

CREDIT RISK IN EMERGING MARKETS PERUVIAN LISTED COMPANY

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Abstract

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The aim of this paper is to introduce the importance of the banking credit risk, the main elements that conform it and the main alternatives that are offered to access to a loan as well as a description of its measurement and management in the sector. There will be a general explanation of credit risk and the main parties involved in it. As the topic is developed it is going to be analyzed the lending process carried out by the banks as well as the quantitative and qualitative elements taken into account when taking a credit decision (The 5C's of credit, credit scoring and models for quantification of losses for instance). Another thing to considerate is that Credit risk arises whenever a borrower is expecting to use future cash flows to pay a current debt. Also, the investors have the access for the information of a client and they are compensated for assuming credit risk by way of interest payments from the borrower or issuer of a debt obligation and the credit risk is a useful tool for the finance management. The Enterprise risk management in Peru changed in 2015 because the local regulator is in process to review the norm, including some aspects of corporate governance; these changes are not included in this research.

Keywords: Credit Risk, Credit Risk Management, Lending Process, Credit Decision

1. INTRODUCTION

Sooner or later, companies look at the need to accumulate funds to finance their operations now and in the future, to meet their cash flow needs and to meet, on the other hand, their capital requirements. By European Central Bank (2012), "During the past two decades credit risk modeling flourished both in the academic literature and in the financial industry. Credit risk modeling also had a considerable influence on recent developments in bank capital regulation. The calibration of risk weights for different asset classes on a bank's balance sheet under the 2001 reform of the Basel Accord of 1988 (Basel II) was guided by recent developments in credit risk modeling.

What is common to most of the credit risk models used in risk management and regulation is the assumption that individual characteristics of credit instruments, in particular the probability of default, the exposure at default and the recovery rate, follow some exogenous probability law that can be estimated using historical data. The credit risk model maps these characteristics into a loss distribution over a fixed time horizon. Loss

distributions of loan portfolios derived in this way are often used in risk management to quantify the size of equity buffers necessary to support the portfolio. In capital adequacy regulation under Basel II this concept of a loss distribution for a portfolio of credit instruments is used to calibrate risk weights imposed by the regulator."

Not all investments are made with the goal of turning a quick profit; many investments are acquired with the purpose of holding them for an extended period of time. Considering all this, nowadays, it is important for financial entities to develop a strict procedure regarding risk management. The demand on funding is increasing and none of the entities has the capability to say no to a borrower. The new risk management has to take into account this increasing demand, so the methodologies used to evaluate the risk the financial entities are exposed to need to be efficient and sophisticated.

According to Altman & Saunders (1998): "The credit risk measurement has evolved dramatically over the last 20 years in response to a number of secular forces that have made its measurement more important than ever before". As Altman & Saunders

in 1998 mention the credit risk have been: a worldwide structural increase in the number of bankruptcies, a trend towards disintermediation by the highest quality and largest borrowers, more competitive margins on loans, a declining value of real assets in many markets and a dramatic growth of balance sheet instruments with inherent default risk exposure, including credit risk derivatives.

On the other hand, a new important difficulty has arisen given the increasing need of many companies to get funding from foreign markets since they cannot access to sufficient capital on their own countries, these risks are associated not only to the companies needing money but to the financial institutions that agree funding them. The risk at which these financial institutions are exposed to is more complex, so "understanding the sources of international credit risk variation is important for developing reliable portfolio credit risk models at internationally active financial institutions. It also matters in the context of risk model validation and the effective supervision of global banks by the appropriate authorities."¹ For example, the European financial system is concerning policy makers because of its fragmentation, the distress of the countries of these are is a huge challenge to face for institutions trying to operate in their financial market.

According to (Gilchrist & Mojon, 2014) "There are very few reliable indicators of credit risk in the euro and across euro area countries"² however there are new indices of credit risk in the euro area that measure the financial condition of the area using credit spreads and that reflect the importance of banks in the European financial system and the extent of national fragmentation of the financial markets in the euro area. To have all this considerations explained above is important for the institutions in order to succeed and carry out an appropriate credit risk management.

2. CREDIT RISK

The credit risk is defined, according to (Apostlink, Donouhe, & Went, 2011) as the probability that the other party to a contract or agreement does not meet his existing obligations or the terms previously agreed on the contract. That is why credit risk is also known as counterparty risk.

The other party is unable to return the money the lender gave him, either because he went into default or because his cash flows were used for other purposes rather than fulfill his responsibility. Credit risk is then more clearly defined as the "possibility of suffering losses if clients and counterparties fail to meet their contractual obligations due to insolvency"³. Credit risk arises, then, between two parties: lender and borrower.

2.1

¹Schwaab, B., Koopman, S. J., & Lucas, A. (2014, October 15). What drives global credit risk conditions? Inference on world, regional, and industry factors. Retrieved from http://www.berndschwaab.eu/papers/GCR_Oct2014.pdf

²Gilchrist, S., & Mojon, B. (2014, April). Credit Risk in the Euro area. Retrieved from http://www.memofin.fr/uploads/library/pdf/DT-482_01%5B1%5D.pdf

³Soler, J. A., K. B., Staking, Calle, A., Beato, P., Botin O'Shea, E., et al. (1999). *Financial Risk Management: A practical approach for emerging markets*. Washington D.C. Inter-American Development Bank.

2.2. Credit scoring

According to Frame, W. Scott and Padhi, Michael and Woosley, Lynn W. (2001), Credit scoring is the process of assigning a single quantitative measure, or score, to a potential borrower representing an estimate of the borrower's future loan performance. Actually, banks and other financial institutions may use a credit score to determine whether or not an individual is likely to default on a loan, mortgage, or other debt.

2.3. Credit Risk Management and Control

According to Dionne, G. (2013), "the use of derivatives as instruments to manage insurable and uninsurable risk began in the 1970s, and developed very quickly during the 1980s. It was also in the 1980s that companies began to consider financial management or portfolio management. Financial risk management has become complementary to pure risk management for many companies. Financial institutions, including banks and insurance companies, intensified their market risk and credit risk management activities during the 1980s". In addition to this, De Miguel, J., Miranda, F., Pallas, J., & Peraza, C. (2003) consider that "Of all the risks to which it is exposed the banking business, the principal is the credit risk. This is defined as the possibility of incurring losses as a result of default by the debtor of its obligations credit intermediation operations".

In other hand, by Brown & Moles (2012), "Managing credit risk is a complex multi-dimensional problem and as a result there are a number of different approaches in use, some of which are quantitative while others involve qualitative judgements". For that reason, they define the "credit risk and credit risk management is key issues for most firms. The possibility that a contractual arrangement is not adhered to means that there is a risk of non-performance"⁴

Given the possibility of default by one of the parties, financial institutions have different ways to mitigate their risk by lending money to other entities or persons. This is the reason why the higher the risk perceived by one party, the higher the interest rate is generated for loans and grants; on the other hand, the lower the risk perceived by one of the parties, the lower the interest rate charged.

In the annual report of Standard Chartered (2013), "Credit risk is managed through a framework that sets out policies and procedures covering the measurement and management of credit risk. There is a clear segregation of duties between transaction originators in the businesses and approvers in the Risk function.

All credit exposure limits are approved within a defined credit approval authority framework". It's means that the group manages its credit exposures following the principle of diversification across products, geographies and customer segments.

However, these simple measures are not enough, financial institutions nowadays have developed increasingly sophisticated risks management which has become one of the key

⁴Brown, K., Moles, P. (2012). *Credit Risk Management*. Edinburgh Business School – Heriot Watt University, United Kingdom

functions for managers and one of the most difficult to play (Apostlink, Donouhe, & Went, 2011) adds, that even when banks are changing and incorporating new policies to mitigate credit risk, the recent events in the banking sector have made the management and analysis of risk more strict. In addition that we mention before, (Lando, 2004) define that the credit risk management "Is the process that handles the identification of potential risks that a banking entity faces when conducting its operations, it involves measuring those risks, besides giving appropriate treatment and then implementing risk models to mitigate or eliminate them".

Transparency in the area of credit risk management is a really important issue to take into consideration to avoid weak credit risk management practices and poor credit quality that causes according to (Bank for International Settlements, 2014) bank failures and banking crises worldwide. So on regards to this important feature of the credit risk management the adoption of the IFRS (International Financial Reporting Standard) brings benefits related to an increase in the financial statements transparency, it also encourages companies to adapt their reporting to changes in the business environment so that the information better reflects the economic reality. According to (Bhat, Callen, & Segal, 2011) the IFR principles are related to information relevant for credit assessment, it provides fair value information, cash flow information and warning signals about changes in markets expectations, prices reductions and increase in risk. These set of standards provides transparency that should allow a better and more efficient credit risk analysis and thus, management.

The purpose of conducting an efficient risk management is to avoid large losses of money and remain solvent. The most important techniques to manage credit risk according to (Lando, 2004) are:

a. Selection: The choice of the right products and the right counterparts who they are going to provide the products to is really important. This is the reason why having efficient credit evaluation methodologies and workers that play their role with the same efficiency as of evaluation methodology are key factors when making credit decisions.

b. Limitation: It is important to restrict the exposure of the financial institution. The failure of the counterparty should be prevented so that it do not affect the solvency of the bank. That is why a credit limit must be set according to the characteristics and credit profile of each of the counterparties.

c. Diversification: Banks should allocate their funds between borrowers belonging to different industries or sectors. The less similar the category to which each one of the borrowers belongs, the better. The purpose of technique is similar to the limitation technique; the diversification will prevent the centralization of the risk

d. Credit enhancement: When a financial institution is too exposed to credit risk, it may hire credit protection through warranties or derivatives. The quality of the credits upgrades once the warranty is hired.

2.4. Credit Risk Management

Lending Process: According to (Van Greuning & Brajovic Bratanovic, 2009) "The integrity and credibility of lending process depend on objective credit decisions that assure that acceptable risk level in relation to the expected return"⁵. Inside the Solvency assessment Analysis, analysts take into consideration measures to take in case of default, they evaluate potential credit support rules and possible credit enhancement tools that ultimately will influence in the bank's decision to establish credit relationships.

Credit analysts should assess all the information at hand and give an objective opinion about the risk associated with a particular claim. Available information should be as accurate and realistic as possible so that decisions taken are correct.

The process involving more in depth all the actions and decisions mentioned above is called the "Lending Process" and it consists of five steps (Apostlink, Donouhe, & Went, 2011) that are explained below:

Identify lending opportunities

- Looking for New opportunities for making business.
- Looking for a first contact with a potential borrower.

Evaluate a potential borrower

After identifying an opportunity, the personnel in charge will collect all information needed about a potential borrower and present it to the credit analyst to make the necessary assessments.

- The analyst will analyze the information, the proposed credit, and the potential risks involved to determine whether or not to continue with the process. The information collected involves principally the ability of the potential borrower to generate income and its past experiences with other lenders.
- If the analyst decides to continue with the process, it must determine the terms of credit (interest rate, term, loan amount, guarantees).

The process of credit solvency analysis as a whole is in charge of the process of collecting the information needed of potential clients and has the responsibility to determine if the characteristics of them match the bank requirements and expectations.

The process of credit solvency analysis - The 5 C's of credit

The lending process described above is facilitated by the use of the so called "5C's of credit". These 5 tools are "helpful guides in credit analysis for the underwriter to come to a lending decision"⁶. The five components are then: Character, Capacity, Capital, Condition, Collateral (View on Table 1).

⁵ Van Greuning, H., & Brajovic Bratanovic, S. (2009). *Analyzing Banking Risk: A Framework for assessing Corporate Governance and Risk Management*. Washington, D.C: The World Bank

⁶ Baiden, J. (2011, June 26). *Social Science Research Network*. Retrieved October 05, 2014, from Social Science Research Network: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872804

Table 6. Five C's of credit

Character	According to Apostlink (2011), the character involves the analysis of the reputation of the company/customer based on its management within the industry where it belongs and its willingness to meet a loan obligation.
Capacity	According to Pride (2009), the capacity "means the borrower's financial ability to meet credit obligations-that is, to make regular loan payments as scheduled in the credit or loan agreement". It also implies the ability to generate and manage cash to service a debt.
Capital	According to Baiden (2011), "The capital represents the funds retained in the company to provide a cushion against unexpected losses". Its mean that a company will be healthier if its equity is compounded in a greater proportion by shareholder's resources that by debt
Condition	According to Walters (2006), the condition "refers to any unique market forces that may be affecting the business, and the quality of the business's financial statements. The business owner should have a plan in place to address market forces".
Collateral	According to Baiden (2011), collateral is the asset or assets pledged to secure a loan. Most commercial loans are secured by accounts receivable, inventory, equipment or real estate".

All of these components are developed below:

Character: The character involves the analysis of the reputation of the company/customer based on its management within the industry where it belongs and its willingness to meet a loan obligation. Loans are paid by people, a person lacking character are likely to default any loan commitment and gives low priority to pay its debt obligations, on the other hand, a person with good character makes an effort to meets its obligations despite of their financial conditions (Casares, I & Lizarzaburu, E, 2016).

"Banks always try to grant credits to those entities that present credentials and impeccable references". The analysts in this section focus on a customer's integrity, honesty and stability based on their bill paying habits, and the relationship between a company's management and its stakeholders to determine the vision of the management team.

Capacity: "Means the borrower's financial ability to meet credit obligations-that is, to make regular loan payments as scheduled in the credit or loan agreement"⁷. It also implies the ability to generate and manage cash to service a debt. The analysis of Capital, according to (Baiden, 2011) must include four main criteria.

The first criterion is about having primary and alternative sources of repayment. Since the ability to repay a loan cannot be totally assured when analyzing a customer's character, and thing doesn't always work the way all expect, a secondary or alternative source of repayment is definitely required. The second criteria must consider a deep cash flow analysis in order to determine its quality and reliability, where the cash flow comes from, and if it is a result of recurrent and sustainable operations. Third, the cash flow analysis must include reviews past period's financial information as well as future forecasting in order to give a more real indication of what could happen to the customer.

Finally, the fourth criterion is about the ratio analysis that needs to be made in order to guarantee that the loan will be returned.

The historical trend of earnings, operating expenses, profit margin, the EBITDA analysis, and the debt service coverage ratio are some of them.

Capital: In this part, analysts evaluate the capital contribution made by the shareholders.

Information like the leverage level, the company's funding sources, and the amount of equity provided by shareholders is relevant. "The capital represents the funds retained in the company to provide a cushion against unexpected losses"⁹. A strong capital position will help the company to face periods of crisis while a minimal capital position makes a company more likely to face default. A company will be healthier if its equity is compounded in a greater proportion by shareholder's resources that by debt. This will show the shareholder's trust in the company's performance (Farfan & Lizarzaburu, 2016).

Condition: When analyzing the conditions, banks need information about the economic situation of the country where the company operates as well as sectorial information and external risk that can lead a company to default its obligations. The credit conditions are related to the borrower as well as the lender. The borrower's may be affected by the conditions under with they are operating. The borrower's vulnerability to changes in demand, supply, workforce and customers are some factors to take into consideration (Lizarzaburu et al., 2016).

On the other hand, for lenders the conditions are related to regulations and market factors like interest rate risk, credit risk and liquidity risk. These conditions, then, "refer to any unique market forces that may be affecting the business, and the quality of the business's financial statements. The business owner should have a plan in place to address market forces"¹⁰

Collateral: It is used especially for large amounts of credit or long-term loans. "Collateral is the asset or assets pledged to secure a loan. Most commercial loans are secured by accounts receivable, inventory, equipment or real estate"¹¹.

⁷ Apostlink, R., Donouhe, C., & Went, P. (2011). *Fundamentos del Riesgo Bancario y su regulación*. Delta.

⁸ Pride, W., Hughes, R., & Kapoor, J. (2009). *Business*. Cengage South-Western.

⁹ Baiden, J. (2011, Junio 26). *Social Science Research Network*. Retrieved Octubre 26, 2014, from Social Science Research Network: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872804

¹⁰ Walters, D. (2006, June 19). The 5 C's of credit. *San Diego Business Journal*, p. 76.

¹¹ Baiden, J. (2011, Junio 26). *Social Science Research Network*. Retrieved Octubre 26, 2014, from Social Science Research Network: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872804

2.5 . Credit Risk Control

Credit control is a really important function of credit management since it is “the process of deciding how much credit should be given to customers or borrowers, and ensuring compliance with the credit terms that are set”.¹²

Financial entities assume risks for every type of business and operations they carry on. For example (Soler, et al., 1999) consider the credit risk is assumed in the commercial activities such as the ones related to loans, guarantees, lines of credit provided and so forth; for the so called treasury activities related to balance sheet assets such as bonds, deposits, repos, stocks and finally for the positions taken in OTC (Over The Counter) derivatives such as forwards, swaps, options, so forth. The control of all risks the entity is vulnerable to face considers different methodologies to be applied due to the different types of instruments in each line of business (Lizarzaburu, et al., 2012).

So according to (Soler, et al., 1999) to enable adequate credit risk management and control, some of the questions proposed by them must be answered¹³.

3. THE STANDARDIZED APPROACH FOR CREDIT RISK

The Bank for International Settlements aims to make the regulatory standards existing right now in relation to the credit risk approach stronger in order to make their appliance more efficient and useful for the entities using them.

The adjustments according to (Bank for International Settlements, 2014) include the following:

- A reduced reliance on the external credit ratings.
- A better risk sensitivity
- There will be an updated risk weight calibrations that will be further announced.
- There will be greater clarity on how to apply the standards.

Now, according to the consultative document published by the BIS (Bank for International Settlements, 2014), the key aspects mentioned by the entity involve the following topics:

- The bank exposure will be risk-weighted by the bank's capital adequacy and its asset quality.
- The Corporate exposures will be risk-weighted based on the firm's revenue and leverage.
- On regards to the retail category, the criteria to qualify for a preferential risk would be improved and an alternative treatment for exposures will be introduced.
- The risk weights for residential real states would be based on two ratios: The loan-to-value ratio (this is the amount of the loan in relation to the value of the real estate that secures the loan) and the debt-service coverage ratio.

3.1. Ratio Analysis

The Ratio Analysis or also called Quantitative Analysis compares one figure in one financial statement, taking into account the two main ones, which are the Balance Sheet and the Profits & Loss Statement in order to obtain numbers or also called in this case indexes, that the interpretation provide to us a certain status of the company in certain financial and economic aspects. According to Finch (2008), in his paper Summary of Financial Ratios, the importance of using them is highly related to give dynamism to the analysis of a company financially speaking, due to the fact that this theory provides certain calculations that are basically a picture of the financial health of the business.

3.2. Emerging Market Company

The following analysis takes into account the development of all the financial ratios presented in this document in order to evaluate one emerging company, Unión de Cervecerías Backus & Johnston S.A.A. The relevance of knowing how well is this company doing in the current is related to the market's conditions through the 2012, 2013 and 2014 years and how the company got influenced by these contexts.

The 2012 to 2014 period was selected due to the volatility in the Peruvian market; different political, economic and social situations have in fact affected the Peruvian economy's results that are why it is necessary to understand whether this situation generated any kind of financial problem to the company chosen to be analyzed in the following pages. The following application shows all the financial ratios used in the company evaluation.

Unión de Cervecerías Peruanas Backus y Johnston S.A.A.

Union de Cervecerías Peruanas Backus y Johnston S.A.A. is an industrial type of company, that has as core business the production and sale of barley and malt. All the operations are developed by its four owned factories and it commercialize its products in a local an international scale.

¹² Graham, A. (2000). *Framework for Credit Risk Management*. London: Global Professional Publishing.

¹³ Soler, J. A., K. B., Staking, Calle, A., Beato, P., Botin O'Shea, E., et al. (1999). *Financial Risk Management: A practical approach for emerging markets*. Washington D.C. Inter-American Development Bank.

Table 2. Formulas Developed in this Work

Ratios	Formula
Liquidity Ratios	
Working Capital	Current Assets - Current Liabilities
Acid Test	(Current Assets - Inventory) / Current Liabilities
Current Ratio	Current Ratio = Current Assets / Current Liabilities
Cash Ratio	Cash Ratio = (Cash Equivalents + Marketable Securities) / Current Liabilities
Debt Ratios	
Debt Ratio	Debt Ratio = Total Liabilities / Total Assets
Debt To Equity Ratio	Debt to Equity Ratio = Total Liabilities / Shareholder's Equity
Capitalization Ratio	Capitalization Ratio = Long - Term Debt / (Long - Term Debt + Shareholder's Equity)
Interest Coverage Ratio	Interest Coverage Ratio = Earnings Before Interest and Taxes (EBIT) / Interest Expenses
Cash Flow to Debt Ratio	Cash Flow To Debt Ratio = Operating Cash Flow / Total Debt
Profitability	
Return Over Equity	Return On Equity = Net Profit After Tax / Equity
Return Over Assets based on EBIT	Return On Assets = EBIT / Total Assets
Return Over Assets	Return On Assets = Net Profit After Tax / Total Assets
Dupont	Dupont: ROE = (Profit Margin)*(Asset Turnover)*(Equity Multiplier) = (Net Profit / Sales)*(Sales/Assets)*(Assets / Equity) = Net Profit /Equity
Gross Margin	Gross Profit / Sales
Operative Margin	EBIT / Sales
Net Margin	Net Profit After Tax / Sales
Operating Performance Ratios	
Inventory Turnover	Inventory Turnover = Cost of Goods Sold / Average Stock
Inventory Turnover Period	Inventory Turnover Period = 360 / Inventory Turnover
Receivables Turnover	Accounts Receivables Turnover = Net Sales Revenue / Average Receivables Balance
Collection Period	Average Collection Period = 360 / Receivables Turnover
Payables Turnover	Payables Turnover = Cost of Goods Sold / Average Payables Balance
Average Payment Period	Average Payment Period = 360 / Payables Turnover
Fixed Assets Turnover	Fixed Asset Turnover = Sales / Net Fixed Assets
Asset Turnover	Total Asset Turnover = Sales / Total Assets
Cash Conversion Cycle	Cash Conversion Cycle = Inventory Days + Collection Period - Payment Period
Investment Valuation Ratios	
Market Price Over Book Value	Price / Book Value Ratio = Stock Market Price / Shareholder's Equity Per Share
Market Price Over Cash Flow	Price / Cash Flow Ratio = Stock Market Price / Operating Cash Flow Per Share
Price Over Earnings Ratio	Price / Earnings Ratio = Stock Market Price / Earnings Per Share (EPS)
Price / Earnings Over Growth Ratio	PEG = Price to Earnings Ratio / Earnings Per Share Growth
Price Over Sales Ratio	Price over Sales Ratio = Stock Market Price / Net Sales or Revenue Per Share
Dividend Yield	Dividend Yield = Annual Dividend Per Share / Stock Price Per Share
Enterprise Value	Enterprise Value = Market Capitalization + Debt + Minority Interest - Less Cash Equivalents
Enterprise Value Multiple	Enterprise Value Multiple = Enterprise Value / EBITDA

Source: Own Elaboration

Table 3. Backus y Johnston S.A.A. Financial Ratios

Ratios	2014	2013	2012
Liquidity Ratios			
Current Ratio	0.6	0.68	0.64
Cash Ratio	0.12	0.13	0.12
Working Capital	-470.86	-370	-405.5
Acid Test	0.36	0.41	0.38
Debt Ratios			
Debt Ratio	12.97 %	12.05 %	7.12 %
Debt to Equity	26.42 %	24.56 %	14.01 %
Capitalization	28.66 %	40.62 %	21.83 %
Interest Coverage	38.03 times	54.45 times	83.21 times
Cash Flow to Debt	65.66 %	59.66 %	70.33 %
Profitability Ratios			
Return Over Equity	51.21 %	52.24 %	46.43 %
Return Over Assets (using EBIT)	37.16 %	38.55 %	37.60 %
Return Over Assets	24.95 %	25.90 %	25.17 %
Dupont	51.21 %	52.24 %	46.43 %
Net Margin	22.41 %	23.35 %	23.11 %
Gross Margin	71.41 %	71.62 %	71.31 %
Operating Margin	33.69 %	35.75 %	34.40 %

Table 4. Operating Performance Ratios

Inventory Turnover	5.67 times	5.23 times	5.15 times
Inventory Period	64.32 days	69.83 days	71.13 days
Receivables Turnover	13.59 times	12.82 times	14.10 times
Collection Period	26.85 days	28.47 days	25.96 days
Payables Turnover	2.92 times	3.22 times	3.49 times
Payables Period	125.05 days	113.41 days	104.93 days
Asset Turnover	1.10 times	1.08 times	1.09 times
Fixed Asset Turnover	1.95 times	1.76 times	1.79 times
Business Cycle	-33.88 days	-15.11 days	-7.84 days
Investment Valuation Ratios			
Market Price over Book Value	13.72 times	15.32 times	13.49 times
Price to Earnings	17.22 times	19.97 times	26.97 times
Earnings Per Share	6.93	6.92	6.56
Price to Earnings Growth	66.32	82.10	109.86
Price over Sales	4.02 times	4.62 times	5.56 times
Dividend Yield	5.67 %	5.23 %	5.77 %
Enterprise Value	2008.4 millions	1946.4 millions	20920.2 millions
Enterprise Value Multiple	1.22 times	1.17 times	13.56 times

3.3. Analysis of Unión de Cervecerías Peruanas Backus y Johnston S.A.A.

In terms of liquidity the analysis shows that Backus & Johnston does not have a good level of current assets to cover all kind of less than a year liabilities, the ratio have been always (2012 to 2014), under 0.70 Nuevos per 1 Nuevo Sol, which means that the company is having a, approximate 0.30 Nuevos Soles deficit, when contrasting the current liabilities with the same period assets.; the cash ratio shows a very poor level of real cash under the property of the company, analyzing the Working Capital, the result is a negative figure, which means that the company is not covering properly its short term activities, Finally the acid test is almost 50 % of the Current Ratio, which means that the company's inventory is near half the current assets.

The debt ratios shows a minor dependence for third ones financial resources, the Debt Ratio is lower than 13 %, which means that the company's asset are finance with the company's own resources, Backus has an interesting Interest Coverage and a low level of Long Terms debts (shown in the Capitalization Ratio). The company is very profitable, the Return Over Equity shows no less than 45 % of net profit or value generated for the equity holders, the company in terms of the ROA is also good, the ratio is in a no less than 23 % level, which means that Backus & Johnston is generating internal value, finally the Net Margin trend is positive, because the company is generating approximately 21 % of earnings after taxes, interests and debt service.

The Cash Conversion Cycle, which is the most important of the Operating Performance Ratio shows a negative result (expressed in days), this is important because it refers that Backus & Johnston has a very powerful bargain level with its suppliers (the days of payment are higher, than the days of inventory and collection, which means that the company it is first receiving liquidity, then reducing the inventory and finally paying its debts), this is very interesting competitive advantage of Backus.

The Backus share shows that the company has done very good in the market, the 2014 Market Price Over Book Value shows that the company is currently valued at 13.72 times its book value per share, in terms of PER and PEG, the company has a

medium term recovery period and it is currently showing a very satisfactory growth level, finally the Enterprise Value contrasted with the EBITDA shows that the company is not as good as it could, because it has gone from 13.56 times in 2012 to 1.22 times, which means that the company must do something to increase its value in the market.

CONCLUSIONS

Credit risk arises whenever the other party of a contract is unable to return the money the lender gave them, either because they went into default or because their cash flows were used for other purposes rather than fulfill their responsibility.

A key point in the credit decisions are the fees and interest rates the banks are going to charge to the potential borrowers. To determine these numbers, the analysts must consider the risk that it is assumed. The higher the risk involved in a loan, the higher the interest rate that's going to be charged to the borrowers. There are credit risk measurement tools such as the credit scoring that gives managers significant information to determine the capacity of a client to fulfill its debt obligations. This tool will help to make more efficient decisions regarding lending decisions.

Managing credit risk is a complex task that involves policies and procedures set by institutions in order to take actions not only to mitigate the risk assumed, but also to control it by making a continuous evaluation of their clients' situations and the microeconomic and macroeconomic environment. Financial institutions nowadays have developed increasingly sophisticated risks management.

The purpose of conducting an efficient risk management is to avoid large losses of money and remain solvent. The most important techniques to manage credit risk mentioned according to (Lando, 2004) are: Selection, Limitation, Diversification and Credit enhancement.

The lending process is facilitated by the use of the so called "5C's of credit": Character, Capacity, Capital, Condition, Collateral. These 5 tools describe specific characteristics and information that are

“helpful guides in credit analysis for the underwriter to come to a lending decision”¹⁴.

Credit control is a really important function of the credit management. All risks the entity is vulnerable to face consider different methodologies to be applied due to the different types of instruments in each line of business.

One of the major disadvantages of bonds is that the potential profit from investment in bonds is limited. Actually, in the financial markets there are a lot of various types of bonds and investor must understand their differences and features before deciding what bonds would be suitable for his/ her investment portfolio

Finally, when investors have given their money to the company, normally they are going to expect earnings or also called profits, if the founders of the company want to check how well is the company doing in order to satisfy this need of them, the profitability ratios are the ones that will provide information about the value generation for the company's owners. The indexes obtained from mixing the results stated in the P&L Statement and the Financial Situation Statement are simple to analyze and to define if a company is doing well or not in terms of financial attractiveness (for the current owners and the potential ones).

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¹⁴ Baiden, J. (2011, June 26). *Social Science Research Network*. Retrieved October 05, 2014, from Social Science Research Network. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1872804

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ANNEXES

Financial Information used in the calculation of the ratios (vertical analysis included)

Unión de Cervecerías Backus y Johnston S.A.A.

1.1. Financial Situation Statement

Union de Cervecerias Peruanas Backus y Johnston SAA (BACKUACI PE)

<i>In Millions of PEN</i>	<i>FY 2012</i>	<i>FY 2013</i>	<i>FY 2014</i>	<i>In Millions of PEN</i>	<i>FY 2012</i>	<i>FY 2013</i>	<i>FY 2014</i>
Assets				+ LT Investments & LT Receivables	18.1	18.4	18.4
+ Cash & Near Cash Items	135.1	148.0	143.0	Assets %	0.5	0.5	0.5
Assets %	3.9	4.0	3.8	+ Net Fixed Assets	2,143.9	2,277.5	2,420.7
+ Short-Term Investments	--	0.0	0.0	Assets %	61.1	61.3	64.0
Assets %	--	0.0	0.0	+ Gross Fixed Assets	--	--	--
+ Accounts & Notes Receivable	296.5	328.1	286.0	Assets %	--	--	--
Assets %	8.5	8.8	7.6	- Accumulated Depreciation	--	--	--
+ Inventories	211.5	223.3	197.2	Assets %	--	--	--
Assets %	6.0	6.0	5.2	+ Other Long-Term Assets	616.5	634.4	635.9
+ Other Current Assets	84.8	82.9	83.3	Assets %	17.6	17.1	16.8
Assets %	2.4	2.2	2.2	Total Long-Term Assets	2,778.6	2,930.4	3,075.0
Total Current Assets	727.9	782.4	709.4	Assets %	79.2	78.9	81.3
Assets %	20.8	21.1	18.7	Total Assets	3,506.5	3,712.7	3,784.4
				Assets %	100.0	100.0	100.0

<i>Liabilities & Shareholders' Equity</i>				
+ Accounts Payable		352.3	361.2	438.5
<i>Total Liab & Equity %</i>		<i>10.0</i>	<i>9.7</i>	<i>11.6</i>
+ Short-Term Borrowings		115.5	128.7	125.6
<i>Total Liab & Equity %</i>		<i>3.3</i>	<i>3.5</i>	<i>3.3</i>
+ Other Short-Term Liabilities		665.6	662.5	615.9
<i>Total Liab & Equity %</i>		<i>19.0</i>	<i>17.8</i>	<i>16.3</i>
Total Current Liabilities		1,133.4	1,152.4	1,180.0
<i>Total Liab & Equity %</i>		<i>32.3</i>	<i>31.0</i>	<i>31.2</i>
+ Long-Term Borrowings		134.1	318.5	365.2
<i>Total Liab & Equity %</i>		<i>3.8</i>	<i>8.6</i>	<i>9.6</i>
+ Other Long-Term Liabilities		456.7	421.1	381.2
<i>Total Liab & Equity %</i>		<i>13.0</i>	<i>11.3</i>	<i>10.1</i>
Total Long-Term Liabilities		590.8	739.6	746.4
<i>Total Liab & Equity %</i>		<i>16.8</i>	<i>19.9</i>	<i>19.7</i>
Total Liabilities		1,724.3	1,892.0	1,926.4
<i>Total Liab & Equity %</i>		<i>49.2</i>	<i>51.0</i>	<i>50.9</i>
+ Total Preferred Equity		0.0	0.0	0.0
<i>Total Liab & Equity %</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
+ Minority Interest		11.0	13.4	13.2
<i>Total Liab & Equity %</i>		<i>0.3</i>	<i>0.4</i>	<i>0.3</i>
+ Share Capital & APIC		1,376.0	1,386.6	1,397.6
<i>Total Liab & Equity %</i>		<i>39.2</i>	<i>37.3</i>	<i>36.9</i>

+ Retained Earnings & Other Equity	395.2	420.7	447.1
<i>Total Liab & Equity %</i>	<i>11.3</i>	<i>11.3</i>	<i>11.8</i>
Total Equity	1,782.2	1,820.7	1,858.0
<i>Total Liab & Equity %</i>	<i>50.8</i>	<i>49.0</i>	<i>49.1</i>
Total Liabilities & Equity	3,506.5	3,712.7	3,784.4
<i>Total Liab & Equity %</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

Source: Adapted from Bloomberg

1.2. Profit and Loss Statement

<i>Union de Cervecerias Peruanas Backus y Johnston SAA (BACKUAC1 PE)</i>			
In Millions of PEN	FY 2012	FY 2013	FY 2014
Revenue	3,832.6	4,003.7	4,173.5
Revenue %	100.0	100.0	100.0
- Cost of Revenue	1,099.7	1,136.3	1,193.1
Revenue %	28.7	28.4	28.6
Gross Profit	2,732.9	2,867.4	2,980.4
Revenue %	71.3	71.6	71.4
+ Other Operating Income	63.4	111.7	104.1
Revenue %	1.7	2.8	2.5
- Operating Expenses	1,477.7	1,547.7	1,678.4
Revenue %	38.6	38.7	40.2
Operating Income	1,318.5	1,431.4	1,406.1
Revenue %	34.4	35.8	33.7
- Interest Expense	15.8	26.3	37.0
Revenue %	0.4	0.7	0.9
- Foreign Exchange Losses (Gains)	-5.3	17.9	13.5
Revenue %	-0.1	0.4	0.3
- Net Non-Operating Losses (Gains)	-6.3	-1.9	-1.4
Revenue %	-0.2	0.0	0.0
Pretax Income	1,314.2	1,389.2	1,357.0
Revenue %	34.3	34.7	32.5
- Income Tax Expense	423.4	446.5	413.1
Revenue %	11.0	11.2	9.9
Revenue %	--	--	--
- L(G) on inflation	--	--	--
Revenue %	--	--	--

Income Before XO Items	890.8	942.6	943.9
Revenue %	23.2	23.5	22.6
- Extraordinary Loss Net of Tax	--	--	--
Revenue %	--	--	--
- Minority Interests	5.0	7.9	8.8
Revenue %	0.1	0.2	0.2
Net Income	885.8	934.7	935.1
Revenue %	23.1	23.3	22.4
- Total Cash Preferred Dividends	0.0	0.0	0.0
Net Inc Avail to Common Shareholders	885.8	934.7	935.1
Abnormal Losses (Gains)	0.0	0.0	0.0
Tax Effect on Abnormal Items	0.0	0.0	0.0
Normalized Income	885.8	934.7	935.1
Basic EPS Before Abnormal Items	6.56	6.92	6.93
Basic EPS Before XO Items	6.56	6.92	6.93
Basic EPS	6.56	6.92	6.93
Basic Weighted Avg Shares	135.0	135.0	135.0
Diluted EPS Before Abnormal Items	6.56	6.92	6.93
Diluted EPS Before XO Items	6.56	6.92	6.93
Diluted EPS	6.56	6.92	6.93
Diluted Weighted Avg Shares	135.0	135.0	135.0

Source: Adapted from Bloomberg