Valuation in Emerging Markets

Cost of Capital Analysis

Abstract

This case dwells upon the determination of the cost of capital of Backus S.A.A., a Peruvian company. The case describes the economic sector where the company runs its operation and provides information that may be used to calculate its cost of capital**.**

Key word: Cost of Capital, Emerging Markets

Learning objectives

This case is suitable for discussion in courses of Introductory Finance, Corporate Finance, Project Evaluation and Financial Planning. The pedagogical objectives are threefold:

1. Expose students to the concepts of cost of capital, cost of debt and cost of equity, as necessary ingredients for a valuation process.

2. Describe the effects of leverage on the funding policy of a company.

3. Familiarize the student with the weighted average cost of capital (WACC) of a firm and why is it important to use it as the hurdle rate to discount the rim's future expected cash flows.

[1] The author appreciates the collaboration of several students from Universidad Esan.

4. Introduce the concept of financial distress and how does it affect the normal operation of a company.

5. Acquaint the student with the challenge of projects' valuation project in an emerging market.

Introduction

Backus S.A.A. is the largest beer producer company in Peru, controlling 94.98% of the beer market in that country. On September 20, 2014, the Chief Financial Officer of the company, Mr. Jack, instructed one of his most senior analysts, Mr. Jin, to prepare a report describing how discount rates used to evaluate investment projects for various company divisions nationwide should be calculated.

Figure 1. Backus web site: http://backus.pe/nosotros/

Mr. Jin spent several days doing research to gather information from different sources, and prepared a file. Then, he called a meeting with Mr. Jack to discuss the way that information should be organized to be used as an input to estimate the cost of capital of the different divisions' projects.

During that meeting, Mr. Jack provided Mr. Jin additional information about the brewing industry regulations and the new ISC ("Impuesto Selectivo al Consumo") recently implemented (in May 2013), which had a negative impact on the company sales.

1. The beer industry in Peru

Sector companies develop specific markets to each of the brands in its portfolio. For brewing, water, malt (barley grain) is used, hops and attachments, comprising cereals. What really difference to beers, regarding flavor, is the hop plant growing in the wild and whose culture depends on climatic factors.

The Peruvian beer industry included the following three companies:

- Backus Group: Anglo South African subsidiary of SABMiller group
- AmBev Peru: subsidiary holding company of Brazilian origin American Belgian Inbev Anheuser Bush.
- Ajegroup: Añaños owned enterprise group.

2. Company Background and Operations[2]

Mr. Jin was aware of how important is it to understand a firm´s financial situation in the context of its business activities and strategic planning.

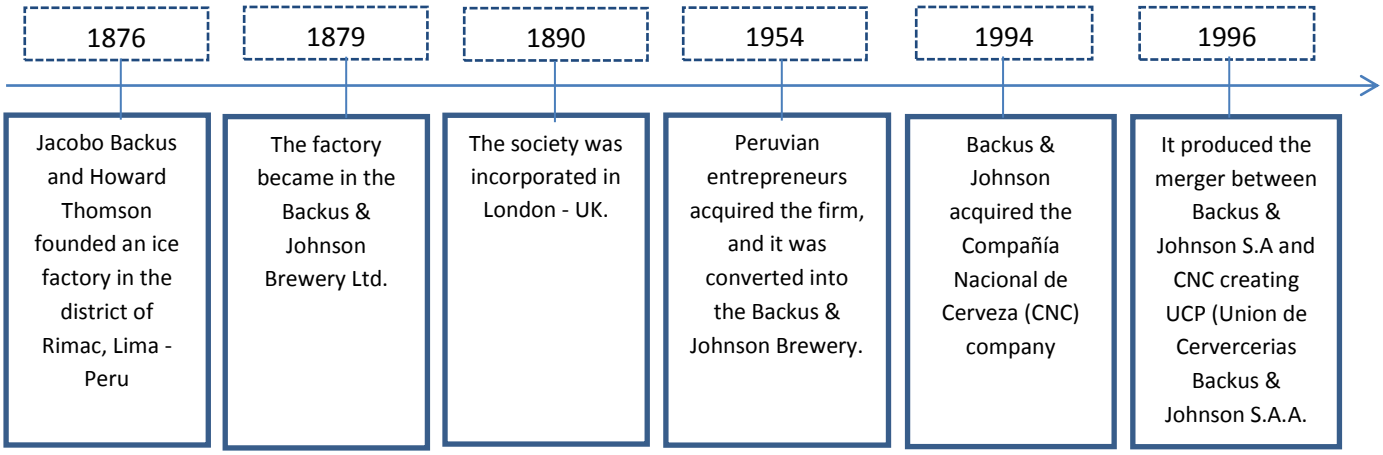
Figure 2: Backus link

The company Unión de Cervecerías Peruanas Backus y Johnston S.A.A. was part of the SAB Miller economic group. The company was incorporated on May 10, 1955 after the purchase of Backus &

Johnston Brewery Company Limited by a group of Peruvian entrepreneurs. The company had been founded by Mr. James Backus and Mr. Howard Johnson in 1876, in the traditional district of Rimac, one of the 43 districts of the Province of Lima, Peru. The Backus plant was originally an ice for domestic use factory. The company had six subsidiaries, divided into two business lines: Backus and Brewery San Juan S.A. The company is engaged in the processing, packaging, distribution and sale of beer, malt beverages, soda and water. It also has five production plants in Ate (Lima), Huarochirí Motupe, Arequipa, Cuzco and Nana. Also, the second is dedicated to the river and land transport.

Table 1 shows the history of the company since 1876 to 1996.

Table 1. Timeline of UPC`s history



Source: PCR / Self – Elaboration

3. Business Strategy[2]

Among other relevant information, Mr. Jin identified the the key elements of Backus' business strategy, as follows:

[2] Pacific Credit Rating, CENTRUM.

Headquarter's Support: Backus operations management, logistics and strategic planning are supported by the constant advice of its parent company SABMiller, the second largest brewing company worldwide, with operations in over 75 countries.

Implementation of a new commercial model (NCM): The new model has made the company more efficient in the management of costs and expenses thanks to the implementation of a "Telesales channel" (sales done by call centers), improving its direct sales and favoring the entry of new distributor to its customer base. Also, under the new model, the company has optimized its supply chain, improving sales, distribution and manufacturing.

4. Financial Strategy[3]

In recent years, UCP has incurred in increased financial leverage. However, its financial statements report the company has satisfactory coverage and solvency ratios. These measures are in line with the liquidity policies of the company and guarantee it is capable of meeting its short term compromises loosely. The company uses the Discounted Cash Flow method to evaluate its investment projects. The discount rate, used for different projects is based on their specific risk, on market determined interest rates and the market risk premium. New investment projects, such as the construction of new distribution centers, warehouses, etc., enable the company to serve new customers and strengthen its marketing strategy. In recent times, the company improved its financial performance through the implementation of its new business model, which has reduced its production and distribution costs considerably, and the value added chain optimization has led to a growth in sales.

Probably, the only negative factor for UCP in the environment in recent times has been the implementation of the new scheme of ISC, which has affected sales growth.

[3] Pacific Credit Rating, CENTRUM.

4.1 Value of the Firm[4]

Theoretically, the value of a firm can be visualized as the sum of its debt and equity at market values:

$$V = D + E$$

Where: V: Value of the company

D: Market value of debt

E: Market Value of equity

Thus, the market value of a company is obtained by adding the market value of the debt, usually represented by different bonds outstanding, plus the market value of equity, which is obtained by multiplying the current price of the stock times the number of shares outstanding. In the case of Backus S.A.A., the financial debt is due to commercial banks mainly so, instead of the market value of debt, the book value of debt must be used. Regarding the market value of equity, the company has different series of stock outstanding. For that reason, the equity market value is obtained by multiplying the number of shares outstanding of each series times their corresponding market price.

Table 2 details the number of shares outstanding for each series, as well as their ongoing price per share on November 30th 2013:

Table 2: Price of shares to Backus S.A.A. (November 30th 2013)

Share	Number of shares outstanding	Current Price (in S/.)
BACKUAC1	76,046,495	120.50
BACKUBC1	2,025,707	123

[4] To calculate the equity value of the firm, it was used the market capitalization method.

BACKUSL1	569,514,715	12.30

Source: BVL public information, with data recovered on November 30th, 2014.

$$\boldsymbol{Equity\ Value = Number\ of\ shares\ outstanding * current\ share\ price}$$

- BACKUAC1

$Equity\ Value = 76{,}046{,}495 * 120.50$ = S/. 9,163,602,647.50

- BACKUBC1

$Equity\ Value = 2{,}025{,}707 * 123$ = S/. 249,161,961.00

- BACKUSL1

$Equity\ Value = 569{,}514{,}715 * 12.30$ = S/. 249,161,961.00

Equity Value of the company: S/. 16,227,679,365.50

Debt Value (from balance sheet): S/.436, 210,000

Market Value of the firm:

$$\boldsymbol{Value\ of\ the\ firm = Debt + Equity = S/.\ 16{,}663{,}889{,}365.5}$$

4.2 Financial Distress:

Historically, the company has had a stable sales growth due to its almost absolute leadership in the Peruvian beer market, even though the new ISC scheme imposed by the Peruvian Government in May 2013 has affected its sales volume. The stability of the company's revenue is also explained by the wide variety of brands that it markets, and by the implementation of its new business model (NMC) which has allowed costs reductions.

It can be said, that, in general terms, that the company has:

- ✓ Good business model
- ✓ Efficiency in production, low costs, etc.
- ✓ Few competitors entering market
- ✓ High barriers to entry to the market

However, liquidity levels have followed a downward trend since December 2009. That trend can be explained by the accumulation of inventories, and loans to the company's dealers (which also has prompted an increase in debt levels). However, in recent years, liquidity has marginally, due to a reduction in accounts receivable and an improved bargaining power *vis à vis* its suppliers and distributors.

5. Cost of Capital

Weighted Average Cost of Capital (WACC)

According to Bravo (2011) the Weighted Average Cost of Capital measures the average cost of both equity and debt. The WACC is frequently used to discount the future economic flows of companies and projects, and is calculated with the following formula:.

$$k_{WACC} = k_E \frac{E}{V} * ke + kd * (1 - t) * \frac{D}{V}$$

Where:

k_{WACC}: weighted average cost of capital after taxes.

k_E: cost of capital adjusted by the risk.

kd: cost of debt before taxes

t: Marginal tax rate

E: equity market value of the company

D: debt market value of the company

V: total market value of the company securities (D+E)

Backus used the WACC to determine its cost of capital as a whole. To determine the cost of capital of the company, Mr. Jin has to calculate four important inputs: the debt and equity relative weights, plus the debt and equity funds cost.

5.1 Debt Capacity and the Cost of Debt

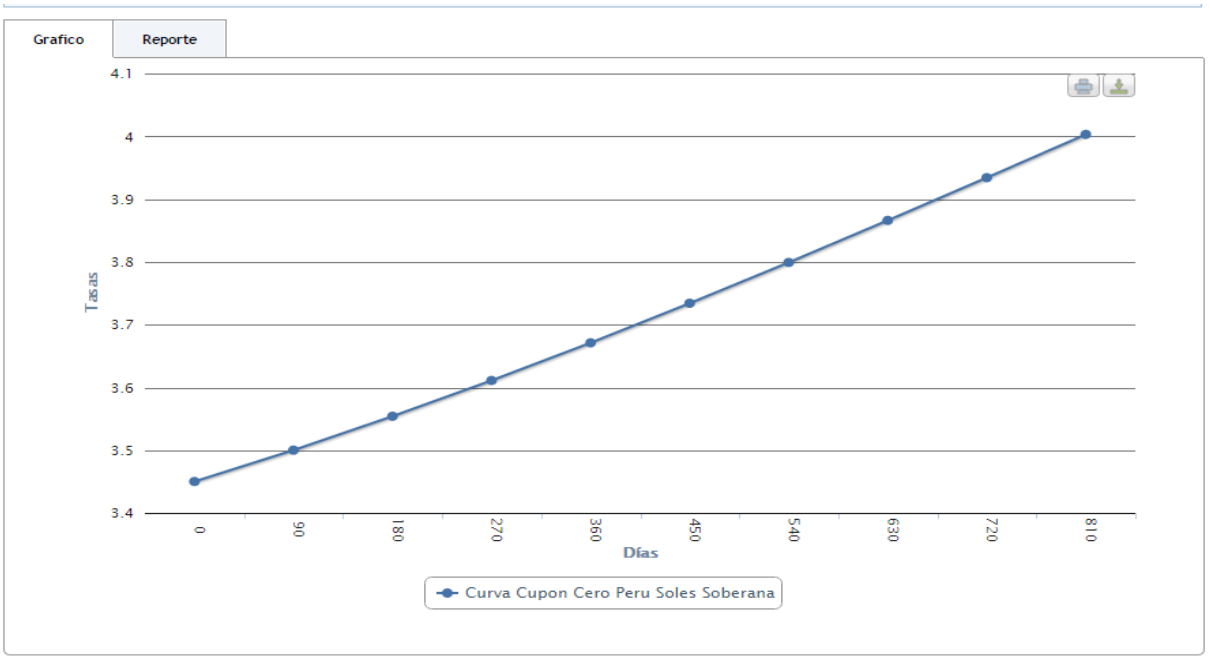
The funding policy of the company for each of its divisions gave preference to long-term financing. In recent years, it had increased the relative importance of its liabilities, due to its flexible credit policy, which also aided to keep sales growing. The two main components of the company's debt consisted of:

- Bank Lending
- Leasing

In 2012, the solvency ratio (CA/CL) was 64%, and improved to 70% in 2013. The financing policy was defined in terms to have achieved a long term leverage ratio (D/MVE[5]) of 3% to 8%. The book D/E ratio increased slightly between 2012 and 2013, as the company sought to finance new investments. The increased debt levels were also used to cover the needs of funds generated by the productive and commercial activities of the business. The acquisitions made by the company included forklifts, light vehicles, and used trucks, among others.

[5] MVE stands for "Market Value of Equity".

Table 3. Sovereign Curve in Soles September 30th, 2014



Source: SBS

The procedure to estimate the cost of debt uses the following inputs:

- ✓ Estimated interest rates (cost of debt) for the coming years.
- ✓ Estimated the proportions of the various classes of debt held by the company in the future.
- ✓ Estimated corporate tax rate.

Cost of Equity

The cost of equity is the required rate of return on the firm`s common stock. The cost of equity estimate is obtained using the Capital Asset Pricing Model, introduced by Eugen e Fama in the 1060s.

Bravo (2011) considers that "the CAPM determines the expected return that investors expect to receive on average over the medium-to-long term. It also serves as guide for the company to

establish the minimum rate of return to be expected from projects that have been fully funded with equity."

The following is known as the CAPM:

$$K_e = K_{rf} + \beta_j * (K_m - K_{rf})$$

Where:

K_e: expected rate of return (required) on the equity.

K_{rf}: interest rate on risk-free bonds (i.e. treasury bonds).

β_j: systematic risk coefficient for the company.

K_m: expected rate of return (required) on the market portfolio shares.

The risk-free rate (rf)

It is desirable that this parameter be measured during a stable growth period, in modern and deep financial markets (Bravo, 2011, 174).

Market Return (Rm)

According to Bravo (2011), this indicator is an index that is representative of the entire stock market. Significantly, there are two alternatives for determining this parameter:

"The first alternative is that the index contains the entire market and the second is that the index contains a largely diversified sample of stocks, enough to be representative of the evolution of the stock market." (p. 174).

To estimate Backus S.A.A., Mr. Ji considers to use the IGBVL (Lima Stock Market Global Index), which shows the performance of the largest 32 stocks in the Peruvian stock exchange.

Beta (β)

For the calculation of β, which indicates the sensitivity of a stock relative to the stock market returns, and is considered an indicator of the contribution of risk of an individual security to a diversified portfolio, one needs to find the covariance between the market index returns and the individual security returns, and divide it by the variance of the returns of the market:

$$\boldsymbol{\beta_j = \frac{\rho_{jm} * \sigma_j}{\sigma_m}}$$

Where:

β_j: measure of systematic risk to the value j

ρ_{jm}: correlation between the value j and the market.

σ_j: standard deviation of the return above the value j

σ_m: standard deviation of the market return

6. Drafting the report

Mr. Jin spent some time thinking about how to prepare an economic and financial report and he concluded he needed to answer the following questions:

Questions to solve:

1. Based on an analysis of the company's financial statements (Table 4), what are Backus´s strengths and weaknesses?

2. Calculate de cost of capital of the firm. Explain

3. Calculate the Weighted Average Cost of Capital (WACC). Explain

4. Calculate a Vertical and Horizontal analysis of the company's Balance Sheet and Income Statement. From that analysis, what can be said about Backus' financial health?

5. Calculate the liquidity, solvency, activity and profitability ratios.

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Annex 1.

Table 4. Financial History, 2009 – 2013

	2009	2010	2011	2012	2013
Balance Sheet					
Current Assets	741,458	786,467	836,540	701,210	756,795
Non Current Assets	2,349,111	2,533,998	2,355,509	2,746,972	2,838,202
Total Assets	3,090,569	3,320,465	3,192,049	3,448,182	3,594,997
Current Liabilities	663,983	976,248	951,652	1,081,739	1,066,774
Non Current Liabilities	599,135	360,067	407,937	561,387	706,357
Total Liabilities	1,263,118	1,336,315	1,359,589	1,643,126	1,773,131
Total Equitiy	1,827,451	1,696,382	1,767,526	2,204,513	2,479,488
Financial Debt	295,463	232,188	110,623	249,094	436,211
Current	3,280	231,562	110,623	115,498	127,362
Non Current	292,183	626	-	133,596	308,849
Income Statement					
Operating Incomes	2,447,616	2,676,723	3,086,315	3,467,170	3,541,413
Operating Costs	806,977	847,902	866,410	948,173	949,185
Operating Expenses	971,997	1,188,261	1,258,643	1,362,817	1,384,948
Operating Income	668,642	640,560	961,262	1,156,180	1,207,280
Other Income and Expenses	42,363	53,189	82,132	163,998	92,256
Financial Income	6,049	67,131	97,509	179,371	134,562
Financial Expenses	29,883	13,094	15,377	15,373	42,306
Net Income	502,092	486,098	730,551	948,709	915,615

Source: PCR (2013)

Annex 2.

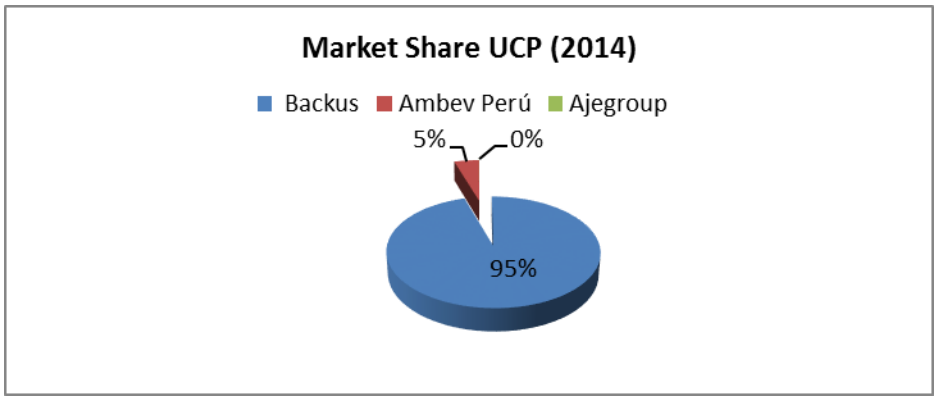
Table 5. Available lines of credit and cost of debt to UCP (2013)

Loans	Amount (MM)	Before - tax component cost of debt
BBVA (maturity June 2014)	115	5.75%
BBVA (maturity June 2016)	110	5.66%
BCP (maturity August 2016)	110	5.10%
Leasing	101.21	5.50%
Total	**436.21**	**5.50%**

Source: UCP / Self – Elaboration

Annex 3.

Table 6. Market Share for Backus (2013)



Source: Discussion of management of Backus S.A.A. (2013)

Annex 4.

Table 7. Currently Peruvian sovereign bonds

BONOS SOBERANOS VIGENTES

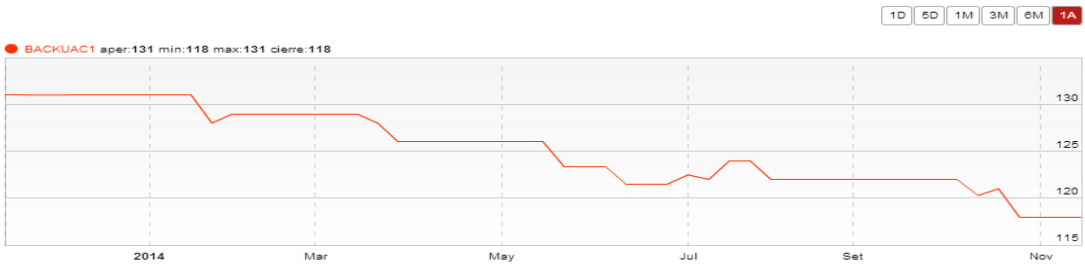
al 30 de septiembre de 2014

Denominación	ISIN	Nemónico	Unidades en Circulacion	Valor Nominal (Nuevos Soles)	Valor Actualizado (Nuevos Soles)	Plazo Original (años)	Tasa Cupón	Cupón (Nuevos Soles)	Fecha de Emisión	Fecha de Vencimiento
Bonos en Moneda Nacional Nominal										
Bonos Soberanos 05MAY2015 3/ 7/	PEP01000CX67	SB05MAY15	1,686,627	1,686,627,000.00	1,686,627,000.00	10.0	9.91%	49.55	05/05/2005	05/05/2015
Bonos Soberanos 12AGO2017 4/ 7/ 10/17/	PEP01000CY09	SB12AGO17	2,102,936	2,102,936,000.00	2,102,936,000.00	12.1	8.60%	43.00	08/07/2005	12/08/2017
Bonos Soberanos 12AGO2020 4/ 5/ 12/13/	PEP01000CY33	SB12AGO20	9,047,486	9,047,486,000.00	9,047,486,000.00	15.1	7.84%	39.20	18/07/2005	12/08/2020
Bonos Soberanos 12SEP2023 16/	PEP01000C4N3	SB12SEP23	3,657,611	3,657,611,000.00	3,657,611,000.00	11.2	5.20%	26.00	22/06/2012	12/09/2023
Bonos Soberanos 04ENE2026A 15/	PEP01000C4O1	SB04ENE26A	215,367	190,492,111.50 18/	190,492,111.50	6.8	3.72%	18.60	04/01/2013	04/01/2026
Bonos Soberanos 12AGO2026 6/ 8/ 10/12/	PEP01000C0J9	SB12AGO26	4,388,713	4,388,713,000.00	4,388,713,000.00	20.3	8.20%	41.00	03/05/2006	12/08/2026
Bonos Soberanos 12FEB2029 17/	PEP01000C4Q6	SB12FEB29	927,982	927,982,000.00	927,982,000.00	15.6	6.00%	30.00	10/07/2013	12/02/2029
Bonos Soberanos 12AGO2031 14/	PEP01000C4G7	SB12AGO31	4,290,157	4,290,157,000.00	4,290,157,000.00	23.3	6.95%	34.75	24/04/2008	12/08/2031
Bonos Soberanos 12AGO2037 9/	PEP01000C2Z1	SB12AGO37	4,750,000	4,750,000,000.00	4,750,000,000.00	30.0	6.90%	34.50	26/07/2007	12/08/2037
Bonos Soberanos 12FEB2042 11/ 16/	PEP01000C4L7	SB12FEB42	4,250,723	4,250,723,000.00	4,250,723,000.00	32.0	6.85%	34.25	27/01/2010	12/02/2042
Bonos Soberanos 12FEB2055	PEP01000C4S2	SB12FEB55	278,250	278,250,000.00	278,250,000.00	40.6	6.7142%	33.57	09/07/2014	12/02/2055
TOTAL MONEDA NACIONAL NOMINAL			35,595,852	35,570,977,111.50	35,570,977,111.50	93.39%				

Source: MEF

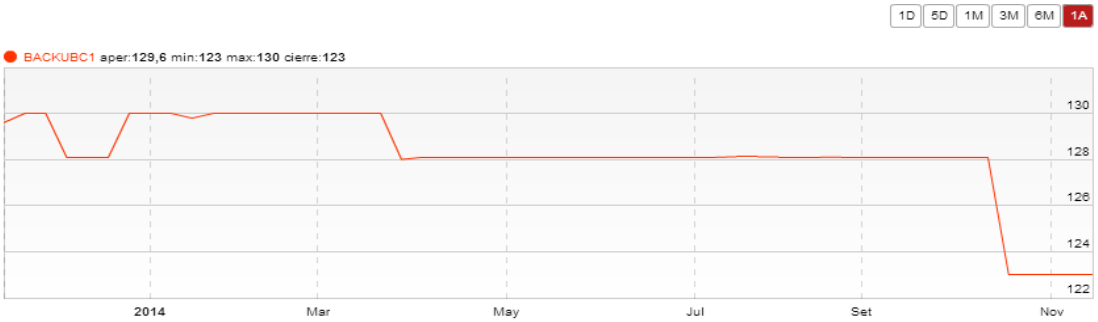
Annex 5.

Table 8. Performance of the share price Backus – BACKUAC1 (2014)



Source: BVL

Table 9. Performance of the share price Backus – BACKUBC1 (2014)



Source: BVL

Table 10. Performance of the share price Backus – BACKUSL1 (2014)