administrative sciences

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Private Label and Macroeconomic Indicators: Europe and USA

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Received: 14 October 2020; Accepted: 5 November 2020; Published: 12 November 2020

Abstract: In this study, we have analyzed the impact and evolution of some of the most important macroeconomic indices on the market share and value of private brands. The originality and objective of this work is the linkage of macroeconomic variables in European countries and the USA with the evolution of private labels in these countries. A sample of 19 European countries and all states within the USA has been collected over a 10-year period, including data on private labels and macroeconomic indices. The analysis of the panel data has been applied using the SPSS software through the Ljung–Box test. The most significant data from the sample study is that for GDP; we advised national brand managers to make a special communication effort in nations that offer a lower GDP within Europe for their volume and in value for the US. On the other hand, it was found that when the unemployment rate increases, the value of private label market share decreases for the US, but increases for Europe, in addition to other findings that will help organizations make different business decisions.

Keywords: private label; macroeconomic indexes; Europe; USA; market share

1. Introduction

The growing market share of private brands began many years before the global economic recession of 2008 (Abimbola et al. 2012). In these receptions, some authors investigated how different macroeconomic variables affected private brand share (Samit and Cazacu 2016). In this sense and given the different receptions, the growth of private labels in Europe and the USA in recent years has been extraordinary, since in the last decade they have become present in more than 90% of the categories of products packaged for the final consumer (Kumar 2007). Some researchers have therefore wondered whether and to what extent the different macroeconomic indices have been determinant for the growth of private labels.

Therefore, in the review of the literature we find different works that have demonstrated the implications of macroeconomic indices with private brands (Gil Cordero et al. 2016; Stanton and Meloche 2011; Dubé et al. 2018; Wyma et al. 2014), but given the importance of private brands in Europe (Verhoef et al. 2002) and in the USA (Verhoef et al. 2002). With few researchers following this line of research (Kaswengi et al. 2020; Latorre et al. 2020; Minimol and Nair 2020). It is important to know whether the research demonstrated by Gil-Cordero (Gil Cordero et al. 2016) is equally widespread in the USA and to establish the basis for organizations operating in both territories. The choice of the U.S. compared to Europe was made because they are two continents that differ more culturally in the 6 sections studied by the tool Hofstede Insights (Hofstede Insights 2020); in this sense, we will study if a culture opposite to Europe behaves the same way in reference to private label. Therefore, in this research we will show whether the fluctuation or variations of important macroeconomic indicators

reflect or impact on the volume and value of the market share of trademarks for both Europe and the USA. In this regard, we will conduct a study on several macroeconomic indicators, which will then be compared with other variables related to private labels.

With the database obtained, we can compare the above-mentioned data from up to 19 countries in Europe, in a ten-year time interval, and compare them with the USA. The objective of our research will be to demonstrate if there is really a correlation between the macroeconomic variables mentioned and the market share of private labels, as well as to compare how this correlation and evolution over the years would occur between several countries in Europe and the USA. In addition, the results of this study could help distribution companies to forecast the position of their private brands under extremely bad economic conditions, such as those that would result from the effects of COVID-19. Therefore, with the results obtained, we will be able to reach some conclusions that can be of great help and that can be taken as a reference by those chains that commercialize private brands and that, in addition, want to expand their businesses in the countries studied.

For the development of the study we will follow the following structure: following this introduction we will justify the related hypotheses. In the third section, we will explain the process we have used in the data collection, identifying the measures used for each of the variables we are going to study, as well as the software used for their analysis. In Section 4, we will carry out the analysis of data and results, where we will verify the hypotheses raised in Section 2. Section 5 will be the conclusions we draw from this study and together with its limitations and possible future research.

2. Literature Review

In general terms, private labels are brands that can be manufactured by the distributor or a manufacturer, managed and marketed by the distributor under the name of the ensign or its brand, and that can be distributed in the ensign's establishments or those of other chains (Lybeck et al. 2006). Private labels represent a significant threat to their national label competitors (Hoch and Banerji 1993; Business 1997; Bronnenberg et al. 2020; Marques et al. 2020; Anesbury et al. 2020; Pınar and Girard 2020). With the development of private labels, individual retailers now play an active role in producing final products. These products, which represent between 10% and 40% of food retail sales in the different countries of the European Union, are a strategic tool used by retailers to increase profits (Gil-Cordero and Cabrera-Sánchez 2020). It is not surprising that private labels provide additional market power to retailers (Bontemps et al. 2008).

For many years, retailers bowed down as spectators to a booming market in which the market share was dominated by the power of national brands, with the most significant economic and social strength. Fragmentation of retail sales and media concentration were crucial factors in promoting the growth of manufacturers' brands (Kumar 2007). Manufacturers took advantage of the market structure and built their brands through aggressive advertising and marketing strategies (Corstjens and Corstjens 1995). Private label sales have been overgrowing in recent years (Cuneo et al. 2019); indeed, their grocery store sales have reached over USD 48 billion (Hoch 1996; Sethuraman 1995). Compared to the equivalent private label, lower prices and better gross margins require a considerably lower supply price for the retailer (Salnikova et al. 2020; Hsiao et al. 2020). The power of large retailers to demand terms based on the manufacturer's marginal costs is recognized as the major contributing factor (Clark 1981). Other factors, such as reduced advertising and promotional costs, are relevant, but their importance has often been exaggerated (Coe 1971).

It is elementary that consumers relate the lower cost or price of obtaining a product, as an index of quality (Yao and Tanaka 2020), being, in turn, a strategy assumed by private labels designed to attract the desire for "value" by consumers. In general, consumers must make purchasing decisions based on value (Dodds et al. 1991; Lichtenstein et al. 1990; Zeithaml 1988), which is defined as the relationship between the perceived quality of the product (or the expected utility) and the price (Hauser and Urban 1986; Sawyer and Dickson 1984). Like any new product, the introduction of private labels affects the consumer surplus, and that consumer surplus is affected in two ways: a variety

effect and a price effect (Hausman and Leonard 2002). Thus, in general terms, consumers seeking to save money have two options: either they can look for a national brand that is marketed through the agreement between the parties; or, as an alternative, they can opt for a private label that has typically a price that is below that of national-branded products (Garretson et al. 2002).

Among other benefits to retailers, private labels add diversity to the product line in each retail category (Raju et al. 1995; Soberman and Parker 2004). This product differentiation may reflect differences in quality or only differences in product characteristics (Choi and Coughlan 2006). While numerous studies have focused on identifying a variety of factors that influence branding (e.g., consumer, competitive, retail) to explain the success of private labels across a large number of product categories (Erdem et al. 2004; Rubio and Yagüe 2009), little empirical research has studied the factors underlying the variability in private label market shares across countries. The few studies that have examined this problem focus only on consumer factors to explain variations in private label share across a limited set of countries (Cuneo et al. 2015).

For these reasons, we have been interested in investigating the market share of various countries in Europe, as well as in the USA. These countries have a high world power, and the variation that takes place in them because of the oscillations that take place in macroeconomic indicators are enormous. Therefore, variations in macroeconomic indicators act as factors that lead to the variability of the market share of private labels. When studying these variations in the market share of private labels, we can distinguish between the volume and the value of the market share. Market share can be increased by attracting customers by offering preferences that are far removed from the target market. Service capabilities can also be extended as volume increases (Andersen 1994). As market share increases, the company is likely to obtain a higher profit margin, a reduction in its purchase/sale ratio, a decrease in marketing costs as a percentage of sales, higher quality, and higher-priced products (Buzzell et al. 1975).

2.1. The Impact of Gross Domestic Product (GDP) on Private Labels

GDP measures the monetary value of the final goods and services—that is, those purchased by the final consumer—produced by a country in a given period and counts all the product generated within the borders. It covers goods and services produced for sale in the market, but also includes others, such as defense and education services provided by the government. GDP is important because it provides information about the size of a country's economy and its performance (Callen 2008). Therefore, we are faced with a macroeconomic variable of enormous relevance that represents the country's wealth level.

Nevertheless, does this macroeconomic variable influence private labels? The logic reflects that if the economy is optimal and the GDP is growing, people are expected to buy more national brands and less private labels because they do not need to adjust purchasing budgets (Gil Cordero et al. 2016). In line with this idea, the following hypotheses are made:

Hypothesis 1a (H1a). *GDP significantly affects the "value" of the private label market share in Europe.*

Hypothesis 1b (H1b). *GDP significantly affects the "volume" of the private label market share in Europe.*

Hypothesis 1c (H1c). *GDP significantly affects the "value" of the private label market share in the USA.*

Hypothesis 1d (H1d). *GDP significantly affects the "volume" of the private label market share in the USA.*

2.2. The Impact of Unemployment on Private Labels

The unemployment rate represents the number of unemployed persons within the labor force of a given country or region. That is, it does not represent a percentage of the unemployed concerning the total population, but rather about the economically active population. Therefore, people with the

appropriate age, in the appropriate conditions and with the full disposition to work, but who do not have a job (Vázquez Burguillo 2018).

Research has shown that the higher the number of previous episodes of unemployment and the longer their duration, the more likely it is that a person will be unemployed at a given time or period. Therefore, this phenomenon further extends the likelihood that she/he will remain unemployed (Heckman and Borjas 1980). Young people are the demographic sector most prone to unemployment (Banks and Jackson 1982). There is a relationship between the unemployment rate in a region and the average loss of well-being due to unemployment (Clark and Oswald 1994). Two plausible explanations have been provided for interpreting the fact that a situation of unemployment is prolonged. The first, rooted in economic theory, indicates that past unemployment alters the preferences, prices, or restrictions that determine, in part, future unemployment. Moreover, on the other hand, based on previous studies, individuals differ in certain unmeasured variables that influence their probability of experiencing unemployment but are not influenced by the experience of unemployment (Heckman and Borjas 1980).

Unemployment in Western economies has been relatively high throughout the 21st century, and the data collected by the World Bank are clear and evident (Worldbank 2020). In this rate, we can observe, as in every economy, a similar fluctuation over the years until 2017 (the last year of our data), when European countries have a high unemployment rate. However, not all the countries present the same unemployment, some present a more attractive economic policy, and others less so, in relation to the results. The same is true of labor policy, where some countries show more positive results than others. Countries like Greece and Spain have an unemployment rate of 21.07% and 14.55% respectively, other economies such as the Czech Republic and Hungary have an unemployment rate of 2.07% and 3.65% (Worldbank 2020). On the other hand, we observe an excellent unemployment rate of 4.04% for a high-power nation like the USA.

Nevertheless, before an economic and employment policy can be designed and implemented to react to this, politicians and economists are forced to answer a simple question: are people choosing to be unemployed? (Clark and Oswald 1994).

- If the answer is yes, the State will want to reduce this "latent attraction" of being unemployed and allow employed people to keep a part of the tax revenue, which is intended to subsidize the unemployed.
- If the answer is no, the State will have to investigate various ways of dealing with unemployment and consider methods that directly increase the number of jobs. Rather than reduce the number of applicants for benefits.

The idea of being unemployed can cause people to feel a lack of tranquility. In these situations, there is a tendency to reduce costs and, therefore, the quality of the products consumed, creating higher consumer loyalty with this type of product (private labels), which is the one that best suits their economic possibilities. Here, the image of the distribution brand fits perfectly, as they are marketed at low prices and, therefore, can reach these people who have lower economic levels. For all these reasons and because of the linkage of Gil-Cordero's study (Gil Cordero et al. 2016) with the volume and value of the private brand, we propose the following hypotheses:

Hypothesis 2a (H2a). *Unemployment has a significant effect on the "value" of the private label market share in Europe.*

Hypothesis 2b (H2b). *Unemployment has a significant effect on the "volume" of the private label market share in Europe.*

Hypothesis 2c (H2c). *Unemployment has a significant effect on the "value" of the private label market share in the USA.*

Hypothesis 2d (H2d). *Unemployment has a significant effect on the "volume" of the private label market share in the USA.*

2.3. The Impact of the Consumer Price Index (CPI) on Private Labels

The Consumer Price Index is an instrument that measures the evolution of all the prices of goods and services that form part of household consumption. As such, it allows for a series of fundamental uses, from economic situation analysis to the updating of salaries, pensions, income, or direct taxes (De-motes 2013).

In a market economy, the prices of goods and services are subject to change. Some increase and others decrease. We speak of inflation when there is a general increase in prices that is not limited to specific items. As a result, fewer goods and services can be purchased for every euro, i.e., each euro is worth less than before (European Bank 2019). Moreover, in this connection, we find it useful to refer to the Economic and Monetary Union (EMU), as it represented a massive change for Europe and the world (Dyson et al. 1999). EMU was established to bring prosperity and stability to all of Europe (Rompuy et al. 2012), and although it means "Economic and Monetary Union", its essential characteristic is monetary union; that is, it represented a shift towards a single currency and a single European Central Bank (Feldstein 1997). Membership of the EMU makes inflation control more critical than in other circumstances, where economic policy instruments, such as the exchange rate or tariff policy, can help maintain external competitiveness (Coricelli and Jazbec 2004). The disappearance of barriers between member countries makes their producers more competitive in EU markets, thanks to the reduction of individual transaction costs that third country producers still must bear.

With the Economic and Monetary Union, the member countries hand over the sovereignty of their monetary policy to the European Central Bank. National and Community fiscal policies will be developed in an economic context in which coordination and budgetary equilibrium become particularly important (Boscá et al. 1999).

On the other hand, the US consumer price index is one of the most important values for measuring economic temperature both at the US and global levels, as it is a determining and systemic index at the global level (Konny 2020). In this sense, it is important to know how this index affects the different variables within the business economic cycle (Cafiso 2020), so it can be a determinant of the volume and value of the market share of private labels. For all the above reasons, the increase in the price of certain goods and services may lead to a behavior of consumers who are more likely to opt for lower-priced products, to which they have easy access. The following assumptions are therefore made:

Hypothesis 3a (H3a). *The CPI has a significant effect on the "value" of the private label market share in Europe.*

Hypothesis 3b (H3b). *The CPI has a significant effect on the "volume" of the market share of private labels in Europe.*

Hypothesis 3c (H3c). *The CPI has a significant effect on the "value" of the private label market share in the USA.*

Hypothesis 3d (H3d). *The CPI has a significant effect on the "volume" of the market share of private labels in the USA.*

2.4. The Impact of the Average Wage on Private Labels

Wages, in the case of Spain, are established through collective bargaining between workers' representatives and employers; the aim is to establish the relationship between the productivity of the work employed by the worker and the wage remuneration he or she receives in return (Montuenga 1997).

In the same way, wages are organized in a similar way in the USA. Having a transversal structure in the USA and Europe (Haisken-DeNew and Schmidt 1999).

From a macroeconomic point of view, wages are a determining factor in the health of a country's economy (Bennàssar 2007); moreover, its inflation and unemployment rate may depend on them to a greater or lesser extent. Moreover, it also reflects the state of job and mental satisfaction of workers (Diaz-Serrano and Vieira 2005), since employees with lower salaries, within the European Union (EU), declare a significantly lower level of satisfaction than workers with higher salaries; however, with the exception of the United Kingdom, where the relationship is reversed. In the literature, we can see how this same relationship is fulfilled in the same way as for the US (Zgarrick et al. 2020; Mohanty 2019).

The salary that is received and available is a determining factor for the consumer, in order to promote a more proactive or cautious behavior when buying one product or another (Wang et al. 2019), in the same way that it will influence the quantity or volume of goods or services that the consumer buys (Gil Cordero et al. 2016; Gil-Cordero and Cabrera-Sánchez 2020).

As a conclusion to the above, we proceed to raise the following hypotheses:

Hypothesis 4a (H4a). *The average salary significantly affects the "value" of the market share of private labels in Europe.*

Hypothesis 4b (H4b). *The average salary significantly affects the "volume" of the market share of private labels in Europe.*

Hypothesis 4c (H4c). *The average salary significantly affects the "value" of the market share of private labels in the USA.*

Hypothesis 4d (H4d). *The average salary significantly affects the "volume" of the market share of private labels in the USA.*

2.5. The Impact of Debt Per Capita on Private Labels

Do high levels of public debt reduce economic growth? (Panizza and Presbitero 2014). The sharp increase in sovereign debts of advanced countries, as a result of the global economic and financial crisis, has generated serious concerns about fiscal sustainability and its broader impact on economic and financial markets (Kumar and Woo 2010); and that public debt could have a greater negative effect on economic performance if it affects the productivity of public spending (Teles and Mussolini 2014).

This is a macroeconomic indicator that provides us with the average amount that each inhabitant of a given country should contribute to pay the total public debt; therefore, it is a variable that can greatly influence the purchasing behavior of our consumers (Smyth and Hsing 1995).

There are a number of factors (such as per capita income, tourism index, number of inhabitants and level of service offerings) that reflect a positive influence on the accumulated level of debt per capita (Escudero Fernández and Jiménez 2002); furthermore, the larger the population and the greater the expenditure on health, the higher the debt levels (Mitchell 1967), and therefore it is a macroeconomic indicator that can have consequences on other economic factors and therefore affect the purchase of users in the EU and the US (Bohn 1998; Eizaguirre and Gómez-Puig 2011).

In this sense, with the existence or increase in public debt and, consequently, of debt per capita, consumers may be more reluctant to buy national brands, at a higher price, because part of their income has to go to pay taxes on public debt (Bohn 1998). They will therefore have to reduce their costs by consuming low-priced products such as private labels. In line with this idea, and with what is established in the study by Gil-Cordero and Cabrera-Sanchez (Gil-Cordero and Cabrera-Sánchez 2020), the following assumptions are made:

Hypothesis 5a (H5a). *Debt per capita significantly affects the "value" of the private label market share in Europe.*

Hypothesis 5b (H5b). *Debt per capita significantly affects the "volume" of the private label market share in Europe.*

Hypothesis 5c (H5c). *Debt per capita significantly affects the "value" of the private label market share in the USA.*

Hypothesis 5d (H5d). *Debt per capita significantly affects the "volume" of the private label market share in the USA.*

3. Research Methodology

3.1. Source of Data

Our study requires the elaboration of reliable research and the recruitment of a reliable and accurate database. As far as private labels are concerned, it is necessary to study and develop two variables: on the one hand, the volume of the private labels' market share and on the other, the value of the private labels' market share. In order to obtain information on these variables, we have contacted the Private Label Manufacturers Association (PLMA) and its International Private Label Yearbook. Their collaborators have kindly agreed to provide us with data for the preparation of our research.

Specifically, we have been provided with data on the value and volume of private label market share in 19 countries in Europe and 18 states the United States of America (USA), over a time frame from 2008 to 2018. The Private Label Manufacturers Association (PLMA) is a non-profit organization founded in 1979 to promote the private label (PLMA 2019).

PLMA's International Private Label Yearbook currently analyses trends in over 7000 product categories in twenty countries. The Yearbook is, however, more than just a statistical study. It helps to identify categories where new brand penetration is possible. It provides an insight into new business opportunities and serves as a benchmark for the company's strategy. Perhaps most importantly, PLMA's International Yearbook allows us to look at private labels in a region and compare efforts and results. It is a unique study that could not be done without the cooperation of The Nielsen Company (PLMA 2019).

Therefore, we use the data provided by PLMA (PLMA 2019) according to two variables:

- The volume of private labels: valued in physical units, representing the sales of this category of products.
- Value of private brands: valued in monetary units, they represent the sales of this category of products.

These data are obtained on retail brands, and it is exciting to relate them to the variation that impacts macroeconomic indicators and compare the evolution that they present between both and discover if there is any kind of correlation between those variables. To do this, we contacted some agencies such as the World Bank and Datosmacro (Worldbank 2020; Expansión 2019) to collect data on five macroeconomic indicators that will act as variables in this research. These indicators are:

- Gross Domestic Product (valued in units of national money (UMN) at current prices, EUR);
- Average salary (EUR);
- Debt per capita (EUR);
- Unemployment, total (% of the labor force);
- Consumer Price Index (2010 = 100).

3.2. Statistical Analysis

In order to study the relationship between these macroeconomic variables (independent) and the private label variables (dependent), the IBM SPSS Statistics program was used. We performed the procedure call "Expert Modeler" that tries to automatically categorize and estimate the best

fitting ARIMA or exponential smoothing model for one or more dependent variable series. ARIMA models are the most widespread class of models for estimating a time series which can be made to be "stationary". In addition, we will proceed to use the Ljung–Box model to study the level of relationship between these variables. Box and Pierce developed a statistic that, based on the squares of the first autocorrelation coefficients of the residues, allows us to analyze whether autocorrelation exists (Ljung and Box 1978). The statistic is defined as a cumulative sum of these squares of the empirical correlation coefficients, in this sense:

$$Q = n \sum_{j=1}^{p} \hat{p}_j^2$$

Being:

$$p_j = \frac{\sum_{t=j+1}^{n} e_t e_{t-1}}{\sum_{t=1}^{n} e_{t-1}^2}$$

Under the null hypothesis of no autocorrelation, the Q statistic is distributed asymptotically according to an X^2 with degrees of freedom equal to the difference between the number of accumulated coefficients (p) and the number of parameters estimated when adjusting the ARIMA process to be considered.

Later, this statistic was revised by Ljung–Box, obtaining better results for small samples if this other alternative expression was used. The Ljung–Box test is then applied as follows.

$$Q = T(T+2) \sum_{h=1}^{m} \frac{p_h^2}{T-r}$$

where p_h is the autocorrelation coefficient of the estimated residues. T is the number of X_t series values, and r is the number of estimated parameters. The statistic Q, is distributed as a Chi-square with degrees of freedom equal to the number of coefficients used in the sum, m, minus the number of estimated parameters r minus 1 ($m - r - 1$). All this procedure was used for the European data. For the USA data we simply used a correlation analysis because of the lack of long-term data.

The model we propose is the one we can see in Figure 1:

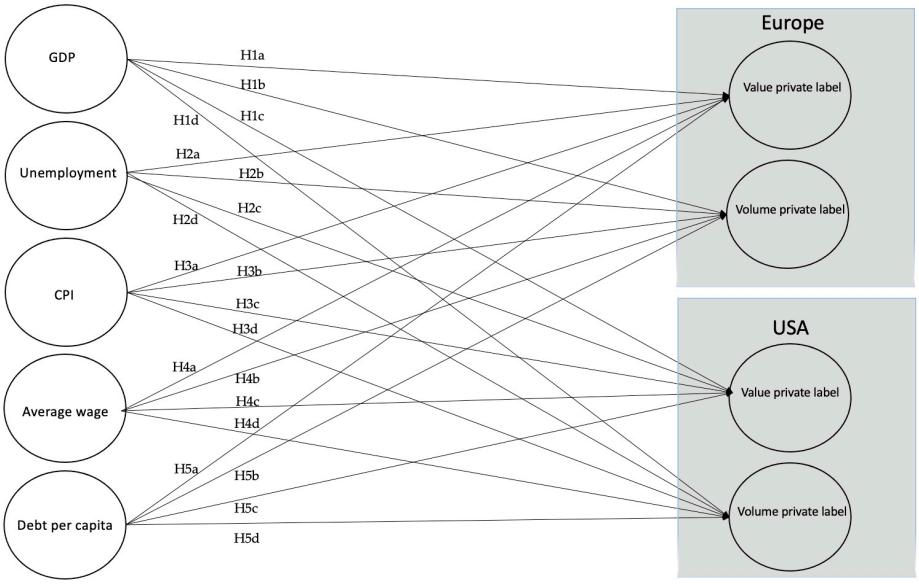

Figure 1. Proposed model.

4. Results

In Table 1, we show all the data after the analysis with the statistical analysis exposed in the previous section.

Table 1. Correlation of the model for Europe.

				Ljung–Box Q (18)		
Macroeconomic Variables	**Model**	**Stationary R-Square and R-Square**	**R-Square**	**Statistics**	**DF**	**Sig.**
GDP	Value MD	0.936	0.985	31.424	18	0.026
GDP	Volume MD	0.007	0.0714	12.512	17	0.768
Unemployment	Value MD	0.946	0.988	23.098	18	0.187
Unemployment	Volume MD	0.945	0.985	13.043	18	0.789
CPI	Value MD	0.950	0.974	8.294	18	0.974
CPI	Volume MD	0.920	0.977	4.357	17	0.999
Medium Wage	Value MD	0.940	0.985	24.038	18	0.154
Medium Wage	Volume MD	0.920	0.977	33.424	18	0.015
Debt per Capital	Value MD	0.933	0.984	27.325	18	0.073
Debt per Capital	Volume MD	0.928	0.979	22.847	17	0.154

Source: Own elaboration with data of Private Label Manufacturers Association (PLMA) and World Bank.

The Ljung–Box statistic, also known as the modified Box–Pierce statistic, provides an indication of whether the model has been specified correctly. A significance value less than 0.05 implies that there is a structure in the observed series that the model does not explain; in Table 1, we can see that all of them are more than 0.005 except for the private label (MD) value with respect to GDP and the volume MD with respect to medium wage. On the other hand, the R-square is the indicator that will let us know how well those results can be predicted. R^2 is the percentage of variation of the response variable that explains its relationship to one or more prediction variables. In general, the higher the R^2, the better the model's fit to the data. In Table 1, we can see that all indicators on R^2 are close to 1, having a good fit.

On the other hand, the data for the USA are as follows:

In Table 2, we must take into account that the maximum level of correlation is 1. In this case, we have two negative correlations (unemployment for the volume of MD in the USA and unemployment for the value of MD in the USA).

In this case, we have two negative correlations (unemployment for the volume of MD in the USA and unemployment for the value of MD in the USA).

Table 2. Correlation of the model for USA.

Macroeconomic Variables	**Model**	**Correlation**
GDP	Value MD	0.89
GDP	Volume MD	0.25
Unemployment	Value MD	−0.5
Unemployment	Volume MD	−0.1
CPI	Value MD	0.93
CPI	Volume MD	0.23
Medium Wage	Value MD	0.84
Medium Wage	Volume MD	0.27
Debt per Capital	Value MD	0.89
Debt per Capital	Volume MD	0.24

Source: Own elaboration with data of PLMA and World Bank.

5. Discussions and Conclusions

5.1. Discussions

The Ljung–Box statistic, also known as the modified Box–Pierce statistic, provides an indication of whether the model has been specified correctly. A significance value less than 0.05 implies that there

is a structure in the observed series that the model does not explain; this model has a value of 0.026 for the H1a. The degree of intensity obtained with the application of the corresponding Ljung–Box model is also fulfilled and can be extracted from the R-square, being in this case, 0.985. Thus, it will be understood that there is indeed a high correlation between the variables. For the H1b hypothesis, the value of 0.768 shown in Table 1 is not significant, so we can be sure that the model is correctly specified. As for R-square, we obtain a level of 0.714, so the model fits correctly with respect to the variable studied. In hypothesis H1c, after analyzing the correlation of the data corresponding to the value of the private label and the GDP, we establish that it has a correlation of 0.89 being very close to its maximum level of 1. This indicates a high positive correlation between the GDP and the value of the private label market share in the United States.

To analyze the "volume" of the private label market share in the US, we establish that after the correlation analysis, the data corresponding to the volume of the private label and the GDP have a correlation of 0.25. In this sense, for these variables to be correlated, it has to be higher than 0.3 (Morales 2011). Therefore, there is no correlation between these variables.

In the case of H2a. The value of 0.187 shown here is not significant, so we can be sure that the model is correctly specified. In addition, we get a square R of 0.988, which reflects a level of fit quite similar to the model used for the variable studied. In H2b, a significant value below 0.05 implies that there is a structure in the observed series that the model does not explain. The value of 0.789 shown here is not significant, so we can be sure that the model is correctly specified. The degree to which the model fits the results obtained is quite reliable, since the square R is very close to 1, being 0.985.

For H2c. after analyzing the correlation of the data corresponding to the volume of private label and GDP, we establish that it has a correlation of −0.5; in this sense, for these variables to be correlated, it has to be higher than 0.3 (Hinkle et al. 2003). We can see a negative relationship between both variables here, which indicates that if the unemployment rate rises, the market value of private labels falls. On the other hand, for H2d, according to the results obtained, there is no correlation (−0.1) between the variation of the volume of the value of the market share and the variation of unemployment. In this respect, unemployment has been decreasing over the years, while the volume of market share has remained almost constant.

Regarding the CPI, for the H3a, the value of 0.974 shown here is not significant, so we can be sure that the model is correctly specified. For the degree of fit of the model in relation to the variable in question, we see how the R-square obtained is very close to 1, specifically at 0.988. On the other hand, for H3b, 0.999 shown here is not significant, so we can be sure that the model is correctly specified. In addition, the level of R-square ratifies the adjustment of the model with the results obtained for the study of this variable, since we obtain a determination coefficient of 0.977.

With respect to the CPI in the USA, the H3c there is a clear correlation between both variables, since the constant increase in the CPI is followed by a stable and constant increase in the value of the market share of the brands. The degree of correlation between the two variables is 0.93. Therefore, there is a high correlation between both variables and for H3d in this case, the volume of the market share is more stable, with hardly any signs of growth over time. The CPI, on the other hand, is growing steadily, so we do not consider that there is a precise correlation between the two variables. To which we must add that its correlation is 0.23.

In the case of H4a, the value of 0.154 shown here is not significant, so we can be sure that the model is correctly specified. As for the level of adjustment of the model used in relation to the variable studied, it turns out to be of excellent reliability, since we have a square R of 0.985, very close to 1. For H4b, we see how the variables presented are not correlated, since it presents a degree of significance lower than 0.05, being precisely 0.015. In addition, the degree of correlation between both variables is quite reliable, since the model used for its study is totally adjusted, with the R-square prone to 1, which amounts explicitly to 0.977.

With respect to the H4c, the correlation between the variables studied is 0.84. In this sense, wages increase progressively over time and, on the other hand, this is accompanied by a progressive

and established growth in the value of the market share of private labels. It follows that the level of correlation is significant. For H4d, in the case of the volume of the market share, we cannot see a clear correlation with the growth of the average salary in the U.S., maintaining the percentages of the volume in a constant way during the last decade, with a correlation of 0.27.

Next, we will look at debt for capital, in H5a. The value of 0.073 shown here is not significant, so we can be sure that the model is correctly specified. The degree to which the model used conforms to the study conducted is quite reliable, since the R-square tends to be close to 1, being 0.984. For H5b, a value of significance lower than 0.05 implies that there is a structure in the observed series that the model does not explain. The value of 0.154 shown here is not significant, so we can be sure that the model is correctly specified. In addition, the square R is 0.979, which is at the limit of the value 1, so we can conclude that the model fits correctly to the results obtained in our study.

Finally, we discuss H5c and H5d with reference to USA. For H5c we have a correlation of 0.89, because while the US debt per capita doubles in the last decade, the value of the market share of private brands provides a substantial increase. There is a high correlation between both variables and H5d. Per capita debt significantly affects the "volume" of market share of brands in the U.S. In this case, the correlation is 0.24. Therefore, we can establish that there is no relationship between the two variables.

5.2. Conclusions

5.2.1. Theoretical Implications

The literature review determines that GDP growth would imply a decrease in the volume of private labels by consumers, which would have a negative effect on the market share of national brands. In this sense, if the economy is optimal and the GDP grows, consumers are expected to tend to buy more national brands and less private brands. However, in our research we found that the above statement is true with respect to Europe, but it is not true in the same way in the USA. On the other hand, we also see that with respect to the value of national brands, the European Union and the USA behave differently.

We believe that unemployment is a major factor in the volume and value of private brands in Europe, as it is consistent to think that if in a family, all or some of its members are unemployed, their income levels will be minimal. In this situation, members will be more reluctant to behave more aggressively when making their purchases, both in terms of buying national brands or higher-priced products and in terms of the volume of their purchases. This leads us to the hypothesis that by being more cautious when buying the goods or services of higher purchasing level, it will be more attractive for consumers to buy other goods of lower price that are better adapted to the economic possibilities of the family. Therefore, a very fruitful way to satisfy this need is to buy private label products. However, this is not the case in the USA, as our research determines that unemployment does not affect volume. This may mean that if there is no unemployment, USA consumers are buying more premium private labels, but when there is unemployment they may opt more for standard private labels (so that the total number of private labels is eventually compensated for), so it would be interesting to see this result in future research in a more specific way. On the other hand, this research reports an interesting result in terms of value within the USA and Europe, because when the unemployment rate increases, the value of private label market share decreases for the US, but increases for Europe, which makes unemployment significant for private labels, but this effect behaves unevenly for the USA and Europe.

For the Consumer Price Index (CPI), we accept all the assumptions we have made in this research, with the exception of volume in the USA (H3d). In this sense, we establish that if there is a general increase in prices, families will be more inclined to consume lower-priced goods, which are more easily adapted to their economic possibilities based on their income. Therefore, faced with a fact of these characteristics, we can make some predictions based on the fact that a general increase in prices could, among other consequences, lead to an increase in the consumption of private brands, since these

have a lower price, compared to national brands. However, this fact does not hold true for volume for the USA, so it is significant, which may determine that USA consumers will continue to value private labels, which is consistent with the other assumptions studied, but does not affect volume.

With respect to the macroeconomic variable average salary, we indicate that both in Europe and in the USA, they behave in the same way; in this sense, we accept the assumptions regarding value, both in Europe and in the USA (H4a and H4c) and reject the hypotheses relating to volume (H4b and H4d). The results conclude that it is clear that an increase in a person's salary leads to an increase in his or her purchasing power, having different perceptions of the products he or she consumes; therefore, it would be logical that a higher salary would lead to an increase in the consumption of domestic branded products, which would lead to a decrease in the volume of the private label market share. Despite this, in our research we have determined that salary does not have a relationship in volume but in value, this can be determined by the appearance of the premium private labels, since having a higher average salary means that the customer can access this type of brand (so customers continue to consume the private label) and ascribe a higher value to them.

The last of the macroeconomic variables studied in our research was per capita debt. Once the statistical model is used, we obtain that all the hypotheses associated with debt per capital are accepted, with the exception of volume for the USA. In this sense, with the existence of or increase in public debt and, consequently, of debt per capita, consumers may be more reluctant to buy national brands, at a higher price, because part of their income has to go to pay taxes on public debt. Therefore, they will have to reduce their costs by consuming low-priced products, such as private labels, but in the USA we have found that they behave differently than in Europe in terms of volume.

5.2.2. Practice Implications

For volume to GDP, if the economy is optimal and GDP is growing, consumers are expected to tend to buy more national brands and fewer private labels. However, in our research we found that the above statement is true with respect to Europe, but it is not true in the same way in the USA, therefore, organizations cannot set the same strategy for the European Union as with the USA. For value, we advise national brand managers to make a special effort to communicate more extensively in countries that offer lower GDP within Europe by volume and in value for the USA.

This research reports an interesting result in terms of value within the USA and Europe, because when the unemployment rate increases, the value of private label market share decreases for the USA but increases for Europe, which makes unemployment significant for private labels, but this effect behaves unevenly for the USA and Europe. This result would be useful to establish different marketing plans within organizations and to be able to establish different communication plans to help increase the value of private labels in the USA.

With respect to the Consumer Price Index (CPI). The result described above in the theoretical implications, could be a trigger for premium private labels, since people who consume premium private labels tend to have a higher purchasing power and, even if the consumer price index increases, they will continue to consume this type of brand. This information is useful for large retailers to adjust their marketing strategy in the store.

Depending on the average salary, the information we have shown in this research can be significant for managers, since depending on the average salary in different areas they can adapt their business strategy and not determine a single business strategy for an entire region.

Finally, we have established with respect to per capita debt, that consumers may be more reluctant to buy national brands, at a higher price, because part of their income has to go to pay taxes on public debt. Therefore, they will have to reduce their costs by consuming low-priced products, such as private labels, but in the USA we have found that they behave differently than in Europe in terms of volume. This is key for managers to adapt their strategies within retail stores.

6. Limitations and Future Research

Thanks to PLMA's collaboration, as well as research carried out at the World Bank and Datosmacro agencies (Worldbank 2020; Expansión 2019), we have managed to compile a reliable database, from 1997 to 2018, with which to proceed with this study. However, due to the lack of information regarding some countries, in terms of value and volume of private label market share, we have had to limit the time period under study to the period 2008–2018 (inclusive), all provided by PLMA (PLMA 2019), in order to cover as many countries as possible.

In addition, given the lack of important data in key years, we have had to dispense with a European country such as Denmark, but we have been able to continue the research with another 19 countries: Germany, Austria, Belgium, Slovakia, Spain, Finland, France, Greece, Hungary, Italy, Norway, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Sweden, Switzerland, Turkey; plus the USA.

Therefore, the data that we collect on the macroeconomic variables that have been studied and compared with the variables relating to private labels, have had to be equally limited for this temporary period of ten years (2008–2017), with the variables being: debt per capita, CPI, GDP, average annual salary and unemployment rate.

Looking ahead, it would be of great interest to further research, to expand this study to other countries out of Europe or USA. We could compile a larger database with respect to the value and volume of the market share of private labels, from countries in the rest of the world, to see the impact or evolution that this variable presents in other countries such as Australia, Brazil, Canada, China, India, Japan or South Africa. On the other hand, we found a large gap in the literature regarding the ability to convincingly justify some of the macroeconomic terms in relation to private labels.

Finally, we could investigate the variation that would occur in these variables of the market share of private labels (dependent variables) in the face of a fluctuation of other macroeconomic indicators (independent variables) different from those already studied, and on the other hand, check whether globalization has any influence. Because the world today is highly globalized, which means that consumers today may have become acculturated to global cultures, future research is encouraged to examine how consumers react to new product brands, such as product brand crossovers (Lim et al. 2019), and how this impacts on brand value from a macroeconomic perspective. This, in turn, should help future research to build on the findings of this study in new branding pastures.

Author Contributions: Conceptualization, E.G.-C., F.J.R.-C. and D.S.-M.; methodology, E.G.-C., F.J.R.-C. and D.S.-M.; software, E.G.-C., F.J.R.-C. and D.S.-M.; validation, E.G.-C., F.J.R.-C. and D.S.-M.; formal analysis, E.G.-C., F.J.R.-C. and D.S.-M.; investigation, E.G.-C., F.J.R.-C. and D.S.-M.; resources, E.G.-C., F.J.R.-C. and D.S.-M.; data curation, E.G.-C., F.J.R.-C. and D.S.-M.; writing—original draft preparation, E.G.-C., F.J.R.-C. and D.S.-M.; writing—review and editing, E.G.-C., F.J.R.-C. and D.S.-M.; visualization, E.G.-C., F.J.R.-C. and D.S.-M.; supervision, E.G.-C., F.J.R.-C. and D.S.-M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

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