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Z – Altman Review

The Case of Beverage Company in Latam

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The case was prepared with the collaboration of Miguel Angel Condor Colqui

Abstract

Since 2000, the growth in beverage industry has been important. Overall, statistics show that Latam companies have presented a good financial performance. However, this performance could be highly questionable and, questions like what is going to happen in the next years in the industry or how likely a failure or bankruptcy could be experimented and needs to be answered. So, in order to answer such questions, an analysis is carried out by Ivan Vonne, a senior analyst.

The method applied to this assessment is the Z-Score method developed by Altman in 1968. The literature review helped us to identify three types of Z-score, one developed by Edward Altman in 1968 called "Z-Score Model", the other improved by Edward Altman in 1984 called "Company and Country Risk Models" for private companies and the last one improved by Altman, Hartzell y Peck in 1995 called "Emerging Market Scoring Model" (EMS Model) for non-manufactured companies and emerging market credits.

The paper, focus in a Beverage Industry. One company, which has been chosen indiscriminately

to evaluate the model, has been identified with operations in Peru and this company listed its equity in the Bolsa de valores de Lima (BVL, for its acronym in Spanish). In the first section you are going to find a brief introduction about the Company "Peruvian Beverage Inc.". Second section develops the theory, its origins and the different ways it can be applied. Then, third section explains the way that the company performs in the industry, as well as the steps they follow to produce the final product. Fourth Section details how the operations have been carried out so far. Fifth section shows a brief analysis about the financial statements of the company. Sixth section assesses the Z-score model. Seventh and eighth sections establish why the model is not completely viable in Peru and an explanation about the results of sixth section. Finally, you can find references and the rest of the annexes in the last two sections.

Keywords: Beverage industry, financial strategies, financial statement analysis, Ratios, Z-score

1. Introduction[1]

The Company "Peruvian Beverage Inc."[2] has decided to evaluate its performance in the previous periods in order to know the efficiency level of the company's operation. In that way, the Chief Executive Officer (CEO) of Peruvian Beverage, Carlos Eley, has asked to his senior analyst, Ivan Vonne, to carry out a deep assessment of the company's operation and know if it is possible that in the future the company will face negative trends.

With the aim to fulfill the assessment, Mr. Vonne will have to collect all available and necessary information that will be required to complete it. Due to the fast development of the market, Vonne plans to finish it in the next 20 days. In the same way, Mr. Vonne is taking into account the development of the industry to avoid any kind of mistake.

In addition, Peruvian Beverage, as other companies in the same industry, listed its equity in BVL (Bolsa de Valores de Lima) and, reports its financial statement to Superintendencia del Mercado de Valores–SMV (capital market regulator). Besides, the audited information is also available in the SMV web page.

In this way, Mr. Vonne requested a distress meeting, where the data gathered will be reviewed and some future projects will be discussed and taken into account. The meeting was on January 10th of 2013 and was made up by Mr. Vonne, Carlos Eley and Ronald Pantia (Vice-president of Peruvian Beverage).

During the meeting, Mr. Pantia introduced a brief history about the company performance, how they have grown since it was founded a long time ago. Likewise, he mentioned some successful agreements and failed projects that have been experienced. Despite of the good results during last year, Mr. Eley mentioned some financial distress recently experienced. In addition, Mr. Vonne talked about the Z-Altman Model, and explained who used it, how it works and how efficient it could be for the analysis.

2. Literature Review

The Z - Score model is the distillation into a single measure of a number of financial ratios

[1] *Class & Asociados S.A., Pacific Credit Rating.*
[2] *The name of the company was changed for the case.*

properly selected, weighted and aggregated. If the derivative Z - Score result exceeds a calculated score, the firm is classified as financially healthy, if it is below the cutoff, is typically seen as a potential failure (Altman, 1968).

Besides, Altman (1968) explains that the selection of the independent variables, Altman initially joined a group of 22 ratios that were applied to both subsamples of firms companies. Nevertheless, when utilizing a comprehensive list of financial ratios in assessing a firm's bankruptcy potential there is reason to believe that some of the measurements will have a high degree of correlation or collinearity with each other.

The selection of these ratios was based on the following three criteria:

a) Because of its popularity in the literature,
b) Relevance to the study power,
c) For the innovative way that some ratios presented in the analysis.

Likewise, the 22 ratios were reduced to five factors that mediate: profitability, activity, liquidity and solvency.

For Altman, five factors were shown to be the best combinations for discriminating between bankrupt firms and companies without bankruptcy. Altman's coefficients were calculated using US data and to listed firms and, later, with different coefficients to private firms (Bezhentseva, Hall & Mateus; 2011). However, Altman indicated no basis to split into five categories the model, and if in fact these categories were the most representative at large and independent to predict bankruptcy.

The model was originally developed in order to analyze only industrial companies (construction and manufacturing). Later, it was applied to different models developed for retail and service businesses. As Peek & Rosengren (1996) recognize "is easy to identify a troubled bank at the time of its bankruptcy".

The Z - score Model, for some reason, seems to generate a lot of emotion and trying to prove they really work (Morris, 1997). However, much of the concern about its use is based on a misunderstanding of what is and what is not and what it is designed to do and not to do.

A brief explanation of the three Z - Altman models are going to be presented in next paragraphs:

- **Z-score Model.**

The final discriminant function is as follows:

$$\mathbf{Z} = 0.012X_1+0.014X_2+0.033X_3+0.006X_4+0.999X_5 \qquad \text{(I)}$$

Where $\mathbf{X_1}$ = Working capital / Total assets

$\mathbf{X_2}$ = Retained Earnings / Total assets

$\mathbf{X_3}$ = Earnings before interest and taxes / Total assets

$\mathbf{X_4}$ = Market value equity / Total liabilities

X_6 = Sales / Total assets

Z = Overall Index

In next Graphic, we can observe the solvency area. If the result is under 1.80 (Distress zone) the company is susceptible to bankrupt. If it is between 1.80 and 2.99 (Grey Zone) it is likely that the company will not bankrupt. If it is above 2.99 the company is highly probably to continue in the market and with good financial health. *See Annex N° 2.1*

- **The Z-score estimated for private firms**

In 1984, Altman edited 20 articles which tried to improve his model to measure the firm's risk. In that way, a lot of studies where carry out in countries highly industrialized such as Germany, Australia, France, Italy, United Kingdom, Japan and Israel. Finally, Altman called this new method as "Company and Country Risk Models". (Ibarra, 2001)

The final discriminant function is as follows:

$$\mathbf{Z} = 0.717X_1+0.847X_2+3.107X_3+0.420X_4+0.998X_5 \qquad \text{(II)}$$

Where **X_1** = Working capital / Total assets

X_2 = Retained Earnings / Total assets

X_3 = Earnings before interest and taxes / Total assets

X_5 = Book value of equity / Total liabilities

X_6 = Sales / Total assets

Z = Overall Index

In next Graphic, we can observe the solvency area. If the result is under 1.23 (Distress zone) the company is susceptible to bankruptcy. If it is between 1.23 and 2.90 (Grey Zone) it is likely that the company will not go bankrupt. If it is above 2.90 the company is very likely to continue in the market and with good financial health. *See Annex N° 2.2*

- **The Z-score estimation for non- manufacturer industrial and emerging market credits.**

In 1995, working with Hartzell and Peck (according to Ibarra (2001)), Altman adapted his model to emerging markets in order to bring forward a new global predictive indicator sole for this kind of markets. This new indicator was called "Emerging Market Scoring Model" (EMS Model).

"The final discriminant function is as follows:

$$\mathbf{Z} = 6.560X_1+3.260X_2+6.720X_3+1.050X_4 \quad \text{———————— (III)}$$

Where **X_1** = Working capital / Total assets

X_2 = Retained Earnings / Total assets

X_3 = Earnings before interest and taxes / Total assets

X_5 = Book value of equity / Total liabilities

Z = Overall Index

In next Graphic, we can observe the solvency area. If the result is under 1.10 (Distress zone) the company is susceptible to bankrupt. If it is between 1.10 and 2.60 (Grey Zone) it is likely that the company will not bankrupt. If it is above 2.60 the company is highly probably to continue in the market and with good financial health. *See Annex N° 2.3*

The next chart summarizes the definition of the factors: *See Annex N° 2.4*

3. Peruvian Beverage Industry[3]

The availability of information in the industry is considered an important point for any kind of investment, and also it's even more important for the legal and regulatory aspects.

The food processing industry in Peru is made up of:

1) **Water treatment:** Water main component in the production of beverages. It is mainly obtained from underground wells. This is brought under to a purification and sterilization process, which uses a chemical treatment and various stages of filtration.

2) **Preparation of syrups:** At this stage, sugar and water are mixed, and "simple syrup"is obtained. Then, this is filtered at low pressure to remove impurities. Syrup essence is added to it. This last step gives the finished syrup.

3) **Mix, carbonation and filling:** More water is added to the finished syrup. Then, it is drifted towards hermetic tanks, where it is cooled and saturated with carbon dioxide. In this way, the mixture is ready to move to the filling machine, where it proceeds to bottling. The product, that reaches the filler, is pumped into the bottles, which are sealed with tight lids.

4) **Development of bottles:** The soft drink industry uses two types of containers: returnable and non-returnable. Investment in machinery is higher in the case of bottled of returnable containers, since it is necessary additional production lines to control the quality of them. It is estimated that the cost of installing a production line of returnable containers is 4 to 5 times more expensive than the one for a line of non-returnable containers. However, in spite of the initial investment is more expensive, these containers are more profitable in the mid-term, depending on the rotation that is giving to the complete returnable packaging. Note that in addition to the initial investment in machinery, there is an investment in the container package. Thus, the greater the number of rotations that give this package, the less is the amount to amortize on each rotation. It is important to indicate that at this stage there are high production quality controls, which generate additional costs.

5) **Inspection, package and pallets:** filled and capped bottles are inspected in two ways: i) electronic inspectors to automatically separate the defective bottles and ii) with illuminated displays that allow visual inspection and manual separation of defective

[3] Class & Asociados S.A., Pacific Credit Rating

bottles. The bottles, which pass inspection, enter a machine that puts them in their boxes to finally make them to order on the platforms.

6) **Storage and transport:** The mentioned platforms are stacked neatly and then be carried by trucks. Finally, trucks distributed platforms with soft drinks to the determined points of sale.

As shown in Table 1. Sales level of the company and Figure 1. Evolution of sales level of the company and annually growth in percentage, there has been a continual growth since 2005. This increase reflects a possible tendency towards growth in the next years. *See Annex N° 3.1*

The Figure N° 1 - Evolution of sales level of the company (in millions of boxes) and annually growth in percentage files the amounts of boxes sold between the periods 2007 and 2011. In addition, as we can observe there is a growing trend in those 5 years assessed what means that the company is getting strong in the industry. However, the evolution per year had cut back on between the periods 2008 and 2010 and slightly increased in 2011. *See Annex N° 3.2*

4. Firm's Background and Operations

Ivan looked interested in the explanation of industry. Nevertheless, he pointed out the importance of understanding company operations and knowing completely its financial situation during the last periods.

First, he reviewed the information from BVL's web page (www.bvl.com.pe), SMV (www.smv.gob.pe) and the one provided by the firm. In those websites, he found relevant information about financial statements, cash flow and quotations of the diverse instruments that currently belong to the account.

It's important to mention some important facts of firm's history that belong to the firm Peruvian Beverage.

Peruvian Beverage inc. was founded by public deed in November 3 of 1928. The firm assumed the activities developed by Carbonated Beverages Factory established in 1910.

The principal activity of the firm is the development, bottling, distribution and sale of soft drinks, carbonated water, pulp and nectar. The company applies franchising to certain trademarks owned by companies related to the Group. When the company acquired shares of LATAM Bottler Company, in January 2004, the company became the exclusive bottler in the country.

Sales of the Company's products are made primarily to distributors in Lima and other cities within the country.

With respect to Stock market, the November 23, 2011, the Company entered into the international bond issue under rule 144A of the Securities Market Law of the Foreign Market for an amount of U.S. $ 320 million to a rate of 6.75% and maturing on November 23, 2021. The earnings from this issuance were used internationally to restructure its liabilities and to finance its investment plan.

4.1 Commercial Management

The carbonated beverage segment is the most important in terms of sales volume, meanwhile the other categories have been showing higher growth rates in recent years, representing, in liters, 77% of sales volume and water categories, nectars and isotonic accounting for 16%, 4% and 1% by volume, respectively.

The table 2 shows the company´s market share by the end of 2011 associated to different products lines: *See Annex N° 4.1*

The company has a market share of 67.30% carbonated beverages, about 6 times the share of its nearest competitor which has 12.20% of the market. It maintains leadership in the category.

This important market share is achieved in a scenario in which the company is recovering the value of the category, through the activation and marketing strategies that are being implemented by the company. Worth mentioning, the percentage of the market value of drinks was achieved in 2011, which shows the quality of our products that are preferred despite of its higher cost.

5. Financial Status

The financial information selected was obtained from the Peru Beverage'sfinancial statements, which appear in its notes to the quarterly financial statements of the years 2010, 2011 and the first two quarters of 2012.

As we can observe in the Chart N° 2 – Assets composition 2012, there has been a reduction in accounts such as "Cash and equivalents" and "accounts receivable from related entities". These minimal variations explain the reduction in last quarters of the total currents assets. On the other hand, the Non-current Assets has increased its value, what is mainly explained by the recurrent increase in accounts such as "Investment properties" and "Property, Plant and equipment (net)". *See Annex N° 5.1*

In the following Chart, Chart N° 3- Liabilities composition 2012, the firm shows an increase in the account "Other Financial Liability" which seems to double from March to September. Besides, "Commercial accounts payable" represents around 40% of the Total Current Liability.

However, this last result explain less than the half of the Total Liability, since Total No current Liability is represented almost completely by "Other Financial Liability" which has been cut back on in less than a million in September. *See Annex N° 5.2*

What Chart N° 4 – Equity composition 2012 doesn't show much changes in last periods. Moreover, Capital maintains a recurrent level as well as Investment stock and Others Capital Reserve.

Favorably, the Accumulated profit has increased in last quarters. In addition, its structure is highly represented by the account "Capital" with more than 50%. *See Annex N° 5.3*

As we can see in Chart N° 5 – Financial Income statement,inlast quarters, the company filed a continual growth. However, it looks like in the first three months the company had a high sales level than in the others. Besides, "Cost of sales"represents around 67% of the Total common income activities.

It's important to highlight the same behavior in the "Net income of the exercise" as the "Total Common Income Activities". Also, it's important to mention that the company shows a high increase in the account "Difference exchange rate". *See Annex N° 5.4*

6. Calculation of Two Models of Z-Scoring

The Z-scores used have the following structure:

- **The Z-score estimated for private firms**

  Using the formula (II) we have the next results: *See Annex N° 6.1 and 6.2*

- **The Z-score estimated for non- manufacturer industrial and emerging market credits.**

  Using the formula (III) we have the next results: *See Annex N° 6.3 and 6.4*

7. Limitations of the Model

In a country like Peru, the financial figures may not reflect the reality of the business; it is possible that some data can be manipulated. The model itself can be a partial evaluation of any company as it only looks at financial data, and does not assess other important indicators such as market share, customer satisfaction, employee satisfaction, and other productivity indices, which are important for a further evaluation of the possibility of bankruptcy.

8. Comments and Conclusion

The credit scoring model developed by Altman is very useful in emerging markets, because it considers information that it is easy to access for the financial institutions. Besides, the formula II should be used with close information (ending year) in order to avoid problems with the results. The formula I could be used with quarterly information.

This paper investigates the Z score in a Beverage company over the time period 2009 – 2012 using yearly and quarterly observation intervals. About the company, the bankruptcy is not a real problem. In all case, the Z value is between the ranges called "Grey Zone" with a tendency to move to "Safe Zone"

A following study could be include more companies (for instance the companies listed in the Lima Stock Exchange Index) in the same country and compare it with others, for instance using MILA.

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Annexs

Annex 1. Financial Statements

Annex N° 1.1 – Balance sheet at December 2009 (thousands of dollars)

Assets	31/03/2009	30/06/2009	30/09/2009	31/12/2009
Current Assets				
Cash and equivalents	924	62,001	81,076	31,940
Other financial assets	0	0	0	0
Commercial accounts receivable (net)	55,438	56,490	63,342	71,493
Other accounts receivable (net)	21,480	24,306	29,486	28,371
Accounts receivable from related entities	28,442	25,859	25,671	65,415
Inventory	211,628	181,851	146,049	139,765
Prepaid expenses	6,058	4,667	3,523	1,543
Total Current Assets	**323,970**	**355,174**	**349,147**	**338,527**
Non-current Assets				
Other accounts receivable	22,042	20,374	21,418	13,462
Investment properties	4,404	5,171	6,049	7,323
Property, Plant and equipment (net)	505,239	499,471	568,965	610,104
Intangible assets (net)	32,417	30,593	30,524	29,651
Goodwill	305,555	305,555	305,555	305,555
Other Assets	1,486	1,540	1,455	1,520
Total non-current assets	**871,143**	**862,704**	**933,966**	**967,615**
TOTAL ASSETS	**1,195,113**	**1,217,878**	**1,283,113**	**1,306,142**
Liability and equity				
Current Liability				
Other Financial Liability	96,038	84,245	94,891	94,293
Commercial accounts payable	156,008	100,402	121,774	153,089
Other accounts payable	63,076	62,387	62,834	62,424
Payable to related parties	48,228	46,386	36,831	25,659
Provisions	30,891	31,602	33,002	39,665
Liabilities for income tax	23,957	19,574	21,528	26,143
Total Current Liability	**418,198**	**344,596**	**370,860**	**401,273**
Non-current liability				
Other Financial Liability	261,689	337,168	358,688	339,845
Commercial accounts payable	0	0	0	1,383
Other accounts payable	1,606	1,606	1,606	0
Liabilities for income tax	39,215	38,975	38,975	39,034
Total No Current Liability	**302,510**	**377,749**	**399,269**	**380,262**
Total Liability	**720,708**	**722,345**	**770,129**	**781,535**
Equity				
Capital	580,981	580,981	580,981	580,981
Investment stock	71,966	71,966	71,966	71,966
Others Equity Reserve	2,436	5,522	12,263	14,482
Others Capital Reserve	4,450	4,450	4,450	4,450
Accumulated profit	-185,428	-167,386	-156,676	-147,272
Total Equity	**474,405**	**495,533**	**512,984**	**524,607**
TOTAL LIABILITY AND EQUITY	**1,195,113**	**1,217,878**	**1,283,113**	**1,306,142**

Source: Bolsa de valores de Lima.

Annex N° 1.2 – Balance sheet at December 2010 (thousands of dollars)

Assets	31/03/2010	30/06/2010	30/09/2010	31/12/2010
Current Assets				
Cash and equivalents	6,956	22,571	24,724	38,988
Other financial assets	0	0	0	0
Commercial accounts receivable (net)	86,603	69,071	84,743	96,499
Other accounts receivable (net)	11,496	26,760	58,401	57,560
Accounts receivable from related entities	61,013	61,522	65,073	91,084
Inventory	183,765	167,613	171,043	205,319
Prepaid expenses	4,613	4,542	3,400	1,572
Total Current Assets	**354,446**	**352,079**	**407,384**	**491,022**
Non-current Assets				
Other accounts receivable	13,593	13,454	17,515	16,693
Investment properties	8,199	11,614	11,034	9,264
Property, Plant and equipment (net)	630,556	646,217	700,004	733,057
Intangible assets (net)	28,084	24,997	27,541	8,565
Goodwill	305,555	305,555	305,555	305,555
Other Assets	1,585	1,795	1,832	1,586
Total non-current assets	**987,572**	**1,003,632**	**1,063,481**	**1,074,720**
TOTAL ASSETS	**1,342,018**	**1,355,711**	**1,470,865**	**1,565,742**
Liability and equity				
Current Liability				
Other Financial Liability	104,352	93,826	131,168	127,000
Commercial accounts payable	140,243	143,387	159,051	205,927
Other accounts payable	65,268	55,056	54,887	72,807
Payable to related parties	70,466	57,149	53,366	72,510
Provisions	46,983	49,598	49,199	60,977
Liabilities for income tax	17,798	5,099	7,071	10,785
Total Current Liability	**445,110**	**404,115**	**454,742**	**550,006**
Non-current liability				
Other Financial Liability	330,217	376,960	407,007	397,278
Commercial accounts payable	894	894	894	685
Other accounts payable	0	0	0	0
Liabilities for income tax	37,853	40,853	40,543	32,242
Total No Current Liability	**368,964**	**418,707**	**448,444**	**430,205**
Total Liability	**814,074**	**822,822**	**903,186**	**980,211**
Equity				
Capital	580,981	580,981	580,981	580,981
Investment stock	71,966	71,966	71,966	71,966
Others Equity Reserve	-10,601	-6,513	16,156	35,130
Others Capital Reserve	4,450	4,450	4,450	4,450
Accumulated profit	-118,852	-117,995	-105,874	-106,996
Total Equity	**527,944**	**532,889**	**567,679**	**585,531**
TOTAL LIABILITY AND EQUITY	**1,342,018**	**1,355,711**	**1,470,865**	**1,565,742**

Source: Bolsa de valores de Lima.

Annex N° 1.3 – Balance sheet at December 2011 (thousands of dollars)

Assets	31/03/2011	30/06/2011	30/09/2011	31/12/2011
Current Assets				
Cash and equivalents	15,029	7,512	22,489	352,334
Other financial assets	0	0	0	0
Commercial accounts receivable (net)	106,407	124,310	137,834	152,551
Other accounts receivable (net)	28,992	35,751	32,487	39,849
Accounts receivable from related entities	83,435	89,966	97,114	79,464
Inventory	223,854	220,815	215,559	204,356
Prepaid expenses	4,519	4,864	4,527	11,790
Total Current Assets	**462,236**	**483,218**	**510,010**	**840,344**
Non-current Assets				
Other accounts receivable	16,452	16,352	16,353	21,037
Investment properties	8,942	8,950	8,904	7,301
Property, Plant and equipment (net)	769,176	806,623	887,245	1,117,692
Intangible assets (net)	12,350	15,378	17,913	29,956
Goodwill	305,555	305,555	305,555	354,958
Other Assets	1,413	2,832	2,545	2,416
Total non-current assets	**1,113,888**	**1,155,690**	**1,238,515**	**1,533,360**
TOTAL ASSETS	**1,576,124**	**1,638,908**	**1,748,525**	**2,373,704**
Liability and equity				
Current Liability				
Other Financial Liability	70,902	159,452	294,980	46,742
Commercial accounts payable	243,643	228,812	223,313	277,639
Other accounts payable	85,350	70,216	79,371	84,956
Payable to related parties	76,137	77,615	77,535	93,919
Provisions	50,666	51,654	51,578	61,936
Liabilities for income tax	17,333	7,214	10,654	12,635
Total Current Liability	**544,031**	**594,963**	**737,431**	**577,827**
Non-current liability				
Other Financial Liability	390,095	401,498	381,464	1,029,321
Commercial accounts payable	195	0	0	0
Other accounts payable	0	195	195	0
Liabilities for income tax	30,343	33,573	32,587	76,547
Total No Current Liability	**420,633**	**435,266**	**414,246**	**1,105,868**
Total Liability	**964,664**	**1,030,229**	**1,151,677**	**1,683,695**
Equity				
Capital	580,981	580,981	580,981	580,981
Investment stock	71,966	71,966	71,966	71,966
Others Equity Reserve	29,112	29,138	28,828	12,857
Others Capital Reserve	4,450	4,450	4,450	4,450
Accumulated profit	-75,049	-77,856	-89,377	19,755
Total Equity	**611,460**	**608,679**	**596,848**	**690,009**
TOTAL LIABILITY AND EQUITY	**1,576,124**	**1,638,908**	**1,748,525**	**2,373,704**

Source: Bolsa de valores de Lima.

Annex N° 1.4 – Balance sheet at September 2012(thousands of dollars)

Assets	31/03/2012	30/06/2012	30/09/2012
Current Assets			
Cash and equivalents	196,408	149,207	125,262
Other financial assets	148,460	166,491	161,957
Commercial accounts receivable (net)	151,239	149,099	169,619
Other accounts receivable (net)	24,561	31,616	29,832
Accounts receivable from related entities	68,485	69,720	31,131
Inventory	279,068	227,375	248,510
Prepaid expenses	14,268	12,761	11,703
Total Current Assets	**882,489**	**806,269**	**778,014**
Non-current Assets			
Other accounts receivable	21,613	21,539	21,556
Investment properties	112,062	111,964	157,438
Property, Plant and equipment (net)	1,133,268	1,154,553	1,182,556
Intangible assets (net)	1,223	1,079	904
Goodwill	305,555	305,555	305,555
Other Assets	2,177	1,926	1,954
Total non-current assets	**1,575,898**	**1,596,616**	**1,669,963**
TOTAL ASSETS	**2,458,387**	**2,402,885**	**2,447,977**
Liability and equity			
Current Liability			
Other Financial Liability	36,424	47,879	75,669
Commercial accounts payable	280,904	290,168	308,821
Other accounts payable	121,207	94,506	111,068
Payable to related parties	117,483	80,172	67,493
Provisions	80,272	71,428	80,339
Liabilities for income tax	6,428	8,442	11,524
Total Current Liability	**642,718**	**592,595**	**654,914**
Non-current liability			
Other Financial Liability	1,031,294	1,006,537	970,578
Commercial accounts payable	2,930	0	0
Other accounts payable	0	20,250	18,053
Liabilities for income tax	38,968	37,828	39,597
Total No Current Liability	**1,073,192**	**1,064,615**	**1,028,228**
Total Liability	**1,715,910**	**1,657,210**	**1,683,142**
Equity			
Capital	580,981	580,981	580,981
Investment stock	71,966	71,966	71,966
Others Equity Reserve	13,819	7,266	7,500
Others Capital Reserve	8,682	8,682	8,682
Accumulated profit	67,029	76,780	95,706
Total Equity	**742,477**	**745,675**	**764,835**
TOTAL LIABILITY AND EQUITY	**2,458,387**	**2,402,885**	**2,447,977**

Source: Bolsa de valores de Lima.

Annex N° 1.5 – Income statement at December 2009 (thousands of dollars)

	31/03/2009	30/06/2009	30/09/2009	31/12/2009
Total Common Income Activities	**390,173**	**708,263**	**1,019,199**	**1,389,891**
Cost of sales	-257,189	-481,564	-707,031	-948,995
Gross profit	**132,984**	**226,699**	**312,168**	**440,896**
Selling and distribution expenses	-61,361	-116,675	-169,779	-228,585
Administrative expenses	-13,976	-27,220	-41,990	-57,808
Other operative income	9,322	20,420	37,739	65,343
Other operative expense	-11,766	-27,841	-49,200	-92,411
Operating profit	**55,203**	**75,383**	**88,938**	**127,435**
Financial income	8,898	22,553	38,517	44,810
Financial expenses	-18,765	-25,416	-36,107	-51,540
Difference exchange rate	0	0	0	0
Net income from participation	36	803	1,682	2,955
Net Book value	-725	-125	-418	-627
Income before taxes	**44,647**	**73,198**	**92,612**	**123,033**
Income taxes	-21,379	-31,888	-40,592	-61,609
Net income of the exercise	**23,268**	**41,310**	**52,020**	**61,424**

Source: Bolsa de valores de Lima.

Annex N° 1.6 – Income statement at December 2010 (thousands of dollars)

	31/03/2010	30/06/2010	30/09/2010	31/12/2010
Total Common Income Activities	**419,597**	**760,990**	**1,087,128**	**1,496,563**
Cost of sales	-280,310	-530,259	-767,272	-1,049,028
Gross profit	**139,287**	**230,731**	**319,856**	**447,535**
Selling and distribution expenses	-69,975	-128,467	-186,195	-251,628
Administrative expenses	-17,039	-32,725	-48,496	-64,138
Other operative income	8,465	28,143	62,209	75,016
Other operative expense	-17,168	-40,739	-69,479	-108,910
Operating profit	**43,570**	**56,943**	**77,895**	**97,875**
Financial income	1,761	2,848	4,073	5,661
Financial expenses	-7,856	-15,779	-24,780	-36,863
Difference exchange rate	4,281	6,106	9,673	6,435
Net income from participation	898	1,279	2,323	0
Net Book value	-637	-2,606	-3,778	-4,529
Income before taxes	**42,017**	**48,791**	**65,406**	**68,579**
Income taxes	-13,534	-18,339	-22,990	-31,891
Net income of the exercise	**28,483**	**30,452**	**42,416**	**36,688**

Source: Bolsa de valores de Lima.

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Annex N° 1.7 – Income statement at December 2011 (thousands of dollars)

	31/03/2011	30/06/2011	30/09/2011	31/12/2011
Total Common Income Activities	**455,078**	**840,841**	**1,239,545**	**1,724,007**
Cost of sales	-323,473	-610,227	-907,510	-1,232,002
Gross profit	**131,605**	**230,614**	**332,035**	**492,005**
Selling and distribution expenses	-72,367	-145,615	-219,088	-299,060
Administrative expenses	-16,495	-33,036	-50,663	-64,426
Other operative income	22,838	36,850	52,364	66,950
Other operative expense	-12,884	-27,634	-46,420	-79,416
Operating profit	**52,697**	**61,179**	**68,228**	**116,053**
Financial income	1,878	2,981	4,276	5,742
Financial expenses	-11,546	-21,965	-30,369	-65,395
Difference exchange rate	1,825	7,349	3,724	19,629
Net income from participation	0	0	37	0
Net Book value	-3,566	-3,687	-6,763	-7,985
Income before taxes	**41,288**	**45,857**	**39,133**	**68,044**
Income taxes	-13,763	-16,800	-21,514	-40,205
Net income of the exercise	**27,525**	**29,057**	**17,619**	**27,839**

Source: Bolsa de valores de Lima.

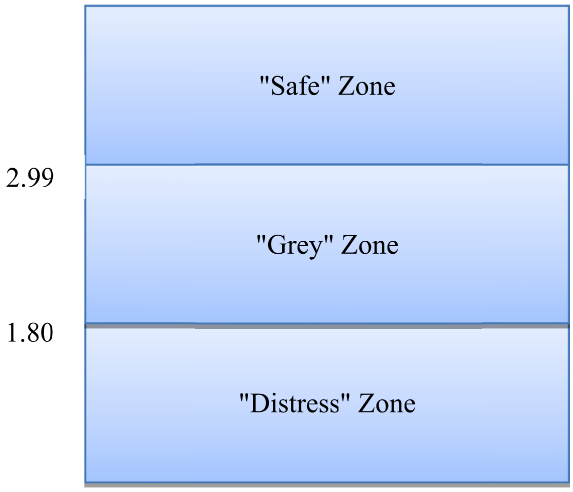
Annex N° 1.8 – Income statement at September 2012 (thousands of dollars)

	31/03/2012	30/06/2012	30/09/2012
Total Common Income Activities	**558,808**	**1,024,787**	**1,485,033**
Cost of sales	-377,480	-694,518	-1,006,562
Gross profit	**181,328**	**330,269**	**478,471**
Selling and distribution expenses	-92,698	-177,344	-264,471
Administrative expenses	-22,309	-42,803	-66,108
Other operative income	10,999	22,902	29,389
Other operative expense	-21,018	-40,625	-69,595
Operating profit	**56,302**	**92,399**	**107,686**
Financial income	1,591	3,144	7,023
Financial expenses	-20,149	-43,940	-64,293
Difference exchange rate	10,441	12,490	44,325
Net income from participation	0	0	0
Net Book value	257	1,266	-442
Income before taxes	**48,442**	**65,359**	**94,299**
Income taxes	-19,497	-26,663	-36,677
Net income of the exercise	**28,945**	**38,696**	**57,622**

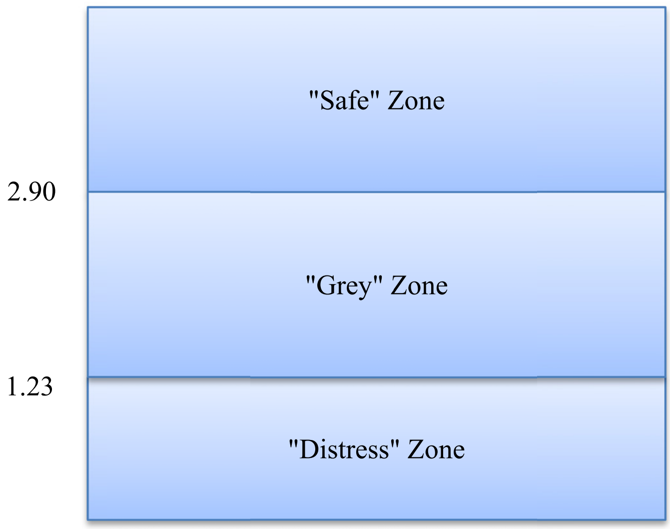
Source: Bolsa de valores de Lima.

Annex 2: Theory charts

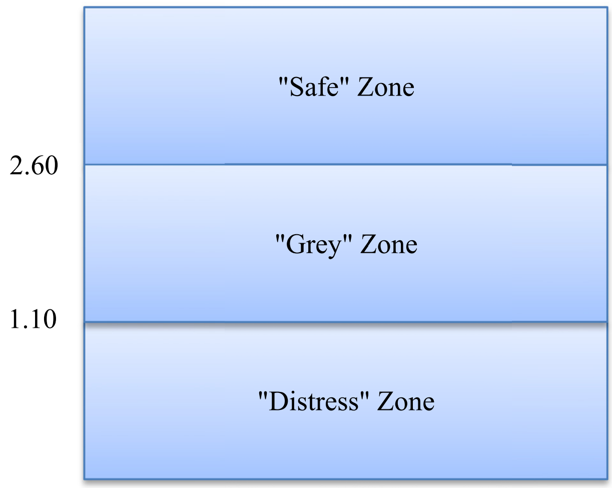
Annex N° 2.1 – Solvency Area (I)



Annex N° 2.2 – Solvency Area (II)



Annex N° 2.3 – Solvency Area (III)



Annex N° 2.4 –Definition of factors

X_1 — *Working capital/Total assets*. This ratio, often found in studies of corporate problems, is a measure of the net liquid assets of the firm relative to the total capitalization. Working capital is defines as the difference between current assets and current liabilities. Liquidity and size characteristics are explicitly considered.
X_2 — *Retained Earnings/Total assets*. This measure of cumulative profitability over time was cited earlier as one of the "new" ratios. The age of a firm is implicitly considered in this ratio. The incidence of failure is much higher in a firm's earlier years.
X_3 — *Earnings before interest and taxes/Total assets*. In essence, it is a measure of the true productivity of the firm's assets, abstracting from any tax or leverage factors.
X_4 — *Market value equity/Total liabilities*. Equity is measured by the combined market value of all shares of stock, preferred and common, while debt include both current and long-term. The measure shows how much the firm's assets can decline in value (measured by market value of equity plus debt) before the liabilities exceed the assets and the firm becomes insolvent. It also appears to be a more effective predictor of bankruptcy than a similar, more commonly used ratio: Net worth / Total debt (book values).
X_5 — *Book value of equity/Total liabilities*. Most of the firms are private. Therefore, they cannot be assessed market Value equity. That is why after some studies, Altman figured out that considering the book value of equity will allow any kind of firm to be assessed under the new Z – Score model.
X_6 — *Sales/Total assets*. The capital turnover ratio is a standard financial ratio illustrating the sales generating ability of the firm's assets. It is one measure of management's capability in dealing with competitive conditions. This final ratio is quite important because, as indicated below it is the least significant ratio on an individual basis. In fact, based on the statistical significance measure, it would not have appeared at all.

Source: Altman 1968.

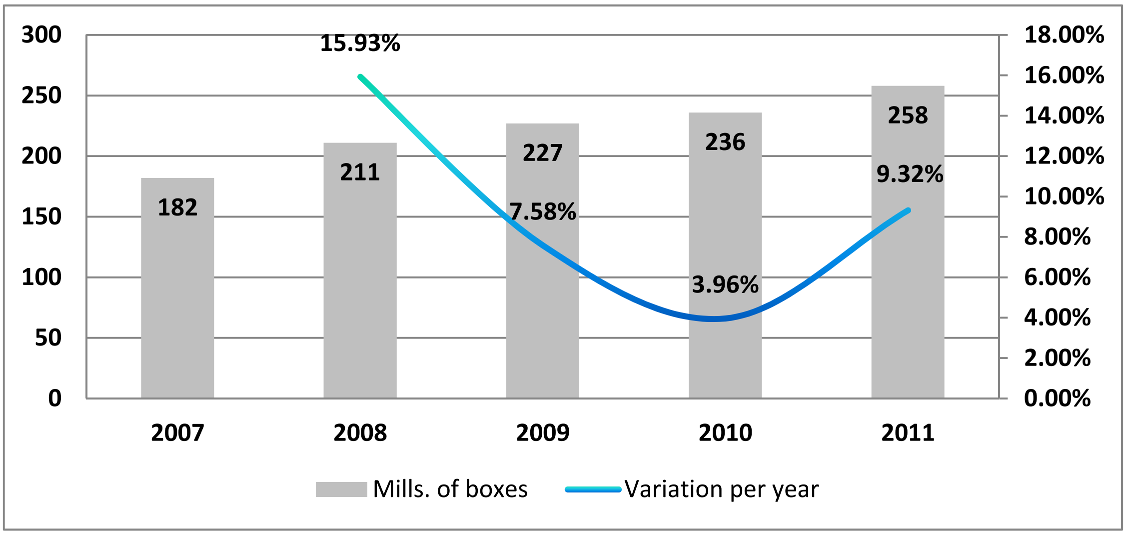
Annex 3: Performance of the company

Annex N° 3.1 - Sales level of the company

Year	2007	2008	2009	2010	2011
Mills. of boxes	182.00	211.00	227.00	236.00	258.00
Annually growth	—	29.00	16.00	9.00	22.00
Growth 11/10	9.32%				
Average variation	9.20%				

Source: Firm's annual report 2011

Annex N° 3.2 - Evolution of sales level of the company(in millions of boxes) and annually growth in percentage



Source: Firm's annual report 2011.

Annex 4: Products

Annex N° 4.1 – Products participation

Participation	Line of Products
67.30%	Carbonated beverages
46.20%	Nectars
39.50%	Water
21.90%	Isotonic
15.50%	Energizing

Source: Firm's annual report 2011.

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Annex 5: Financial Status Chart

Annex N° 5.1 – Assets composition 2012

Assets	31/03/2012	30/06/2012	30/09/2012
Current Assets			
Cash and equivalents	196,408	149,207	125,262
Other financial assets	148,460	166,491	161,957
Commercial accounts receivable (net)	151,239	149,099	169,619
Other accounts receivable (net)	24,561	31,616	29,832
Accounts receivable from related entities	68,485	69,720	31,131
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Total Current Assets	**882,489**	**806,269**	**778,014**
Non-current Assets			
Other accounts receivable	21,613	21,539	21,556
Investment properties	112,062	111,964	157,438
Property, Plant and equipment (net)	1,133,268	1,154,553	1,182,556
Intangible assets (net)	1,223	1,079	904
Goodwill	305,555	305,555	305,555
Other Assets	2,177	1,926	1,954
Total non-current assets	**1,575,898**	**1,596,616**	**1,669,963**
TOTAL ASSETS	**2,458,387**	**2,402,885**	**2,447,977**

Source: Superintendencia del mercado de valores

Annex N° 5.2 – Liabilities composition 2012

Liability and equity	31/03/2012	30/06/2012	30/09/2012
Current Liability			
Other Financial Liability	36,424	47,879	75,669
Commercial accounts payable	280,904	290,168	308,821
Other accounts payable	121,207	94,506	111,068
Payable to related parties	117,483	80,172	67,493
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Non-current liability			
Other Financial Liability	1,031,294	1,006,537	970,578
Commercial accounts payable	2,930	0	0
Other accounts payable	0	20,250	18,053
Liabilities for income tax	38,968	37,828	39,597
Total No Current Liability	**1,073,192**	**1,064,615**	**1,028,228**
Total Liability	**1,715,910**	**1,657,210**	**1,683,142**

Source: Superintendencia del mercado de valores.

Annex N° 5.3 – Equity composition 2012

Equity	31/03/2012	30/06/2012	30/09/2012
Capital	580,981	580,981	580,981
Investment stock	71,966	71,966	71,966
Others Equity Reserve	13,819	7,266	7,500
Others Capital Reserve	8,682	8,682	8,682
Accumulated profit	67,029	76,780	95,706
Total Equity	**742,477**	**745,675**	**764,835**

Annex N° 5.4 – Financial Income statement 2012

	31/03/2012	30/06/2012	30/09/2012
Total Common Income Activities	**558,808**	**1,024,787**	**1,485,033**
Cost of sales	-377,480	-694,518	-1,006,562
Gross profit	**181,328**	**330,269**	**478,471**
Selling and distribution expenses	-92,698	-177,344	-264,471
Administrative expenses	-22,309	-42,803	-66,108
Other operative income	10,999	22,902	29,389
Other operative expense	-21,018	-40,625	-69,595
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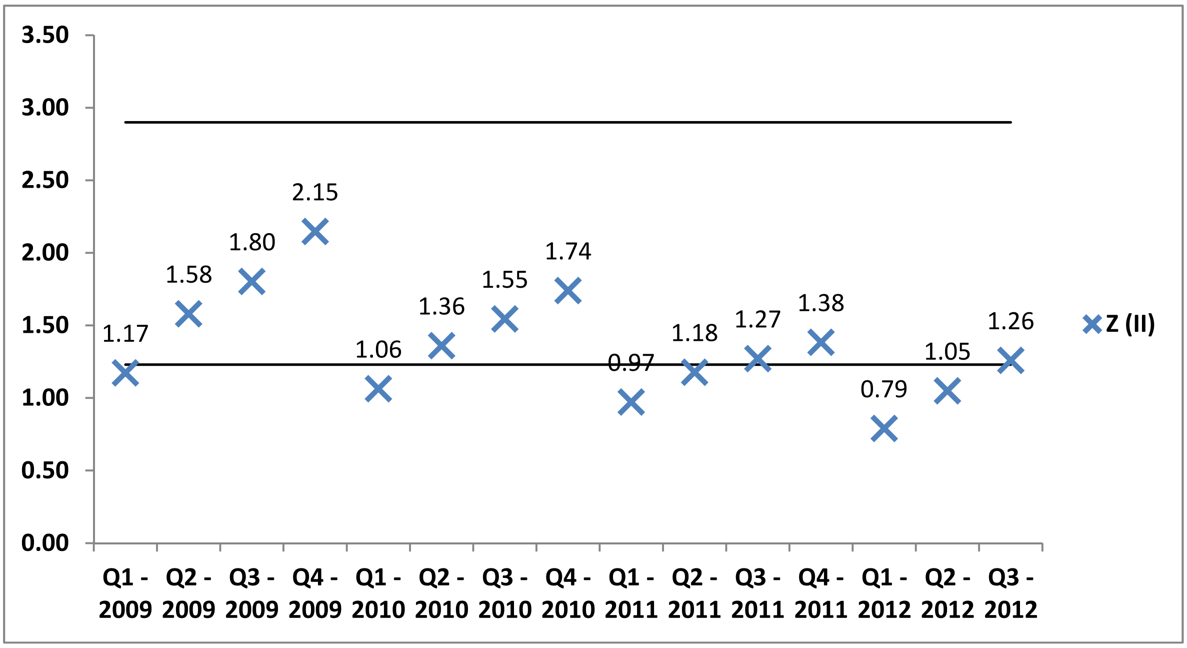
Financial income	1,591	3,144	7,023
Financial expenses	-20,149	-43,940	-64,293
Difference exchange rate	10,441	12,490	44,325
Net income from participation	0	0	0
Net Book value	257	1,266	-442
Income before taxes	**48,442**	**65,359**	**94,299**
Income taxes	-19,497	-26,663	-36,677
Net income of the exercise	**28,945**	**38,696**	**57,622**

Annex 6: Z-Scoring results

Annex N° 6.1 – Results of Formula (II) from 2009 up to September 2012

Period	Z (II)
Q1 - 2009	1.17
Q2 - 2009	1.58
Q3 - 2009	1.80
Q4 - 2009	2.15
Q1 - 2010	1.06
Q2 - 2010	1.36
Q3 - 2010	1.55
Q4 - 2010	1.74
Q1 - 2011	0.97
Q2 - 2011	1.18
Q3 - 2011	1.27
Q4 - 2011	1.38
Q1 - 2012	0.79
Q2 - 2012	1.05
Q3 - 2012	1.26

Annex N° 6.2 – Results evolution of Formula (II) from 2009 up to September 2012



Annex N° 6.3 – Results of Formula (III) from 2009 up to September 2012

Period	Z (III)
Q1 - 2009	2.31
Q2 - 2009	3.07
Q3 - 2009	2.92
Q4 - 2009	2.92
Q1 - 2010	2.07
Q2 - 2010	2.32
Q3 - 2010	2.31
Q4 - 2010	2.19
Q1 - 2011	1.90
Q2 - 2011	1.75
Q3 - 2011	1.18
Q4 - 2011	2.43
Q1 - 2012	2.15
Q2 - 2012	2.25
Q3 - 2012	2.11

Annex N° 6.4 – Results evolution of Formula (III) from 2009 up to September 2012