
HYPERINFLATION AND ITS IMPACT ON THE FINANCIAL RESULTS

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Abstract: *This paper aims to show the impact of hyperinflation on financial results, a phenomenon that is experienced in developed or developing countries. The concepts of hyperinflation and financial results were highlighted in addition to the effects of hyperinflation on the financial results based on secondary sources and the financial results of multinational corporations (MNCs) operating in Venezuela, which is currently the first among the economies affected by hyperinflation; a significant impact of this type of inflation on these affected corporations was observed. The most important result for this paper is that hyperinflation leads to the issuance of financial results in a misleading manner, and thus it causes difficulty in making proper decisions. Therefore, economies affected by hyperinflation should pay attention to solving this problem by focusing on how to manage the causes of hyperinflation.*

Keywords: *hyperinflation, financial results, IASB, IAS 29*

JEL Codes: *E31, M41*

1. Introduction

Inflation is one of the economic problems experienced by developing and developed economies, these problems are embodied in the inflation or the high level of prices as a result of various reasons such as the increased quantity of money supply and an increase in income [3]. It also appears in multiple forms and certain tools are employed to control it through monetary policy, one of the most important of these tools is the interest rate.

A major part of the concept of accounting is communicating financial information to those who need it from internal users such as managers and external users such as the tax administration and investors through the accounting system. Financial statements are a product of this system [14]. The phenomenon of inflation or change in the price level has negative effects on the objectivity of accounting data and information, through a decrease in the purchasing power of the monetary unit of measurement, which shows the historical cost deficiency in the evaluation, addressing that negative impact on the values of financial statements and financial reports in general [27].

Therefore, in the presented study the concept of inflation, its types according to several criteria, and its interpretation according to economic theories and all the economic and social effects of inflation, along with the concepts of financial statements, their components, methods of presentation, and the impact of hyperinflation on the presentation of financial statements for MNCs are highlighted.

In recent years, inflation rates in Venezuela have increased dramatically, and since many multinational companies operate in this country, their financial results are a major part of the economy, and therefore the study problem is represented by the following main question:

Does hyperinflation have an impact on the financial results of multinational companies? To answer the main question, the following sub-questions must be answered:

Does hyperinflation have an impact on net profits for multinational companies?

Does hyperinflation have an impact on the total assets of multinational companies?

Based on the problem of the study and the study questions, the following formal hypothesis is developed:

H_1 1: Hyperinflation has an impact on the financial results of multinational companies.

Sub-Hypothesis:

H_1 1.1: Hyperinflation has an impact on the net profits of multinational companies.

H_1 1.2: Hyperinflation has an impact on the total assets of multinational companies

Inflation has several financial and economic reasons, but when this percentage increase to large and uncontrollable numbers, they will have numerous negative results, according to previous studies, but the presented study will highlight inflation rates of Venezuela that have risen in an unprecedented manner in addition to focusing on the financial results of multinational companies. Therefore, the results will help financial investors and financial analysts in making the right decisions according to such a degree of influence on these financial results.

2. Literature review

2.1. Hyperinflation

The financial definition of inflation is “the increase in total consumer demand over the total supply as a result of the monetary expansion or the expansion of bank credit, which entails a continuous increase in prices and a decrease in the value of money” [6].

The economic definition for inflation, “Excess of total consumer demand from total supply results in a continuous rise in prices and a decrease in the value of cash” [5]. As a result of monetary factors or structural factors. Among other definitions of inflation, it is an increase in the amount of currency that is negotiable. It is also a situation in which the demand exceeds the available goods and the real income flows. There is also another definition that is a decrease in the purchasing power of money and workers demanding wages that exceed the growth in productivity [9]. Thus, inflation in general is an increase in the price level. The inverse concept of inflation is deflation; that means the decrease in the price level occurs when the inflation rate falls below 0% [1]. Figure 1 shows the types of inflation:

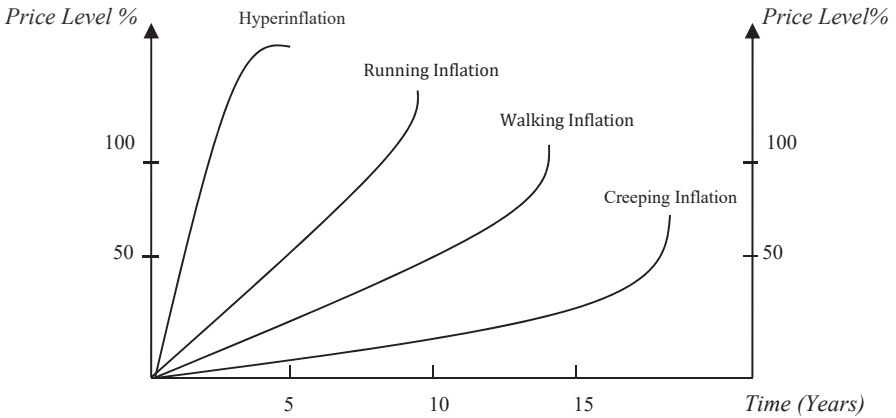


Figure.1 Types of Inflation.

Source: [9].

Economists defined hyperinflation as a situation in which the rate of increase in prices exceeds 50% per month, and it is generally a very high rate of increase in the level of prices for goods and services [22]. Therefore, hyperinflation is a case of sharp inflation in which the rate of price increase skyrockets, as the price increases reach astronomical numbers, so that money becomes almost worthless as it is the most severe and dangerous type of inflation [3]. Hyperinflation often occurs in developing countries that elaborate ambitious development plans that are not commensurate with their economic and financial resources, which compels them to increase monetary issuance and bank credit to encourage investment, leading to an increase in demand for factors of production and then increase in prices and cost of production [18].

2.1.1 Effects of Hyperinflation

According to previous studies, there are many effects of hyperinflation, the most important of which is the reduction of the effectiveness of the economy by pushing agents away from financial transactions and close to swapping. In the ordinary economy, great efficacy is obtained through the use of money in exchanges. During hyperinflation, people prefer to pay by goods – swapping to avoid inflation risks and reallocating wealth [23].

2.1.2 Causes of Hyperinflation

The main causes of hyperinflation based on the previous studies are:

- Civil wars or external wars. In this case, the government resorted to excessive cash by printing more money to finance spending on the war. At the same time, the war destroys productive energies, creating an imbalance between supply and demand.

THE HANKE-KRUS HYPERINFLATION			
Location	Month with Highest Inflation Rate	Highest Monthly Inflation Rate	Equivalent Daily Inflation Rate
Hungary	Jul. 1946	$4.19 \times 10^{16}\%$	207%
Zimbabwe	Mid-Nov. 2008	$7.96 \times 10^{10}\%$	98.0%
Yugoslavia	Jan. 1994	313,000,000%	64.6%
Republika Srpska	Jul. 1994	297,000,000%	64.3%
Germany	Oct. 1923	29,500%	20.9%
Greece	Oct. 1944	13,800%	17.9%
China	Apr. 1949	5,070%	14.1%
Free City of Danzig	Sep. 1923	2,440%	11.4%
Armenia	Nov. 1993	438%	5.77%
Turkmenistan	Nov. 1993	429%	5.71%
Taiwan	Aug. 1945	399%	5.50%
Peru	Aug. 1990	397%	5.49%

Figure 2. *The Hanke-Krus Hyperinflation.*

Source: [24].

Figure 2 shows the highest rate of inflation recorded in history such as Hungary between 1945-1946 when inflation rates reached 207% daily basis and it was due to World War II.

- Political and economic corruption as happened in the case of Zimbabwe, when Robert Mugabe came to print more currency to finance his corruption and to stay in power, longer than possible; wrong fiscal and monetary policies [16]

- The collapse of the export sector of a country and the rise in external debt, as in the cases of Venezuela and Bolivia [13].

2.2. Hyperinflation Accounting

Three accounting approaches treat the change in values of the financial statements items, the first approach is historical cost, which is the traditional approach, and the second approach is the current value that started at the end of the last century, as it depends on re-evaluating the assets at the market or fair value [26]. The third approach that is less prevalent is the general level of prices as it depends on the restatement of the items of the financial statements that are affected by inflation through the use of the general level price index [20]. Inflation affects all entities, but this effect varies from one entity to another entity depending on the way of the accounting treatment for items of financial statements, where the impact on the entity that depends on historical cost is greater than other entities [8].

As a result of the negative effects of hyperinflation and to reduce these effects, the International Accounting Standards Committee (IASC) issued IAS 29 in July 1989, the International Financial Reporting Interpretations Committee has issued interpretation IFRIC 7 in November 2005 [10]. IAS 29 aims to assist the entity operating in an economy suffering from hyperinflation, to the presentation of financial statements, as well as enables users of these statements to obtain accounting information that reflects the true economic conditions of those companies [10]. This standard didn't define hyperinflation, but mentioned five main characteristics, one of the most important of which when the accumulated inflation rates during three years is 100% or exceeded [4].

In the entities that rely on the historical cost method according to IAS 29, it must distinguish between the items of the financial statements based on monetary and non-monetary; monetary items do not need to restate because they are already expressed in the current unit, while non-monetary items are restated through the use of a general price index. In general price index, the numerator is the general price level index at the date of the statement of financial position, and the denominator is the price index at the date the asset was purchased to presentation statement of financial position, adjusted for the current cost instead of the historical cost. Regarding the items of the income statement, they are needed to be restated by using the change in the general price index from date of revenues and when expenses were recorded [11].

In the entities based on current cost according to IAS 29, the monetary items are not needed to be restated, while non-monetary items are restated in current cost, therefore, it must also distinguish between the items of the financial statement based on non-monetary and monetary items [10]. Income statement items in those entities, the revenues and expenses expressed at the current cost before restatement, and the expenses that are related to non-monetary items in the statement of financial position need to be restated to the current value, regarding the differences accounting income and taxable income are accounted based on IAS 12 [11]. IFRIC 7 is issued to explain how the entities restate their financial statements in the first year, especially balances of deferred tax and comparatives [4].

Entities seek the best performance and maximum profits, therefore, financial results are one of the main indicators for them. It provides an integrated system of accurate, reliable information, and allows the comparison of actual performance and the activities of the company through specific indicators, as well as the determination of deviations from previous goals [12].

Financial Performance is how well an institution uses available resources through the achievement of financial goals at the lowest financial costs to receive maximum value and effectiveness [7]. Therefore, financial results (financial performance) is effective only by diagnosing the financial health of the institution, by identifying the strengths and additions of the institution, and its ability to create value, taking into account the economic and financial circumstances. The main financial statements of a company are statement of financial position, statement of comprehensive income, statement of cash flows, and statement of changes in equity [12]. The process for evaluating the financial results has received great attention from researchers because they are important for institutions, especially profit institutions such as financial institutions, which are the cornerstone of any economy in the world.

Therefore, it is of importance for evaluating financial results due to these benefits as they provide financial information to senior management to help them in making appropriate decisions either for investment or development decisions [17]. It contributes effectively to the good management of the institution by promoting value improvement and contributes to cost reduction, assists in long-term comprehensive evaluation based on the short-term assessment that has contributed to the formulation of policies and strategies, and enhances communication between different levels [15]. Preparation of results by financial statements is one of the most important goals of accounting with respect to the ability to communicate financial information to stakeholders; based on these information they can make the right decisions, therefore in hyperinflation times most of the entities have a problem in this goal, and to reduce risk and provide relevance and faithful information, should be applying the IAS 29 [24]. Based on the literature review we have seen the main issues about hyperinflation and the financial results; in the next chapter we will examine the relationship between these variables based on the sample of this study.

3. Methodology

In this study, the suitable model is quantitative and correlation research design because it is based on examining the relationship between inflation rates and financial results. The population of the study is multinational corporations (MNCs) operating in hyperinflationary economies. The target population consists of MNCs operating in Venezuela, the largest hyperinflation economy of our time, and the sample of the study is Procter and Gamble Company. Regarding the data collection, the study is based on secondary sources, annual reports for P&G, and inflation rates for Venezuela by the Central bank of Venezuela from 2011 to 2019 as shown in Table 1.

In the presented paper, the analysis of data collection uses a simple regression technique to examine the relationship between the variables of the study. The analysis of

quantitative data is carried out by using IBM SPSS Statistics 25 and MS Office 2013. The model to be used for analyzing the data is the following:

$$\hat{Y} = b_0 + b_1X \text{ (Simple Regression Model)}$$

Where:

\hat{Y} = Dependent Variable (Financial Results).

X = Independent Variable (Inflation Rates).

b_0 = Value of dependent variable when the independent variable = 0 (Intercept).

$b_1 = \frac{\sum (X_i - \bar{X})(Y_i - \bar{Y})}{\sum (X_i - \bar{X})^2}$ it's the slop.

4. Results and discussion

Based on analysis of the data in Table 1 we obtained on the below tables that describe the variable, the correlation between them, Adj R square, and coefficient tables and by the results of these tables we can discuss these results to accept or reject the alternative hypothesis and finally achieve the objective of this study.

Table 1. Net Profits, Total Assets for P&G and Inflation rates of Venezuela (2011-2019)

Year	Net Profits (\$ in millions)	Total Assets (in millions)	Inflation rates
2011	11,797	138,354	19%
2012	10,904	132,244	23%
2013	11,402	139,263	56%
2014	11,643	144,266	69%
2015	7,063	129,495	181%
2016	10,058	127,136	274%
2017	9,905	120,406	863%
2018	9,750	118,310	130,000%
2019	3,897	115,095	283,000%

Source: [2; 19].

As we can see in Table 1 the net profits, total assets, and inflation rates for 9 years from 2011-2019 based on the annual reports for P&G and Central Bank of Venezuela, and by this table, the lowest net profit and total assets for P&G was in 2019 with the highest inflation rate in this country.

Table 2. *Descriptive Statistics*

Variables	Mean	Std. Deviation	N
Inflation Rate (Independent Variable)	460.54	986.79	9.0
Total Assets (Dependent Variable)	129,396.56	10125.38	9.0
Net Profits (Dependent Variable)	9602.11	2579.59	9.0

Source: Authors' calculation (2020).

This table shows the mean, standard deviation, and the number of observations of variables for this study; we can see that Std. deviation for total assets is more than net profits and the mean of total assets equals \$129.3 billion, while on the other hand net profit \$9.6 billion. For the independent variable inflation rate, the mean is 460.54% for 9 years.

Based on Table 3 the correlation between inflation rates and net profits is -0.783 which means a high negative correlation. The correlation between inflation rates and total assets is -0.687 which means moderate negative correlation.

Table 3. *Correlations*

Dependent Variables	Inflation rates (Independent Variable)	Sig
Net Profits	-.783	0.006
Total Assets	-.687	0.020

Source: Authors' calculation (2020).

Table 4. *Adj R square*

Dependent Variables	R	R Square	Adj. R Square	F Change	df1
Net Profits	.783	.614	.558	11.112	1
Total Assets	.687	.473	.397	6.273	1

Source: Authors' calculation (2020).

Adj R Square between inflation rates and net profits is 0.558, which means that 55.8% of the variance in the net profit variable (Dependent Variable) is explained by the inflation rate variable (Independent Variable). Between the inflation rates and total assets is 0.397, which means that 39.7% of the variance in the net profit variable (Dependent Variable) is explained by the inflation rate variable (Independent Variable).

Table 5. Coefficients (Net Profits and Inflation rates)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	10545.096	637.643	-	16.538	.000
Inflation	-2.048	0.614	-.783	-3.334	.013

Source: Authors' calculation (2020).

Table 5 shows the linear regression equation to predict the value of Y (Net Profits-Dependent Variable) in a given value for X (Inflation rates-Independent Variable). Sig = 1.3%. Therefore, confidence > 95%, which means that the significance level less than 5% in this case (Accept the alternative hypothesis and reject the null hypothesis).

$$\hat{Y} = 10545.096 + (-2.048) (X)$$

Table 6. Coefficients (Total Assets and Inflation rates)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	132645.189	2923.778	-	45.368	.000
Inflation	-7.054	2.816	-.687	-2.505	.041

Source: Authors' calculation (2020).

In this table, we can see the linear regression equation to predict the value of Y (Total Assets - Dependent Variable) in a given value for X (Inflation rate - Independent Variable). Sig = 4.1%. Therefore, confidence > 95%, which means that the significance level is less than 5% in this case (Accept the alternative hypothesis and reject the null hypothesis).

$$\hat{Y} = 132645.189 + (-7.054) (X)$$

Hyperinflation has several effects on the financial results of the companies based on the data analyzed. In the following are the most important of these effects: multinational corporations still in different countries are preparing their financial statements based on the historical cost principle; without taking into account the high rates of inflation, it makes the items recorded in both the statement of financial position and comprehensive statement not express the real values of those items. Hyperinflation also leads to higher production costs and then the impact of this is reflected in raising the selling prices of products, which makes the accounting profit misleading and does not reflect the real profit for the financial period, which leads to misleading tax, the distribution of imaginary profit shares, and then its negative impact on the productivity of the company.

In light of the continuous rise in prices and the decrease in the purchasing power of the monetary unit due to hyperinflation, it will increase the difficulty for making accurate decisions that are based on inaccurate financial data for the business and financial positions shown by these results; where the comparison is based between current revenues

and the historical cost of that revenue with the change and volatility in the purchasing power of the monetary unit at the date of measurement. In addition to inaccuracy of the indicators used to measure performance, as many financial indicators, these indicators are relied heavily upon by users of financial statements and financial analysts.

5. Conclusion

Hyperinflation has effects in various economic and social areas. To reduce the effects of hyperinflation, the International Accounting Standards Board (IASB) issued IAS 29, but based on the outcome of this study the financial results drop for P&G although applying this standard and all of the instructions; therefore the fundamental solution for these economies to manage the causes of hyperinflation, such as financial corruption, political instability, and improper monetary and fiscal policies have most of previous studies focused on them.

These days, the world's economies face new systemic risks which have negative effects on most of the macroeconomic indicators like GDP, growth rates, and unemployment rates, for most of the world countries and it is required from central banks to provide stimulus packages for accelerating the circular economy; such as decreasing interest rates and purchase bonds to provide liquidity support. Thus, if these packages are based on the right decision by quantitative principles, the economy will recover faster than the other countries; on the other side if these stimulus packages are based on wrong decisions this will lead to hyperinflation and then negative effects on the financial results. Therefore, further research is extended to this study to focus on hedge accounting, to find accounting solutions for systematic risks that occur in all countries at the same time where the end is not known.

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