Correlation Analysis of the Indicators of Asset Management and Profitability

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Abstract:

Optimum Asset Management has been and is today a concern in the management of an enterprise, its effects being felt as indicators of results. The way in which asset management results indicators and thus affect the profitability of an enterprise have proved it by conducting a case study in the companies in the food industry Spania.Modul Rioja region where asset management results indicators and thus influence the profitability of businesses I demonstrated by conducting a case study in the companies in the food industry of the region Rioja Spain.

The program is used to establish the correlation SPSS while watching the correlation and its economic-mathematical modeling and using SABI research platform, the platform belonging to the University of Rioja, Spain. We chose the food industry because of this industry perishable products requires proper management as the company's assets.

Key Words: rentability, ratio assets, correlation, research platform

Jel Classification: G1, M1, C1

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1. Introduction

This article forms part of his doctoral thesis which has the title "Analysis of asset management and its implications on profitability, lead author of the paper that this research Apart.

A competitive economy is an economy that has the structure of economic entities performing entities ever to face any challenge. Speaking of performance we report immediately to the two concepts that define performance: efficiency and effectiveness (Hanias *et al.,* 2007).

Between the two concepts are closely interdependent, meaning that an efficient undertaking without being effective will not have a very long period of existence, and an effective enterprise efficiency but without obtaining results automatically lead to unfavorable economic entity.

Efficiency is the key word of this research, and it represents the ratio of a company effort and result from that effort, or rather how they are used assets and equity values taking into consideration the fundamentals of the economy (Thalassinos *et al.,* 2012; Thalassinos, 2014: Thalassinos *et al.,* 2014; Thalassinos and Liapis 2014; Thalassinos *et al.,* 2015).

The authors Gheorghe Zaman and Marinela Geamănu efficiency as a specific element of several areas (economic, social, technological, ecological), was found both in practical activities of man and the concerns theoretical and methodological, but in economics it is defined as "an area of prime importance for studying the economic phenomena and processes, in terms of ratio, correlation, comparison of costs, efforts, consumption of resources, on the one hand, and the results, effects, production carried on by Moreover, expressed in physical units and value "[2].

Another definition of efficiency is found to author Lucian Buse namely: "the term efficiency know more accepted in the economic literature, some authors finding that an activity is effective when it reaches the desired goal with minimal effort"[3].

So based on this concept to determine and analyze a number of indicators that define how they have been used assets of enterprises and the results from them, the industrial sector is that of food production, the companies being and having the object of activity in Spain , Rioja region. Based on the results obtained from the accounting documents submitted by them we performed an analysis of the intensity and type of correlation between two categories of indicators: management and profitability, but both categories belonging efficiency.

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[2] Gheorghe Zaman, Marinela Geamanu, Eficiența economică, Ed. Fundației Romania de mîine, București, 2006, pag. 14
[3] Buşe Lucian, Analiză economico-financiară, Ed. Economică, București, 2005, p. 132

An item of infrastructure increasingly common in European universities is given to the use of research platforms and not just statistical programs. Moreover there is an increasingly replacement research programs with these assay platforms, the latter having incorporate arrangements and analysis of statistical and mathematical techniques.

Efficiency thus seen from different levels, interrelated this is reflected through indicators expressed in various forms but essentially they all reflecting how they are managed and used assets of an undertaking.

2. Concepts and terms used

To achieve this works in addition to the term of effectiveness of this in the introduction and presentation of the indicators used is needed both in terms of transmitted information and the way its calculation.

Defining concepts was conducted using both its views presented by specialists nationally and especially internationally.

Indicators MIRRORS profitability at a company level are reflected both in relative and absolute form. Of absolute indicators correlation analysis we used: operating result, financial result, total result, EBITDA and EBIT; and the use of relative indicators are: economic rate of return of capital, financial rate of return, rate of return on sales and expenditure or consumption.

Both the absolute and relative indicators I use presented through an array of profitability indicators as follows:

Table 1. Absolute profitability indicators use

income	expenditure	result
+ operating income	- operating expanses	Operating result (Pe)
+ financial income	- financial expanses	Financial result (Pf)
+ total income	- total expanses	Total result (Pt)
+ total result	+ interest expense	EBIT
+ EBIT	+ Amortisation	EBITDA

Source: Table made by the authors

As meanings operating income is the result of an undertaking to the work carried out on a certain time, which is often confused with the potential cash flow or as it is also recognized as the gross operating surplus.

The financial result is actually the difference between revenues and financial cehltuielile d ela enterprise level and is mostly due to loans made by the company to finance both current needs and investments.

Belly total result is the difference between total income and expenses of an enterprise, which is a result of the country affected by fiscal policy, being based reporting in determining the entity income tax due to the state budget.

EBIT and EBITDA are two indicators belonging to Anglo-Saxon system and less French system basically their relationship finally being adapted nevertheless substantial adjustments resulting from this all-surpassing being so representative.

Expressions profitability using relative indicators calculated from the overall efficiency equation, namely by comparing the actual effect achieved with the effort made by the company to achieve that effect.

Indicators of profitability it is also reflected by using the following table:

Table 2. Indicators of profitability of an enterprise

effect indicators	indicators of effort	profitability
Gross profit	permanent capital	Return on economic equity (Re)
Net profit	Personal capital	Financial rate of return (Rf)
Operating result	Expenses turnover	Return on costs (Rrc)
Profit for turnover		
Operating profit	Turnover	Return on sales / commercial (Rcom)
Profit for turnover		

Source: Table made by the authors

Using therefore these indicators and also causing the indicators of management of the assets given the speed of rotation of their measured as indicators of results and that asset we performed an analysis of the correlation, watching how this asset management in an enterprise influence the profitability.

3. Research methodology

Based on the profitability indicators such as absolute and relative we determined the indicators reflecting asset management companies analyzed.

First we thought impedios after determining the necessary indicators presented the evolution of profitability of companies from Spain - Rioja region. As a sector we chose food. considering the theme of the research work we considered the most representative branch in terms of highly perishable products. So in this industry since the speed is higher, exactly how much faster current creates value both company profitability should at least theoretically be influenced positively.

At the level of companies in the Spanish region of Rioja undercurrents in 2013, the last year surprised the analysis, around 300 companies with activities in which belonged food industry, but we made a selection among them, the selection criterion is given by the indicator turnover. So after I decided to look at companies with turnover of more than EUR 10,000, we finally decided on a number of 198 companies.

The period under review we decided in November due to the large number of variables to be 2012 - 2013, although the average level of profitability analysis went on peroada specific data from 2010 to 2013.

Indicators renatbilitate both the absolute and relative who are currently under a table passed as an annex (Annex 1) for more research in this paper, which is of a large size.

I realized correlation analysis using Pearson index, the SPSS statistical program used. Modeling level of correlation being made but with more research platform SABI ajutroul Neo paltform found in the University of Rioja, Faculty of Economics and manage their businesses.

4. Case study

The impact of the financial crisis, however, was different from one country to another, from one industry to another, from one firm to another, even if we speak the same field.

One of the explanations people's specialty would be that a small firms with a level of technology lowest presents greater flexibility and therefore increased capacity to adapt to the changing environment in which they operate, and changes that occur the market from customers, suppliers, etc. As a company with a higher level of technology adapts to these changes but in a larger time interval and of course incurring higher costs.

For this study we considered the companies Rioja Spain, belonging to food industry companies analyzed period regarding the profitability trend 2010 - 2013, correlation analysis, they are only the last two years 2012-2013.

To analyze profitability at companies of Rioja we used the electronic platform SABI University of Rioja, Faculty of Economics. In this platform with a user and password data I entered the business section where, depending on the scope of activity and the region over the undertaking, we selected those businesses related to the food industry in Rioja.

The individual companies have selected balance sheet and profit and loss account, financial and accounting documents with which we calculated and analyzed a number of indicators of profitability.

For more rapid absolute indicators of profitability we determined for each indicator an average Rioja food industry. The mean results for each indicator are shown in table immediately below:

Table 3. Media absolute indicators of profitability in the food industry Rioja - Spain for the period 2010 - 2013

Media	Pe	Pf	Rt	EBIT	EBITDA
2010	547.653	-8.660	538.994	547.653	838.877
2011	547.752	-8.650	539.102	547.752	838.975
2012	548.123	-8.649	539.474	548.123	839.382
2013	555.495	-13.616	541.879	555.495	847.725

Source: Table created by processing data from Annex 1

Considering the average values reflected in the above table so we can achieve a profitability analysis of the evolution in terms of absolute indicators.

Thus, in the operating activity is an increase in average operating result for the entire period. This increase can be explained by the fact that Rioja to the food industry has increased the number of enterprises operating profit above the average for the activity determined in each individual year.

The same evolution is observed and if total earnings from the companies in the food industry riojene. It seems that from year to year has recorded a growing number of enterprises that have achieved above average results for each individual year.

Relating simultaneously to two indicators EBIT and EBITDA in addition to, and if their situation is similar to what we had on profitability indicators earlier, here we can say that there is a difference in level considerably between the two indicators. This difference can be explained in terms of the level of depreciation. Basically being production-oriented companies is clear that we are talking here of a high tech level.

In determining the level and also to achieve a profitability analysis in terms of relative indicators we have kept the same procedure as in absolute indicators.

And if these indicators, to carry out an analysis with ease, without having to approach individual companies, we determined the average level in the food industry in Rioja - Spain.

Table 4. Average relative indicators of profitability in the food industry in Rioja the period 2010 - 2013

Media	Re	Rf	Rrc	Rv
2010	6,01%	51,75%	6,59%	5,84%
2011	6,08%	51,74%	6,64%	5,89%
2012	6,50%	52,34%	6,70%	5,94%
2013	6,41%	22,69%	6,72%	5,95%

Source: Table created by processing data from Annex 1

In 2013 there was a slight decline in the indicator compared to 2012. This decline could be justified by reference to data from us and Table 4.2 where the average total profit is increasing by an increase in the companies the average value of total assets.

The rate of return on equity is a decrease of the mean at a very high level in 2013 compared to other years. This, as I considered the data from the balance sheet and income statement of profit can be explained by a decrease in average net profits of the food industry in a much faster rate than the average equity.

In terms of efficiency in the use of spending is an increase in average spending rate of return, this meaning that to produce the same results companies have succeeded in reducing the level of expenditure from one year to another.

Return on sales records from year to year a growing medium, this meaning that the level of companies in the food industry of Rioja increased during this time profit share from the total turnover expenses.

Correlation analysis between micro and macro certain indicator is one way that highlighted the links that exist between these indicators and how they influence. Also correlation analysis is a first step to achieve an economic and mathematical model, the intensity of the link between these indicators which justifies the importance of its creation.

At the level of companies in the food industry in Rioja - Spain correlation analysis of indicators of asset management and profitability indicators is performed using SPSS statistical software, the index used is the index Pearson.

At the company level Rioja - Spain, have been complied same procedures as for companies from Dolj, the correlation established between indicator is reflected in the following table:

		Pe	Pf	Rt	EBIT	EBITDA	Re	Rf	Rrc	Rv
CA/AC	Pearson Correlation	-,120	-,241**	-,148	-,120	-,138	-,169	,005	-,362**	-,280**
	Sig. (2-tailed)	,201	,010	,114	,201	,141	,071	,959	,000	,002
	N	115	115	115	115	115	115	115	115	115
CA/At	Pearson Correlation	-,084	-,126	-,098	-,084	-,090	-,044	,733**	-,245**	-,185*
	Sig. (2-tailed)	,370	,180	,298	,370	,341	,642	,000	,008	,047
	N	115	115	115	115	115	115	115	115	115
Pe/AC	Pearson Correlation	,750**	,291**	,748**	,750**	,647**	,941**	,196*	,768**	,866**
	Sig. (2-tailed)	,000	,002	,000	,000	,000	,000	,036	,000	,000
	N	115	115	115	115	115	115	115	115	115
Pe/AT	Pearson Correlation	,718**	,329**	,723**	,718**	,596**	,974**	,245**	,799**	,874**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,008	,000	,000
	N	115	115	115	115	115	115	115	115	115
AC/CA	Pearson Correlation	,149	,399**	,199*	,149	,138	,170	,034	,520**	,401**
	Sig. (2-tailed)	,111	,000	,033	,111	,141	,069	,720	,000	,000
	N	115	115	115	115	115	115	115	115	115
AC/Ve	Pearson Correlation	,150	,400**	,200*	,150	,139	,170	,033	,519**	,400**
	Sig. (2-tailed)	,110	,000	,032	,110	,139	,069	,725	,000	,000
	N	115	115	115	115	115	115	115	115	115
Ac/Pe	Pearson Correlation	-,084	-,027	-,083	-,084	-,073	-,159	,157	-,213*	-,158
	Sig. (2-tailed)	,373	,776	,379	,373	,437	,090	,094	,022	,092
	N	115	115	115	115	115	115	115	115	115
PB/At	Pearson Correlation	,736**	,484**	,763**	,736**	,626**	1,000**	,273**	,837**	,898**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,003	,000	,000
	N	115	115	115	115	115	115	115	115	115
EBIT/AC	Pearson Correlation	,750**	,291**	,748**	,750**	,647**	,941**	,196*	,768**	,866**
	Sig. (2-tailed)	,000	,002	,000	,000	,000	,000	,036	,000	,000
	N	115	115	115	115	115	115	115	115	115

Correlations

EBIT/AT	Pearson Correlation	,614[**]	,301[**]	,622[**]	,614[**]	,552[**]	,884[**]	,504[**]	,705[**]	,778[**]
	Sig. (2-tailed)	,000	,001	,000	,000	,000	,000	,000	,000	,000
	N	115	115	115	115	115	115	115	115	115

Source: *Table obtained using SPSS*

From the resulting data we can say that the level of companies in the food industry in Rioja there are strong correlations between indicators and significant management and the profitability of assets.

In light of current assets rotational speed of the resulting data that is found in the industry, the correlation between this indicator and other indicators of return is one insignificant correlation values results being very close to the value 0.

In terms of speed of rotation of total assets but there is a significant correlation with financial rate of return, this index has the value 0.733.

A special case is found indicators of activity (management) of the assets created from the result for the operating business and in terms of gross operating surplus. If these indicators is a strong correlation with the company's profitability in terms of both absolute indicators: operating result, total result, EBIT and EBITDA; and in terms of relative indicators: economic rate of return, rate of return on resources consumed and the rate of return on sales.

Regarding the financial rate of return we can only say that if the indicator EBIT / AT there is a significant correlation, the resulting value being 0.504.

Given the results obtained in most indicators expresses how they were managed assets regardless of their form, we can say that there is a strong link between them and the profitability achieved by the company. What was natural and logical as the company sees better manage these assets much higher resulting profitability, evidenced also by using the direct links established between the indicators used in the analysis.

After those steps we made in the companies in the food industry in Rioja - Spain, econometric model correlations that exist between indicators and the management of the assets of profitability.

A first econometric model was established between the economic profitability as the dependent variable and the speed of rotation of net assets as independent variables, variables results are presented in Annex 2 of the paper.
After analyzing the correlation between asset management indicator, the speed of rotation of assets, and economic profitability established a strong inverse correlation, the correlation coefficient of -0.793 being.

Econometric model of these correlations using SABI platform yielded the following regression equations:

$$y = -0,582\ x + 2,21$$

At the end of modeling the relationships we conducted a graph of the equation is a graph illustrating the concentration points around the equation:

Chart 1.*Graph the regression model*
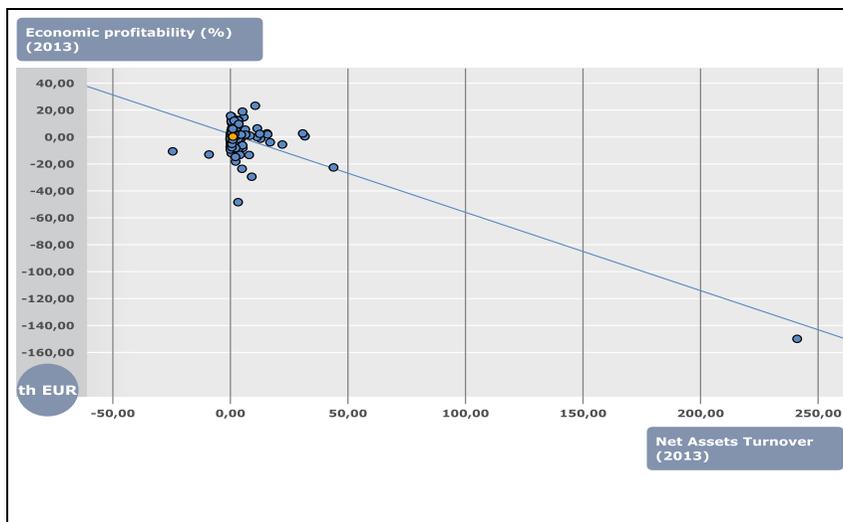
Source: SABI platform

The chart above that as the rotational speed increases economic profitability tends to fall. Concentration points on the graph shows that most of the values used in the analysis concentrated and tend to be closer to the value 0.

5. Conclusions

Analysis of asset management was pursued both by the efficiency indicators (rotation speed, the duration in days of revolutions, operating profit of 100 lei total assets, operating income of 100 lei relative assets) and in terms of the overall effect of the way they are used inside the enterprise, effects resulting from the evaluation process.

The way and intensity of links between asset management in terms of efficiency indicators and the profitability of the enterprise were pursued through programs and using statistical and mathematical models created factorial analysis.

At the company level Rioja - Spain on the level of operating activity is an increase in average operating result, while at financial activity level decrease. Basically

outcome of firms in this region is due in particular operating activity, as is natural, and no financial activity. The financial activity we can say that companies have resorted to various forms of borrowing, either short term or long term, for financing activities or investments.

Indicators profitability reflects also of the entire analyzed period a favorable situation. Return on average economic growth reflects the overall efficiency of the business firms in the food processing sector, the return on the costs and strengthening sales through their level further the arguments.

After reflecting developments in corporate profitability levels in the food industry by using SPSS - site we conducted an analysis of the correlation between indicators of profitability and the management of the assets. Correlation analysis was performed using Pearson correlation index.

Following this analysis year found that there is a strong correlation between the speed of rotation of assets and the level of profitability achieved, the food industry is one of the industries that confirm this in terms of results.

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Annex 1

The profitability of firms in terms of absolute indicators:

year	Pe	Pf	Rt	EBIT	EBITDA	company
2010	11.835	-925	10.910	11.835	15.286	**CONSERVAS EL CIDACOS SA**
2011	14.693	-648	14.045	14.693	18.114	
2012	11.618	-1.433	10.185	11.618	15.349	
2013	17.795	-535	17.260	17.795	21.524	
2010	6.654	-432	6.222	6.654	8.323	**PALACIOS ALIMENTACION SAU (EXTINGUA)**
2011	17.415	-398	17.017	17.415	20.136	
2012	10.165	202	10.367	10.165	12.514	
2013	9.688	938	10.626	9.688	11.567	
2010	106.087	-18.544	87.543	106.087	867.358	**ALEJANDRO MIGUEL SL**
2011	319.871	-162.594	157.277	319.871	1.109.313	
2012	375.773	-96.521	279.252	375.773	1.521.845	
2013	689.661	-128.399	561.262	689.661	1.847.251	
2010	56.704	-165.675	-108.971	56.704	387.735	**HARINERA RIOJANA**
2011	-184.722	-315.625	-500.347	-184.722	115.399	
2012	566.679	-377.879	188.800	566.679	860.815	
2013	629.370	-354.011	275.359	629.370	921.576	
2010	1.621.165	-21.994	1.599.171	1.621.165	2.069.595	**ARLUY SL**
2011	1.520.620	54.638	1.575.258	1.520.620	2.202.702	
2012	1.455.351	54.686	1.510.037	1.455.351	2.154.533	
2013	1.571.414	-55.226	1.516.188	1.571.414	2.604.663	
2010	185.646	-74.807	110.839	185.646	426.633	**ELABORADOS NATURALES DE LA RIBERA SL**
2011	573.951	-81.292	492.659	573.951	868.332	
2012	833.957	-113.800	720.157	833.957	1.190.370	
2013	247.058	-69.018	178.040	247.058	647.129	
2010	121.062	-195.393	-74.331	121.062	490.038	**CONSERVAS FERBA SA**
2011	345.170	-187.701	157.469	345.170	678.630	
2012	550.525	-243.314	307.211	550.525	897.548	
2013	1.219.544	-184.954	1.034.590	1.219.544	1.589.270	
2010	2.832.737	434.710	3.267.447	2.832.737	3.291.869	**CONSERVAS FRANCO RIOJANA SOCIEDAD ANONIMA**
2011	2.596.335	-186.058	2.410.277	2.596.335	3.079.437	
2012	1.943.360	-126.721	1.816.639	1.943.360	2.375.707	
2013	1.772.362	-286.705	1.485.657	1.772.362	2.081.613	
2010	155.042	-143.202	11.840	155.042	361.710	**ALBERTO DE MIGUEL SA**
2011	246.200	-168.390	77.810	246.200	461.697	
2012	247.729	-184.003	63.726	247.729	465.777	
2013	192.525	-156.921	35.604	192.525	406.609	
2010	360.778	-41.789	318.989	360.778	500.928	**LA ALEGRIA RIOJANA**

2011	346.406	-15.421	330.985	346.406	495.464	
2012	275.766	-834	274.932	275.766	444.834	
2013	385.385	-4.501	380.884	385.385	591.495	
2010	1.939.881	129.623	2.069.504	1.939.881	2.429.158	
2011	2.321.750	166.921	2.488.671	2.321.750	2.745.492	**RIOJANA DE GRASAS SA**
2012	1.906.075	150.809	2.056.884	1.906.075	2.265.786	
2013	1.216.616	146.259	1.362.875	1.216.616	1.553.872	
2010	884.520	94.424	978.944	884.520	2.191.841	
2011	1.205.332	-44.078	1.161.254	1.205.332	2.477.963	**FONCASAL TRADING SOCIEDAD LIMITADA**
2012	1.037.494	-153.473	884.021	1.037.494	2.184.992	
2013	-7.913.192	-470.906	-8.384.098	-7.913.192	-6.615.384	
2010	1.060.507	162.315	1.222.822	1.060.507	1.477.722	
2011	366.069	168.679	534.748	366.069	742.893	**VINAGRERIAS RIOJANAS SA**
2012	291.189	167.715	458.904	291.189	675.058	
2013	442.646	549.935	992.581	442.646	787.070	
2010	1.108.074	-60.745	1.047.329	1.108.074	1.306.750	**COMERCIAL RIOVERDE SOCIEDAD ANONIMA**
2011	832.677	4.981	837.658	832.677	1.030.345	
2012	882.538	130	882.668	882.538	1.044.138	
2013	738.151	5.209	743.360	738.151	887.209	
2010	1.859.916	323.641	2.183.557	1.859.916	2.093.182	
2011	1.996.270	-263.052	1.733.218	1.996.270	2.229.817	**EMBUTIDOS ALEJANDRO SA**
2012	1.823.850	196.459	2.020.309	1.823.850	2.067.010	
2013	2.106.148	178.522	2.284.670	2.106.148	2.291.888	
2010	346	-60	286	346	650	**GRANDERROBLE DESSERTS SOCIEDAD LIMITADA**
2011	761	-17	744	761	1.005	
2012	644	7	651	644	967	
2013	-1.623	-303	-1.926	-1.623	-1.206	
2010	449.159	-95.867	353.292	449.159	730.756	**MATADERO JOSE CALATAYUD E HIJOS SA**
2011	341.561	-72.660	268.901	341.561	634.978	
2012	104.025	41.666	145.691	104.025	393.253	
2013	272.341	335.751	608.092	272.341	557.009	
2010	544.011	-88.269	455.742	544.011	812.413	
2011	515.705	-31.574	484.131	515.705	785.917	**LACTEOS MARTINEZ SL**
2012	981.115	-21.586	959.529	981.115	1.210.543	
2013	743.669	-17.106	726.563	743.669	969.007	
2010	395.029	-148.160	246.869	395.029	723.602	
2011	292.800	-185.707	107.093	292.800	638.517	**AMANDO LOZA ALONSO SA**
2012	327.833	-245.872	81.961	327.833	519.756	
2013	342.134	-244.645	97.489	342.134	499.085	
2010	251.402	-82.438	168.964	251.402	368.323	
2011	337.233	-116.389	220.844	337.233	496.663	**SALSA RICA SL**
2012	343.698	-96.237	247.461	343.698	540.603	
2013	193.029	-64.354	128.675	193.029	401.504	
2010	149.256	-115.885	33.371	149.256	519.407	**PRECOCINADOS NATURALES RIOJANOS SA**
2011	158.425	-149.990	8.435	158.425	575.390	
2012	357.733	-272.646	85.087	357.733	806.789	
2013	92.823	-154.570	-61.747	92.823	516.686	
2010	196.551	-80.603	115.948	196.551	218.644	
2011	237.749	-97.432	140.317	237.749	246.982	**SALSAS FINAS DE RIOJA SL**
2012	238.991	-91.839	147.152	238.991	248.224	
2013	329.686	-125.212	204.474	329.686	338.919	
2010	33.920	8.834	42.754	33.920	62.856	
2011	39.823	11.566	51.389	39.823	66.027	**HARINAS VAZQUEZ SA**
2012	33.888	14.755	48.643	33.888	57.208	
2013	12.338	10.721	23.059	12.338	30.112	
2010	31.017	-19.606	11.411	31.017	106.627	**EMBUTIDOS DOMINGO ORTIZ MORENO SL**
2011	29.995	-27.920	2.075	29.995	117.039	
2012	37.667	-35.316	2.351	37.667	127.108	
2013	47.103	-32.700	14.403	47.103	138.317	

2010	109.336	-6.772	102.564	109.336	185.228	**CONSERVAS CABEZON SL**
2011	102.632	-12.716	89.916	102.632	165.576	
2012	152.918	-72.719	80.199	152.918	195.534	
2013	106.698	-36.269	70.429	106.698	135.883	
2010	108.792	-67.983	40.809	108.792	1.063.563	**ULTRACONGELADOS DEL OJA SA**
2011	276.038	-62.016	214.022	276.038	1.211.770	
2012	475.892	-42.568	433.324	475.892	1.331.157	
2013	251.486	-26.642	224.844	251.486	1.129.474	
2010	1.012.423	59.207	1.071.630	1.012.423	1.137.070	**PRODUMIX SA**
2011	921.213	224.057	1.145.270	921.213	1.081.835	
2012	375.869	255.458	631.327	375.869	551.185	
2013	485.537	520.980	1.006.517	485.537	681.763	
2010	124.394	-35.196	89.198	124.394	205.167	**EMBUTIDOS SENORA JULIA SL**
2011	-25.244	-35.531	-60.775	-25.244	49.745	
2012	-71.396	-33.503	-104.899	-71.396	-1.603	
2013	226.023	-29.270	196.753	226.023	290.249	
2010	165.707	457	166.164	165.707	275.009	**CONSERVAS ARAMAYO SA**
2011	137.462	8.849	146.311	137.462	218.463	
2012	189.890	19.930	209.820	189.890	273.334	
2013	192.375	48.902	241.277	192.375	271.010	

Indicators of profitability you:

year	Re	Rf	Rrc	Rv	company
2010	10,86%	16,63%	8,03%	7,44%	**CONSERVAS EL CIDACOS SA**
2011	12,88%	16,49%	9,65%	8,80%	
2012	7,29%	11,60%	6,63%	6,23%	
2013	12,02%	15,81%	9,48%	8,67%	
2010	9,87%	37,45%	14,98%	13,16%	**PALACIOS ALIMENTACION SAU (EXTINGUA)**
2011	22,00%	54,95%	16,72%	14,57%	
2012	16,19%	76,51%	9,40%	8,67%	
2013	13,57%	64,49%	8,65%	8,05%	
2010	3,21%	861,36%	0,32%	0,33%	**ALEJANDRO MIGUEL SL**
2011	0,60%	1,48%	0,73%	0,74%	
2012	0,83%	1,77%	0,65%	0,66%	
2013	1,54%	4,27%	1,06%	1,07%	
2010	-0,99%	-2,16%	0,24%	0,23%	**HARINERA RIOJANA**
2011	-3,85%	-9,16%	-0,55%	-0,55%	
2012	1,43%	3,34%	1,49%	1,47%	
2013	2,36%	5,11%	1,70%	1,67%	
2010	7,38%	54,90%	5,13%	4,90%	**ARLUY SL**
2011	6,10%	51,47%	4,54%	4,36%	
2012	5,18%	46,87%	4,22%	4,07%	
2013	4,69%	68,61%	4,37%	4,21%	
2010	1,79%	86,87%	1,35%	1,33%	**ELABORADOS NATURALES DE LA RIBERA SL**
2011	6,00%	52,04%	2,48%	2,42%	
2012	7,81%	41,01%	3,22%	3,13%	
2013	1,89%	5,27%	0,87%	0,87%	
2010	-0,65%	-1,12%	1,04%	1,02%	**CONSERVAS FERBA SA**
2011	1,38%	2,38%	2,60%	2,54%	
2012	2,24%	4,02%	3,66%	3,53%	
2013	6,63%	22,12%	5,61%	5,32%	
2010	16,97%	31,75%	12,67%	11,26%	**CONSERVAS FRANCO RIOJANA SOCIEDAD ANONIMA**
2011	12,15%	20,34%	11,14%	10,03%	
2012	8,74%	19,00%	8,57%	7,90%	
2013	6,94%	13,18%	8,71%	8,03%	
2010	0,10%	0,19%	1,23%	1,22%	**ALBERTO DE MIGUEL SA**
2011	0,71%	1,22%	1,86%	1,83%	

2012	0,60%	1,01%	1,83%	1,80%	
2013	0,34%	0,66%	1,26%	1,25%	
2010	5,75%	22,76%	3,11%	3,03%	
2011	5,02%	14,40%	2,70%	2,64%	**LA ALEGRIA RIOJANA**
2012	3,88%	13,04%	2,03%	2,00%	
2013	5,52%	23,16%	2,57%	2,50%	
2010	19,30%	68,76%	16,32%	14,11%	
2011	22,09%	120,82%	18,63%	15,77%	**RIOJANA DE GRASAS SA**
2012	17,51%	156,89%	13,93%	12,28%	
2013	12,12%	65,87%	8,63%	7,98%	
2010	4,25%	11,66%	3,80%	3,67%	
2011	4,68%	13,28%	4,18%	4,04%	**FONCASAL TRADING SOCIEDAD**
2012	3,46%	7,82%	3,79%	3,66%	**LIMITADA**
2013	-48,41%	-123,41%	-34,44%	-52,62%	
2010	7,83%	18,44%	8,67%	8,08%	
2011	3,33%	7,58%	2,68%	2,62%	**VINAGRERIAS RIOJANAS SA**
2012	2,67%	5,45%	2,08%	2,05%	
2013	6,06%	15,02%	3,19%	3,10%	
2010	9,16%	12,88%	8,42%	7,77%	
2011	7,37%	10,69%	6,73%	6,31%	**COMERCIAL RIOVERDE**
2012	7,82%	9,66%	6,96%	6,51%	**SOCIEDAD ANONIMA**
2013	6,69%	9,49%	5,55%	5,26%	
2010	11,98%	60,98%	20,80%	17,26%	
2011	8,98%	44,34%	21,32%	17,64%	**EMBUTIDOS ALEJANDRO SA**
2012	9,82%	48,07%	17,89%	15,19%	
2013	10,21%	51,73%	19,39%	16,25%	
2010	5,84%	14,83%	4,38%	4,30%	
2011	14,48%	73,57%	10,61%	9,74%	**GRANDERROBLE DESSERTS**
2012	13,32%	25,10%	9,02%	8,30%	**SOCIEDAD LIMITADA**
2013	-18,21%	-40,71%	-11,57%	-13,18%	
2010	6,21%	24,67%	4,45%	4,27%	
2011	4,85%	15,18%	3,05%	2,97%	**MATADERO JOSE CALATAYUD E**
2012	2,54%	6,94%	0,91%	0,90%	**HIJOS SA**
2013	9,46%	27,34%	2,32%	2,28%	
2010	7,27%	12,36%	5,72%	5,43%	
2011	8,37%	12,77%	5,12%	4,87%	**LACTEOS MARTINEZ SL**
2012	15,40%	23,60%	10,06%	9,15%	
2013	10,43%	17,34%	7,12%	6,66%	
2010	2,22%	2,58%	4,77%	4,59%	
2011	0,87%	1,01%	3,42%	3,31%	**AMANDO LOZA ALONSO SA**
2012	0,64%	0,74%	3,38%	3,27%	
2013	0,73%	0,82%	3,17%	3,08%	
2010	2,18%	5,19%	2,40%	2,34%	
2011	3,04%	8,02%	3,21%	3,11%	**SALSA RICA SL**
2012	3,50%	7,39%	2,80%	2,74%	
2013	2,12%	6,38%	1,81%	1,78%	
2010	0,42%	1,75%	3,26%	3,16%	
2011	0,09%	0,59%	4,42%	4,74%	**PRECOCINADOS NATURALES**
2012	0,93%	7,71%	5,44%	5,21%	**RIOJANOS SA**
2013	-0,75%	-6,90%	1,64%	1,62%	
2010	7,62%	16,59%	6,82%	6,38%	
2011	8,21%	13,68%	8,12%	7,51%	**SALSAS FINAS DE RIOJA SL**
2012	7,93%	13,30%	7,75%	7,19%	
2013	9,66%	16,31%	7,92%	7,34%	
2010	1,90%	2,82%	0,84%	0,84%	
2011	2,35%	3,95%	0,87%	0,86%	**HARINAS VAZQUEZ SA**
2012	2,08%	3,18%	0,70%	0,70%	
2013	0,97%	2,05%	0,25%	0,25%	
2010	0,55%	5,13%	0,73%	0,73%	**EMBUTIDOS DOMINGO ORTIZ**

2011	0,10%	0,98%	0,72%	0,72%	**MORENO SL**
2012	0,11%	2,34%	0,94%	0,93%	
2013	0,70%	13,39%	1,06%	1,05%	
2010	5,64%	8,08%	3,82%	3,81%	**CONSERVAS CABEZON SL**
2011	4,01%	5,93%	3,01%	2,99%	
2012	3,26%	3,80%	3,76%	3,69%	
2013	2,34%	2,78%	2,60%	2,57%	
2010	0,55%	2,13%	3,29%	3,19%	**ULTRACONGELADOS DEL OJA SA**
2011	2,99%	9,66%	7,54%	7,02%	
2012	5,86%	19,79%	11,62%	10,41%	
2013	2,77%	9,35%	6,71%	6,29%	
2010	14,78%	67,45%	34,56%	26,15%	**PRODUMIX SA**
2011	15,19%	85,91%	33,43%	25,06%	
2012	7,75%	46,18%	11,84%	10,59%	
2013	11,68%	86,35%	17,81%	15,12%	
2010	6,18%	16,86%	3,88%	3,74%	**EMBUTIDOS SENORA JULIA SL**
2011	-4,71%	-13,24%	-0,78%	-0,78%	
2012	-7,62%	-24,94%	-1,99%	-2,03%	
2013	14,70%	32,39%	6,70%	6,30%	
2010	6,26%	38,81%	5,94%	5,61%	**CONSERVAS ARAMAYO SA**
2011	5,37%	156,40%	5,43%	5,15%	
2012	7,52%	88,61%	7,64%	7,10%	
2013	7,75%	62,03%	6,52%	6,12%	

Annex 2

	Independent variable	Dependent variable	
	Net Assets Turnover days	**Economic profitability (%) %**	**Economic profitability (%) %**
Company Name		**Real value**	**Calculated value**
	2013	**2013**	**2013**
Median	*1,59*	*1,07*	*-*
Standard Deviation	*20,51*	*15,04*	*-*
Average	*4,75*	*-0,55*	*-*
SAMI 2000 SL	241,08	-149,93	-137,99
PANADERIA GARRIDO RIOS SL	43,86	-22,58	-23,29
GARRIDO SANTOLAYA RAUL 000870875Z SLNE	31,70	0,55	-16,22
MANGADO-MARTINEZ SL	30,80	2,67	-15,69
PANIFICADORA CALCEATENSE SL (EN LIQUIDACION)	22,11	-5,56	-10,64
REGALPAN SL	16,89	-3,89	-7,61
ELABORADOS NATURALES DE LA RIBERA SOCIEDAD LIMITADA	15,80	1,89	-6,97
BACALAOS ALEJANDRA SOCIEDAD LIMITADA.	15,60	2,73	-6,86
CONCAL 2010 SOCIEDAD LIMITADA	12,84	-1,23	-5,25
HARINERA RIOJANA, SA	12,53	2,36	-5,07
CARNICAS ARENZANA SL	11,43	6,40	-4,43
FRIGORIFICOS MANJARRES SA	11,32	0,02	-4,37
QUESOS CELIA SOCIEDAD LIMITADA	10,56	23,24	-3,93
GARPESA SA	9,07	-29,49	-3,06
FRUTAS SECAS LA QUELENA SOCIEDAD LIMITADA.	8,36	1,01	-2,65
PANADERIA ARNEDILLO SL	7,99	-13,33	-2,43

PANADERIA JAVIER MANGADO SL	6,45	1,76	-1,53
LA ALEGRIA RIOJANA SA	6,29	5,52	-1,44
EMBUTIDOS SEÑORA JULIA SL	5,66	14,70	-1,08
CONSERVAS Y ENCURTIDOS ARAGON SL	5,51	3,79	-0,99
ARSENIO MILLAN SL	5,41	1,19	-0,93
CONSORCIO DE HARINAS SOCIEDAD LIMITADA	5,25	-8,11	-0,84
MATADERO COMARCAL DE ALFARO SA	5,15	-6,16	-0,78
NUA BIOLOGICAL INNOVATIONS SL	5,14	18,88	-0,78
ALEJANDRO MIGUEL SOCIEDAD LIMITADA	5,04	1,89	-0,72
GLORI Y ASCENSION SL	4,94	-23,60	-0,66
EMBUTIDOS DOMINGO ORTIZ MORENO SL	4,67	0,70	-0,50
SOLE Y GOITA RIOJA SL	4,59	1,76	-0,45
EMBUTIDOS CLAVIJO SL	4,52	-1,01	-0,42
POSTRES DEL CIELO SL	4,04	-13,24	-0,14
BALBIERO SL	3,93	0,05	-0,07
ENCURTIDOS PEREZ SL	3,67	1,23	0,08
SALSAS FINAS DE RIOJA SL	3,56	9,66	0,14
PANADERIA IBAÑEZ SL	3,53	1,72	0,16
PAN CALIENTE 98 SL	3,45	12,41	0,21
PANADERIA LLORENTE S.L.	3,41	-1,28	0,23
FUENTE PANADEROS SL	3,40	-8,70	0,24
PANADERIAS YANGUAS SL	3,40	12,30	0,24
CONSERVAS FERBA SA	3,35	6,63	0,27
FONCASAL TRADING SOCIEDAD LIMITADA	3,28	-48,41	0,31
CONSERVAS CABEZON SL	3,18	2,34	0,37
SALSA RICA SL	3,08	2,12	0,42
ENOA FOODS SA	3,03	3,21	0,45
AGROALIMENTARIOS GARU SL	2,95	2,67	0,50
HARINAS VAZQUEZ SA	2,87	0,97	0,55
EMBUTIDOS GARMAN SA	2,83	1,12	0,57
PANADERIA CAMARA S.L.	2,78	0,13	0,60
CARNICAS EMCISO SL	2,74	0,94	0,62
PANADERIA Y REPOSTERIA CONDE DE CASALARREINA SL	2,73	4,17	0,63
HARINAS AZOFRA SL	2,71	0,87	0,64
BARRIOBERO HERMANOS SL	2,67	1,07	0,66
ARTESANA PEÑASOMO SOCIEDAD DE RESPONSABILIDAD LIMITADA	2,67	-9,11	0,67
ALBERTO DE MIGUEL SA	2,66	0,34	0,67
PANADERIA VILLAREJA S.L.	2,54	0,75	0,74
CARNICAS CAMERANAS SL	2,42	-2,94	0,81
MATADERO JOSE CALATAYUD E HIJOS SA	2,42	9,46	0,81
PANADERIA EL CRUCERO SLL	2,37	12,54	0,84
PANIFICADORA SAN FELICES SA	2,26	-8,27	0,90
ARLUY SL	2,25	4,69	0,91
GRANDERROBLE DESSERTS SOCIEDAD LIMITADA.	2,23	-18,21	0,92
ZUMOS UBIS SA	2,14	-14,79	0,97
EMBUTIDOS GAMBOA SL	2,09	0,45	1,00
HIJOS DE ARTURO CHICOTE SL	2,02	10,95	1,04
LACTEOS MARTINEZ SL	2,01	10,43	1,04
CHAMPIÑONES AUTOL SL	1,99	3,32	1,06
H.J. HEINZ MANUFACTURING SPAIN SOCIEDAD LIMITADA.	1,98	5,86	1,07
CONSERVAS EL CIDACOS SA	1,97	12,02	1,07
CONSERVAS VALERIO SL	1,90	13,00	1,11
AMANDO LOZA ALONSO SA	1,74	0,73	1,20
EMBUTIDOS ALVIC SL	1,74	4,81	1,20
TECNOCARNICO VALLE DEL EBRO, SA	1,74	2,22	1,21
LA VEGA DE QUEL SL	1,73	2,59	1,21
EMBUTIDOS BUEYO SL	1,61	-0,74	1,28

RIOJANA DE GRASAS SA	1,61	12,12	1,28
EMBUTIDOS ISMAEL SL	1,56	1,24	1,31
COMERCIAL RIOVERDE SOCIEDAD ANONIMA	1,49	6,69	1,35
ALIMENTOS CONGELADOS DE LA RIOJA SA	1,49	2,11	1,35
MAZAPANES DE SOTO HIJA DE FELIPE ROMERO SA	1,47	-4,25	1,36
CONSERVAS ARAMAYO SA	1,45	7,75	1,37
HERMANOS SAENZ DE TEJADA SL	1,45	1,10	1,37
EMBUTIDOS Y JAMONES G SOBRON MARTINEZ SL	1,38	1,01	1,41
BODEGAS Y CONSERVAS LA ASUNCION SL	1,35	0,20	1,43
COOPERATIVA FRUTOS DEL CAMPO S.C.L.	1,34	1,07	1,44
LAIDIEZ ALIMENTACION SL	1,28	2,13	1,47
EMBUTIDOS BRIONES SL	1,24	-0,14	1,49
EL RIOJANO SA	1,16	2,23	1,54
CONSERVAS V JALON SA	1,14	-8,89	1,55
EMBUTIDOS LUIS GIL SL	1,14	1,36	1,55
CONSERVAS FRANCO RIOJANAS SOCIEDAD ANONIMA	1,12	6,94	1,56
VEGAGEL SL	1,09	0,47	1,58
3 LISES SA	1,07	0,32	1,59
GALLETAS REYGA SL	1,07	9,49	1,59
GRUPO EMPRESARIAL PALACIOS ALIMENTACION SA	1,04	2,13	1,61
VINAGRERIAS DEL NORTE VINANOR SL	1,02	-1,97	1,62
VINAGRERIAS RIOJANAS SA	0,98	6,06	1,64
CONSERVAS MARZO SA	0,98	3,91	1,65
UCC COFFEE SPAIN SOCIEDAD LIMITADA.	0,95	5,00	1,66
PRECOCINADOS NATURALES RIOJANOS SA	0,94	-0,75	1,67
EMBUTIDOS TRINI SL	0,93	1,24	1,67
L. R. 115 ALMAZARA RIOJANA S.L.	0,84	-3,51	1,72
COMPAÑIA ALIMENTARIA COALA SL	0,82	3,51	1,74
CONSERVAS JUANFE SL	0,77	6,94	1,77
AJO-PEL SL	0,74	6,90	1,79
H CHICOTE PAJA Y FORRAJE SL	0,72	2,83	1,80
PASTAS SESMA SL	0,72	0,44	1,80
CHAMPIÑONES JUMA SAT	0,66	1,19	1,83
HERMANOS URUÑUELA MARTINEZ SL	0,66	-6,07	1,83
SAT RUME N 8397	0,64	-5,08	1,84
GRANJA EL MONTE SL	0,62	4,01	1,85
EMBUTIDOS ALEJANDRO SA	0,62	10,21	1,86
ULTRACONGELADOS DEL OJA SA	0,62	2,77	1,86
REDUCVIN SL	0,58	-7,60	1,88
CONSERVAS GOMEZ AGUIRRE SL	0,57	4,62	1,88
CARNICAS DEL NAJERILLA SA	0,55	1,54	1,90
JOSE FERNANDEZ PASCUAL SOCIEDAD ANONIMA.	0,53	13,62	1,91
KEL GRUPO ALIMENTARIO SL	0,51	-3,94	1,92
MATIAS AMUTIO OLAVE SA	0,50	-6,25	1,93
PANADERIA PRIMI SL	0,49	15,25	1,93
MAZAPANES DE SOTO SEGURA SA	0,47	12,97	1,94
HNOS SOBRON LOZA SL	0,45	-6,25	1,95
CASA REDONDO SA	0,45	-8,56	1,96
CONSERVAS SERRANO SL	0,43	-2,10	1,96
ALMAZARA ECOLOGICA DE LA RIOJA SL	0,42	-12,04	1,97
CONFITERIA MERINO SL	0,40	0,28	1,98
PRODUMIX SA	0,39	11,68	1,99
GRASAS INDUSTRIALES SA	0,36	1,39	2,00
LOGAR INDUSTRIAS AGROALIMENTARIAS SOCIEDAD ANONIMA.	0,35	4,71	2,01
CONFITERIA MALUMBRES SL	0,28	-6,26	2,05

CONSERVAS JUKER SL.	0,26	-2,72	2,06
BODEGAS AMEZOLA DE LA MORA SOCIEDAD ANONIMA	0,26	-0,34	2,06
DULCES EL AVION SA	0,25	-4,36	2,07
RICARDO LAHERA SA	0,24	0,33	2,07
RIHUELO SL	0,14	0,84	2,13
RIOCARTAGO S.L.	0,13	15,76	2,14
ALMAZARA VALLE DEL IREGUA SL	0,11	0,02	2,15
CONSERVAS CUPE S.L.	0,11	2,14	2,15
CECA IMPERIAL SL	0,07	-4,24	2,17
CONSERVAS MIMO SA	0,06	2,18	2,18
EXTREMIANA PALACIOS SL	0,03	-9,33	2,20
TEOFILO AZOFRA SA	0,02	-1,32	2,20
ANGEL AZOFRA SOMALO SA	0,02	-0,43	2,21
GARRAPOSA SOCIEDAD LIMITADA.	0,02	1,02	2,21
HIJOS DE PABLO MARTINEZ SA	0,01	-1,64	2,21
ALEJANDRO NATURAL SL	0,00	-2,04	2,21
CONSERVAS Y VERDURAS DE LA RIOJA SL	0,00	-7,46	2,21
PIENSOS 7 CAMINOS SL.	0,00	-0,16	2,21
JAMONES ALTUZARRA SL	-9,10	-12,96	7,50
EL HORNO DE LA CHUS SLL	-24,53	-10,65	16,48