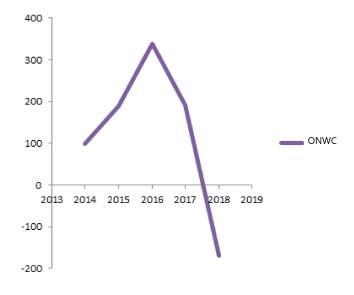
**Table 3**Summary of inflation and money supply in Venezuela for the period 2014-2018

Year	Inflation	Monetary mass
2014	68,50	70,90
2015	180.90	62,80
2016	242,50	101,40
2017	862,60	161,30
2018	130.060,20	1.129,60

Source: BCV (2019).

Regarding the behavior of free cash flow in the food and beverage sector of the municipality of San Cristóbal, Táchira state for the period 2014-2018, Graph 4 indicates the Operating Net Working Capital (KTNO) for the food and beverage sector of the municipality of San Cristóbal, Táchira state, during the period 2014-2018. Meanwhile, in Graph 5, the free cash flow is calculated and represented for the study period.

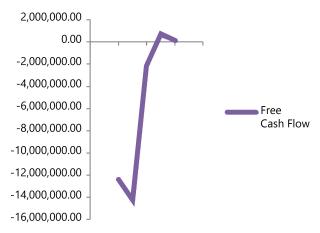
**Graph 4**Operating Net Working Capital (KTNO) for the period 2014-2018



Note: Mora's (2014-2018).



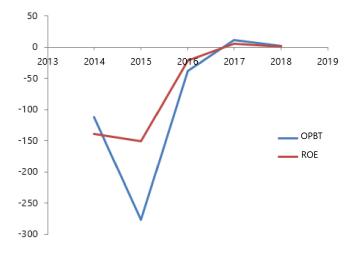
Graph 5
Free Cash Flow (FCL) for the period 2014-2018



Note: Mora's (2014-2018).

It is noteworthy that regarding the profitability behavior in the food and beverage sector of San Cristóbal municipality, Táchira state for the period 2014-2018, and specifically the financial status of Mora's C.A., the necessary data were obtained to analyze the profitability behavior in the food and beverage sector of San Cristóbal municipality, Táchira state during the period 2014-2018. Additionally, it is crucial to calculate the financial indicators that serve as tools to observe the performance of the resources available to the company to operate normally and thus visualize the profitability behavior. It is pertinent to highlight that profitability, according to García (2010), is a closely related inducer to value creation in an organization, thereby facilitating an understanding of the value generation in the studied company.

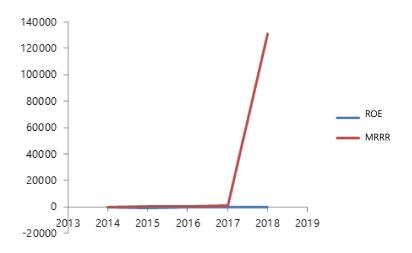
**Graph 6**Operating Profitability Before Taxes (OPBT) and Return on Equity (ROE) for the period 2014-2018





Note: Mora's (2014-2018).

Graph 7
ROE and TMRR for the period 2014-2018



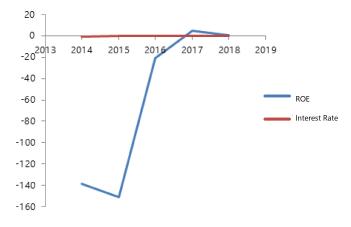
Note: Mora's (2014-2018).

Graph 7 details the difference between ROE and TMRR. It is worth noting that MRRR, the minimum expected return for interviewed shareholders, exceeds inflation levels, thus estimation yields the following results.

Considering that the organization maintained external financing in the years 2014 and 2015, it is necessary to compare ROE with the interest rate generated by the debt, as shown in Graph 8.

Graph 8

ROE and Interest Rate for the period 2014-2018



Source: Mora's (2014-2018).



## **Discussion**

In Venezuela, inflation statistics are managed by the Central Bank of Venezuela (BCV) and the National Institute of Statistics (INE), available on their respective websites. Various inflation indices are applied in Venezuela to calculate the monthly price variation in basic goods and services, referred to as inflationary indices within the national context. These indices include the Consumer Price Index (CPI), the National Consumer Price Index (INPC), and the Core Inflation Index.

The high inflation rates observed in Venezuela compared to Latin America for the period 2014-2018 indicate an increase in prices of goods and services, resulting in a decrease in purchasing power and a loss of currency value. To conduct a more detailed analysis of inflation in Venezuela, it is advisable to establish its values during the study period. Thus, the information for the years 2014 to 2018 is presented.

As depicted in Graph 3, the variations in the inflation index in Venezuela have been characterized by significant increases, with a percentage variation between 2018 and 2014 of 189,768.90%, and an increase of 14,977.70% between the last years of the study. However, this implies that the series of economic measures implemented have only led to hyperinflation.

To better visualize the trend of inflation in Venezuela, Table 3 shows the data for the study period 2014-2018. Inflation is an economic process characterized by widespread and sustained increases in prices over time. This includes prices of goods and services as well as wages and salaries. Additionally, the price of foreign currencies also rises, meaning that in Venezuela, the bolívar depreciates against the dollar, the German mark, and the Japanese yen, requiring more bolivars to purchase foreign currencies. In Venezuela, during the last governments, irresponsible monetary policies have led us into a long period of inflation, with extremely serious social and political consequences (López, 2017).

The upward trajectory is unequivocally apparent, with all 5 data points in the study demonstrating this tendency. Between 2014 and 2015, the upward percentage variation stands at 221.96%; from 2015 to 2016, a notable ascent is observed with a percentage variation of 362.88%; further, between 2016 and 2017, a consistent upward trend persists, marking a variation of 234.12%; likewise, from 2017 to 2018, an upward trajectory is sustained, exhibiting a percentage variation of 455.59%. These escalating trends precipitated a decline in units sold and a surge in prices of goods and services, encompassing the food and beverage sector.



Inflation denotes the overarching escalation in the prices of goods and services over time within a nation. As inflation escalates, consumers find their purchasing power diminished, leading to decreased standards of living. Hyperinflation, an aberrant form of inflation, entails an extreme surge in prices, rendering the currency incapable of fulfilling its roles as a unit of account, medium of exchange, and store of value. Functional currency is defined by its ability to serve all three functions, whereas dysfunctional currency fails to meet any.

Inflation originates when a nation's Central Bank outpaces the production of goods and services with the creation of money. Fiscal deficits compel governments to mandate Central Banks to issue money to cover expenses surpassing revenues or debt issuance. This fiscal deficit monetization emerges as a primary catalyst for inflationary phenomena. The imbalance between production levels and monetary volume can escalate to such extremes as to catalyze hyperinflationary processes.

In response to escalating prices, individuals recalibrate their expectations and behaviors, expending funds swiftly to preempt price hikes. This widespread behavior accelerates currency circulation, exacerbating the inflationary spiral. A pernicious cycle ensues: elevated prices fuel anticipations of further escalation, prompting additional price hikes. This self-perpetuating cycle erodes the currency's value, resulting in economic instability and societal upheaval.

To address the impact of inflation on tax revenue in Venezuela, authorities resorted to funds generated by the Central Bank of Venezuela. This injection of bolivars spurred price increases. According to Ecoanalítica, total revenue plummeted by 47% in real terms by october 2017. Value Added Tax dropped by 52%. Fiscal conditions worsened due to the decline in oil prices since their peak in 2013 and the decrease in oil production, which fell to 600,000 barrels per day since 2015, as per the Organization of the Petroleum Exporting Countries. This was compounded by restricted access to international credit markets due to risk perception and sanctions imposed by the United States in 2017.

Regarding free cash flow, it is observed in Graphs 5 and 6 that in both operating and net operating working capital, the results of this study enable discernment of the possibility of measuring the integration of free cash flow behavior criteria in companies, considering the guidelines of the SUNDDE guide that encompass the principles, practices, and fundamental matters of consumer prices and guidance on integration throughout the organization.

The indicator fluctuated from 2014 to 2018. For the first 3 years, it was negative, indicating the company's lack of immediate cash availability to meet its needs. In the last two years, FCL shows an increase, being positive. However, this is not in proportion to significantly benefit the future and continuity of the business.

Regarding profitability, companies in the food and beverage sector of San Cristóbal municipality have progressed in all fundamental areas, with greater integration evident in those with mandatory profitability behavior, labor practices, fair operating practices, asset profitability, and equity profitability. Identified improvement opportunities address the need to strengthen business capacities in various management aspects such as production, quality and safety, technology and innovation, and occupational health and safety.

To achieve the objective, comparisons were made and a thorough analysis of operational value drivers was conducted to determine how the destruction or creation of business profitability has evolved. Initially, a negative trend of reduction is observed in both asset profitability and



equity profitability. However, the graph suggests that there is not a very direct cause-and-effect relationship between the two variables. From this, it can be concluded that the profitability behavior in the food and beverage sector is not directly or indirectly related.

## **Conclusions**

Regarding inflation in Venezuela compared to Latin America for the years 2014-2018, it can be inferred that it had an impact on the management of companies in the food and beverage sector located in the municipality of San Cristóbal, Táchira state, especially in the activities of buying and selling food, due to the substantial increase in prices, as well as the increase in taxes during the study period.

During the study period, Venezuela was immersed in a type of inflation called hyperinflation, which only showed an upward trend reaching a peak in 2017, leading to a substantial decline in Venezuelan productive growth. Furthermore, this variable falls within the monetarist theory of inflation as it is driven by the increased amount of circulating money.

As a result of this situation, the economic measures implemented by the national government have been aimed at imposing controls, such as profit margins and sales prices. According to the results obtained, it can be inferred that these controls are not a solution to the macroeconomic problems facing the country; on the contrary, they erode consumer purchasing power, free cash flow, and business profitability, promoting economic uncertainty due to shortages caused by lack of inputs, exacerbating the inflationary spiral through hoarding and speculation.

Regarding free cash flow (FCL), an increase was observed for the first two years of the study period (2014-2015). Subsequently, a downward trend became prominent for the years 2016 and 2017; however, for the last year of the study, an increase compared to 2017 began to be evident. The variations shown can be inferred in relation to the inflation variable, showing an increase in revenue that is not representative with respect to the FCL obtained. Inflation increases sales; however, it diminishes short-term availability to meet obligations.

Regarding profitability for the period 2014-2018, from its two indicators Return on Assets (ROA) and Return on Equity (ROE), a moderate increase in profitability was evidenced, allowing it to meet the planned objectives for each period despite the country's situation and the level of inflation

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