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# **What about Liquidity?: An underexplored factor to be taken into account in Ecuadorian business management.**

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# What about Liquidity?: An underexplored factor to be taken into account in Ecuadorian business management.

¿Qué hay de la liquidez?: Un factor subexplorado a tener en cuenta en la administración de las empresas Ecuatorianas.

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## ABSTRACT

The present study explores the concept of liquidity and how liquidity ratios can be employed depending on each company's needs and characteristics. Numerous authors were analyzed, which described years back the first concepts of liquidity, its usefulness and importance. The paper also mentions the best ways to measure it, and the liquidity ratios preferred by most authors, such as working capital which measures a company's efficiency and current financial health. A section of the paper describes the different determinants of liquidity such as size and age, and how these affect companies, especially in developing countries. Furthermore, there is a thorough analysis regarding profitability, and how these important aspects of a company are interrelated. Many authors describe a trade-off, given that a key factor that determines a company's profitability is its level of liquidity, but there must be an appropriate balance. The study points out the negative effects that poor liquidity management can cause –by having too much or too little liquid assets- such as excessive bank loans and overdraft fees, or, on the other hand high maintenance costs and low investments, which directly affect a company's profitability, and how this is more common in developing countries. Moreover, alternative ways of financing are described, which can be convenient substitutes for companies that don't have a large amounts of assets and strong structures they can rely on, plus limited access to bank loans. These include factoring and collateral, which tend to be least used in developing countries including Ecuador.

**KEYWORDS:** Liquidity, profitability, liquidity management, financing, working capital, liquidity ratios.

**JEL Classification:** G-21, G-30, M-10

## INTRODUCTION

Liquidity has progressively become a big concern in this globalized world. Since

companies are constantly facing big changes, their need for cash is far greater than before. For instance, a company's inability to purchase

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acquisitions in optimum conditions can harm their image, leading to payment interruptions and commitments to short-term loans. These could then result in problematic costs that become increasingly difficult to calculate properly. Breuer et al (2012) asseverate that claim receipts and on time debt payments determine the subsistence of any business. In order to fulfill their obligations on time, however, companies must maintain certain levels of liquidity, which demand careful planning and strategy on an ongoing basis (Nagy, 2014). This is especially important in times of crisis, when businesses, suppliers, clients, and even financial institutions have a shortage of cash.

Ecuadorian businesses can attest to the previous statement, since illiquidity has been, as in many developing countries, a major challenge to secure the survival of many local firms; more so, because most companies in this country are qualified as microenterprises<sup>3</sup>. According to Ropega (2011), these do not often have the adequate structure and assets to survive a liquidity crisis: they would be obligated to engage in expensive debt to continue their daily operations, severely affecting their profitability. As Ropega (2011) sustains, small enterprises encounter more threats because they basically don't have significant financial resources that larger firms normally do.

As a result, sustaining a suitable level of liquidity, and constantly monitoring it through financial ratios, became progressively important for enterprises. (Bubic, Mladineo & Susak, 2016). This prevents serious liquidity crisis, and helps companies to be better prepared when problems arise. As Tomczak (2014) states, one of the root causes of business failure is the deficient monitoring of financial conditions.

If liquidity is crucial for a company's financial health, what are its determinants? Drever and Hutchinson's (2007) research focused particularly on the Australian industry's determinants of liquidity and their differences. They suggest that age, collateral, profitability and bank overdrafts are important

determinants of liquidity. They suggested that age (years since establishment) allows companies to retain more profit and reduce the need to borrow; while collateral and bank overdrafts have a negative impact on liquidity. Collateral enables a firm to borrow more, whereas overdrafts damage firm's relationship with creditors plus the high cost harms its liquidity. In contrast, Marimuthu et al (2014) concentrated on the effect of size on liquidity in companies from Malaysia, concluding that Small and Medium-Sized Enterprises (SMEs) must enhance their assets management for greater value creation, improve their effectiveness of use of leverage and correct internal operations simultaneously, given that they face greater liquidity difficulties compared to larger firms. Similarly, Davidson and Dutia (1991) concluded that size is a key determinant of liquidity, given that small businesses have inferior current and quick ratios than large companies appearing to be less liquid. They argued that undercapitalization is a highly common problem among small firms because of their reliance on short-term debt, as they do not have access to long-term capital markets as large firms do. Furthermore, for Ayako, Githui and Kungu (2015), factors such as a large and independent board of directors have a positive impact on firm performance and financial health; according to their findings, a big board stimulates diverse opinions while board independence lessens agency costs by assuring more control, which is implemented on behalf of the investors. However, in developing countries such as Ecuador, where boards of directors tend to be formed by the same managers and company owners, board independence is not fully accomplished, which can potentially affect these firms' performance according to Ayako, Githui and Kungu (2015).

Drever and Hutchinson (2007) express their concern regarding the deficiency of research on liquidity, even though the latter is often considered a more critical day-to-day matter than decisions regarding capital structure. Yet, many studies and research continue to focus primarily on profitability, such as Afrifa, 2015; Nunes and Serrasqueiro, 2015; Baños-

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<sup>3</sup> Microenterprises were 90.64% of the total system in 2015 according to INEC (Ecuadorian Institute of Statistics and

Census), which don't have more than 100,000 in sales and 1 to 9 employees.

Caballero et al, 2012; Nunes et al, 2012; Deloof 2003; among others, regarding liquidity as secondary or less urgent. This emphasis on profitability over liquidity alludes to the analytical negligence that Drever and Hutchinson (2007) address.

In the midst of addressing this investigative dilemma, the present study elucidates on different approaches to determine Ecuadorian companies' liquidity, given its risky or harmful trade-off with profitability. The study analyzes various authors' concept of liquidity in terms of usefulness, metrics, and determinant factors, in order to suggest how these perspectives may apply to Ecuadorian enterprises. Another important theme for this study is how liquidity and profitability are intrinsically related, since illiquidity directly harms a companies' profitability. Therefore, this work attempts to review how liquidity is such an important aspect of a company's financial health that is often underexplored and overlooked, lacking adequate planning and monitoring, especially in small companies of developing countries which end up in serious profitability problems putting their businesses at risk.

## LITERATURE REVIEW

In order to better assess the multidimensional approaches to defining liquidity, this section has been divided into multiple classifiable perspectives.

### *Liquidity and Financial Ratios*

According to Diaz (2012), liquidity represents the ability of a company to generate resources allowing it to meet its short-term commitments. Keynes (1937) argues with the latter, stating there are no absolute standards of liquidity, but just a scale of liquidity; he aggregates that different kinds of assets fulfill the need for liquidity to different degrees. To quantitatively measure and assess the previous concepts, Beaver (1966) first suggests that financial ratios served as a metric to specifically evaluate client's credit worthiness. Nevertheless, he then acknowledges this technique has become widely used to measure

a myriad of financial objectives for banks, investors and management. One particular purpose Beaver closely describes is the prediction of failure, which he defines as the inability of a business to cover its financial obligations when they are due (Beaver, 1966). At the end of his study, he concludes that ratio analysis could be helpful for estimating failure up to at least five years before financial collapse occurs. However, he warns about what he calls *window dressing*, given that the most popular ratios often become those most manipulated by management in a way that damages their usefulness. Lin, Zhao and Guan (2014), agree with the latter when they argue that top management occasionally alter the financial reporting procedure to attain personal gains, deteriorating the reliability of earnings in financial reports which will eventually harm the company's performance. Hence, they argue that it is crucial to develop tools to detect these irregularities in reporting.

To further contribute to this topic, Edmister (1972), who also studied financial ratios, asseverates that business failure could be foreseen by using three consecutive annual statements. He says the predictive power of ratio analysis is cumulative since no lone variable can foresee failure as sound as a group of variables. His final remarks influence how liquidity should be addressed and determined.

### *Corporate Liquidity*

In regards to company security and protection, for Bubic, Mladineo & Susak, (2016) corporate liquidity signifies the readiness of financial resources to cover the withdrawn deposits and additional financial obligations at maturity. They also mention that in the corporate economy, liquidity is, along with profitability, one of the fundamental pillars of business management in goods-monetary economy. According to Davidson and Dutia (1991), liquidity in corporate finance is a key component of working capital management since it denotes the companies' ability to pay off loans and creditors on time.

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Cash is known as the standard of liquidity since it can most rapidly and easily be transformed into other assets; as its universally accepted as payment for almost everything. So, in order to ensure payment compliance, certain firms choose to hold cash as a *buffer*- as a cushion or safety margin to serve as a monetary reserve for difficult times. This is why, according to Myers (1984), liquidity has to be carefully measured given that companies cannot assume that they can borrow money every time they need it. Williams (2014), expands on the latter, declaring that the higher the amount of resources the company owns, the greater chance for company's survival. However, moving into the studies' main focus, most companies based in Ecuador normally don't have huge amounts of resources, and tend to rely on their day-to-day operations to survive. See Appendix Table No.1 to evidence the importance of liquidity management, with a summary of its different concepts and uses proposed by various authors through the years, and its crucial (cause and effect) relationship with profitability.

### *Liquidity Ratios*

As stated by Altman (1968), an important issue for a number of companies is the question of how liquid businesses should be; not only to ensure prompt payment but also to appear financially healthy to potential lenders. For this reason, Altman emphasizes the importance of using liquidity measures. According to Toth, Ierna and Peter (2013), who focused their studies on manufacturing companies in Slovakia, the most common theoretic liquidity ratios they identified are current ratio (current assets/current liabilities), quick ratio (current assets – inventory/current liabilities), and cash ratio (cash & cash equivalents/current liabilities). Tomczak (2014) deepens this liquidity ratio study, analyzing thirty-four integrated models built on financial indicators; he found that the most frequent indicator in these studies is the current ratio, which reflects how current assets will satisfy short-term obligations. Adequate current ratios differ from industry to industry, but usually a current ratio of 2:1 is good. The higher this ratio is, the more capable is the business to pay its

obligations. The current ratio cannot be lower than 1 because the company wouldn't be able to pay bills on time. For example, if a company has \$5 million in cash, \$10 million in accounts receivables, \$20 million in inventories, \$10 million in marketable securities and \$20 million in current liabilities, it would have a current ratio of 2.5.

A more realistic way to portray this metric is envisioned by quick ratio (also known as the acid test ratio), which shows a business' short-term liquidity – only using cash and short-term receivables and excluding inventory. With the same balance sheet numbers described above, the company would have a 1.5 quick ratio. The quick ratio represents the dollar amount of liquid assets available to cover each dollar of short-term liabilities. Therefore, a quick ratio of 1.5 given in this example, indicates that the company has \$1.5 of liquid assets available for every \$1 of current liabilities. Finally, cash ratio shows how companies may cover short-term obligations with cash. Cash ratio is highly conservative given that it only considers cash, and cash equivalents which can be converted into cash within 90 days (Bubic, Mladineo & Susak, 2016). Similarly, the result of the cash ratio with those numbers is 0.25 (only has enough cash to cover 25% of its current liabilities). As a general rule, any cash ratio above one can be considered as a good liquidity measure; however, this metric is more useful when compared to industry and competitor averages. A ratio too high can also reflect inefficiencies in the utilization of cash and not maximizing investment opportunities. The studies carried out by this authors, and the different ratios they suggest help managers and company owners discern how liquidity ratios can be used for specific scenarios depending on the company's needs and characteristics, as well as its economic activity. As Drever and Hutchinson (2007) concluded after their study Australian SMEs, "it became clear that the determinants of SME liquidity vary from industry to industry as did the explanatory power of the model". This is foreseeable given that every industry faces particular circumstances, therefore their ratios and performance indicators are governed by different standards; what is seen as good for one industry, may not be as remarkable for

other. For example, in the results of the study conducted by Filbeck and Krueger (2005), there were substantial differences across industries; for Food Stores the normal Days to Sales Outstanding ratio ( $\text{Accounts Receivable}/(\text{Sales}/365)$ ), which indicates the average number of days a firm takes to collect revenue after a sale was made, is 1 given that they don't sell on credit and get cash payment immediately, while the Textile industry had a days to sales outstanding ratio of 28. Similarly comparing the Inventory Turns ( $\text{Inventory}/(\text{Sales}/365)$ ), which indicates how many days it takes for the business to sell its inventory, the Food Stores industry had a ratio of 3, which is very quick but understandable given that food is a necessity that people buy on a daily basis plus food stores deal with perishable items; in contrast, the Textile industry had an inventory turnover ratio of 21 days, as clothes are normally not a daily purchase and therefore stores take longer (7 times) to get rid of their inventory.

Kirkham (2012) has studied specifically cash flow ratios; these are developed from subtotals from the statement of cash flows (i.e. cash from operations). These, according to his findings, offer a more holistic method to the study of businesses' liquidity position and, in doing so, become a way for making enhanced choices. He explains how analysts can review a company's data as a whole, offering a valuable means by which to validate the significance of the results of traditional ratios. This claim is epitomized in the part of his research showing companies with apparently strong traditional ratios, and their cash flow ratios, revealing a different (negative) standpoint.

The variety of standpoints continues with Drever and Hutchinson (2007), who determine that the most accurate way to measure liquidity is by using Net Working Capital ratio ( $(\text{Current assets} - \text{Current liabilities}) / \text{Total Assets}$ ). This ratio indicates the proportion of short term net funds to assets, and reflects if the company is shifting more into or out of long-term assets. The authors argue that working capital management involves a trade-off between profitability and liquidity. The same company

mentioned earlier, would have a net working capital ratio of 0.40. For this ratio to be more useful, the company would need to compare it with previous dates to determine if it's lessening its investments in long-term assets and keeping its reserves more liquid. Their input relates to past works of Altman (1968), who defines working capital ratio as a way to measure the net liquid resources of the company relative to its total assets. In addition, a more current author like Bellouma (2010) states that working capital management is critical for short-term solvency and subsistence of a company. As companies grow, they require additional capital, so they become more cautious regarding investment activities in order to avoid costly disruptions of operating activities. Thus, as Deloof (2003) supports with his own findings, the profitability of a firm escalates (and consequently its value) if the components of working capital (accounts payable, accounts receivable, and inventories) are effectively mixed. Any result below 1 indicates negative working capital, while a ratio above 2 means that the firm may not be effectively investing its excess assets. Baños, Garcia and Martinez (2012) argue that some authors, like Deloof (2003), disregard the critical risk of having low levels of working capital that results in interruptions of the production process and consequently loss of sales. Therefore, they continue to argue, there is actually a level at which a decrease in working capital negatively affects a company's profitability. However, Baños, Garcia and Martinez (2012) warn that a rapid increase in working capital can also reveal poor operational efficiency as money that is tied up to inventory or in accounts receivable cannot be used to pay obligations nor for investments. Schwambach (2010) agrees with the latter as he states that the main problem concerning working capital management is the balance between lesser profitability of current assets and the extra money available derived from it. He argues that liquid assets, such as net working capital, accounts receivable and inventory, generally tend to be less profitable than long-term assets as they generate costs for maintenance; and

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adds that investments in working capital don't increase production or sales.

According to Erol and Atmaca (2016), efficient management of liquidity flourishes throughout times of crisis. A phenomenon of calamity is evident when businesses face excess increments in debt and strong fluctuations in their asset prices. As a result, the company in this situation instantly seeks to make most of its sales in cash and avoids unnecessary investments in long-term assets. Similarly, McKiernan and Morris (1994), describe that in times where markets are changing fast, companies instantly adopt control mechanisms and strategic planning processes to ensure their survival. But, it is not healthy for a company to react when they are already facing a crisis, especially for small enterprises. Instead, their monitoring should be done on a regular basis to prevent critical situations that eventually hurt the companies' profitability and image. See Appendix Table No.2 which presents a summary of the key liquidity ratios that were more commonly proposed during the investigation and calculation examples.

### *Financing Costs*

Illiquidity immediately generates significant financial costs, as the need for bank loans becomes imminent. Ravas and David (2010) explain that a loan repayment expectation depends on a company's future performance based on sales. However, if sales do not meet expectations, it causes an escalation of the debt and hurts the company's cash flow: implying that the firm must obtain financial resources to repay the debt. Financing costs are occasionally a consequence of poor financial planning and illiquidity, and therefore reflect how liquidity problems can affect a company's profitability, as the costs associated with debt may affect firms' bottom line. In 2017, according to data from the Central Bank of Ecuador, this country's credit rate for corporations is at 9.33%, rising to 11.83% for small and medium corporations.

In addition to traditional banks loans, which represent a high cost for many companies, overdraft fees are charged when banks cover a

client's lack of funds (Parrish and Frank, 2011). They found that almost three quarters of United States' banks service-charge income came from overdraft fees, demonstrating the huge cost this service represents for companies that don't have enough cash available and rely on this service. In Ecuador, overdraft is also a costly service, given that the effective rate that banks charge in 2017 is 11.83% plus arrears (which can go up to 10%), as stated by the Central Bank of Ecuador. These local challenges shed light on the importance of coming up with more liquidity oriented game plans and solutions.

### *Profitability*

According to Ghosh (2016) profitability is the authentic object of a company from the stockholder's perspective, given that all businesses have to produce sufficient revenues to withstand its operations and be able to promote growth an expansion. In his study, Ghosh selected the following profitability ratios as the most representative: gross profit ratio (revenue-cogs/revenue), operating profit ratio (operating profit/sales), net profit ratio (net profit/revenue), return on capital employed (earnings before interest and tax/capital employed) and return on net worth (net income/equity). Comparatively, Janjua et al (2016) named the following ratios as the main measures of profitability: net operating margin, gross profit margin, return on capital employed, return on assets (net income/total assets), and return on equity (net income/equity). Typically, profitability ratios show the collective result of asset management on the goodwill of the business.

As Filbeck and Krueger (2005) expressed, a company needs to maintain a liquidity level that is not hurtful to its profitability, as companies can cut financing costs and/or increase cash available for growth by reducing funds tied-up in short-term assets. They must effectively administrate accounts receivables, inventory, and accounts payables to ensure the firm's sustainability; revealing that profitability is achieved based on a wide range of factors that must be successfully managed, where one of them is the company's liquidity.

According to the research of Toby (2007), on the performance of Nigerian small and medium enterprises, when current assets are rising, profitability decays because of growing portfolios of bank balances, as well as poor accounts receivables. This happens because managers have to deal with sufficient provisions for bad debts, idle cash, and credit amortization; reflecting another perspective of the continuous tradeoff between liquidity and profitability.

For Tang et al. (2013), in developing economies such as Turkey, for company decision makers it has become primordial to manage adequately cash, receivables, and inventory. Nevertheless, the latter has not become a priority in practical terms, therefore affecting severely profitability in Turkey. For example, Turkish small and medium enterprises are likely to use the 'observation method' to identify the amount of inventory available, and this imprecise method causes problems of having too much or too little inventory which results in high costs of financing and low customer satisfaction which ultimately decrease profitability. In Ecuador, financial management is rarely used as well, especially among small and medium enterprises, which operate rather informally, and thus have little organization which negatively affect decision making and profitability (Crespo, 2015).

Similarly, Carsamer (2012) found that even though financial management is crucial to achieve enterprise growth and profitability, the adoption of this behavior is rarely observed among small and medium companies in developing economies such as Ghana. The lack of adequate financial management in that country is aggravated by increased drawings from company owners and poor road conditions that prevent entrepreneurs from opening bank accounts and deposit daily sales on a regular basis. This also holds true in Ecuador, where still many companies use informal practices and focus more on the daily operations, instead of carefully planning the business cash flow needs and financial objectives. These informalities prevent companies from efficiently exploiting its

resources, and increases risks in decision-making. (Lopez, 2012). By discussing a series of informal practices for Ecuador's context one can elucidate why their liquidity management has not been optimal. But now, the discussion must shift to the prevalent prototype of companies in this country, which demand serious attention to liquidity and its determinants.

#### *Alternative Ways of Financing*

Companies often face cash deficits due to their normal operations and lack of adequate planning. According to Benea and Duma (2013), financing with receivables is an optimal solution for this issue, by means of factoring, securitization and collateral. Cela et al (2013) describe factoring as a process where a specialized company assumes accountability of collection and management of accounts receivable to its clients. It is a form of short-term funding grounded on the sale of accounts receivable for an inferior value based on an interest rate for the service provided. Ravas and David (2010) add that the institution who bought the receivables profits when it collects a larger sum than the price it previously paid for the receivables. In Ecuador there are several companies as well as banks that offer this service, such as Investo, Solufactoring, Logos, Profactoring, Produbanco, Banco Bolivariano, among others. Yet, some Ecuadorian companies, especially microenterprises, are still reluctant to this option. According to Villavicencio (2010), the amount of operations by factoring was below two percent of the GDP in Ecuador. More studies should deepen social and academic understanding on why companies refuse this viable option to control liquidity.

Moreover, Jobst (2006) defines securitization as a process of converting a group of selected financial assets into "tradable liability and equity obligations as contingent claims backed by identifiable cash flows from the credit and payment performance of these asset exposures". The author adds that securitization acts as a tool of disintermediation by substituting capital-market based finance for



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credit finance, as it sponsors financial relationships between third parties without the lending and deposit-taking competences of banks. Furthermore, Jobst (2006) states that collateral uses account receivables to acquire short-term credits. The moneylender proposes a short-term loan against the unpaid invoices at a proportion of 65% to 85% of the face value for bills matured under 90 days. The lender does not own the invoice; therefore, it does not undertake accountability for collecting the remaining debt; making it a form of simplified factoring by pledging the invoices as bulk.

Tan and Ma (2016) describe another form of financing, which they call internal capital market. This version represents the transactions within conglomerates; it occurs when a member of a conglomerate is facing financial difficulties: it borrows money from its parent company or from other subsidiaries. However, this doesn't apply for the majority of microenterprises that comprise Ecuador's business sector.

The bond and stock market are also an alternative way of financing and obtaining liquidity. According to Jain and Shao (2015) an initial public offering (IPO) has the power to profoundly change the financial structure of a company as well as lessen its cost of capital. However, in Ecuador the number of transactions and companies that engage in IPO is extremely low. There are two main stock markets, Bolsa de Valores de Guayaquil (BVG) and Bolsa de Valores de Quito (BVQ). Nevertheless, the use of this alternative still remains low. For instance, as of May 5<sup>th</sup> 2017, there are only 403 companies registered as issuers in BVG, and the number of daily transactions is 65. Similarly, in BVQ the number of transactions is even lower: 36, and has 291 registered issuers as of April 2017. It can be speculated that this happens because most businesses in Ecuador are family-owned (93%<sup>4</sup>) therefore relatives are reluctant to share their capital with outsiders and lose control of decision making. Also, family businesses tend to be more hesitant about sharing their information, and prefer to avoid the costs associated with the process of becoming

certified issuers, as there are limited possibilities for them to make public offerings. Hence public offering generally isn't a viable option for small companies from developing countries. See Appendix Table No.4 for a summary of the described alternative ways of financing.

### *SMEs*

According to Ayyagari, Beck and Demirguc-Kunt (2003), the term SME covers a numerous descriptions and measures. These authors describe that the frequently used benchmarks include the number of employees, total net assets, sales and investment level. Yet, the most common definitional criteria applied is employment. In their study the cut-off range for a company to be considered SME is if it has up to 250 employees.

For the European Union, the main factors that determine whether an enterprise is an SME are staff headcount and either turnover or balance sheet total. With no more than 250 employees. Equal or less than €50m in turnover, and equal or less than €43m in balance sheet total (European Commission, 2017).

According to Caruso (2015), U.S. Industry Statistics from 2012 show that SMEs represent 99% of all firms in the country and provide 48.4% of total employment, making them extremely important for economic growth, innovation, and diversity. In the U.S., the definition of SMEs varies by industry, based on the North American Industry Classification System (NAICS). In manufacturing, for example, an SME is defined as having 500 employees or less, whereas in wholesale trades it is typically 100 employees or less. Similarly, in Canada the term SME is used to refer to businesses with fewer than 500 employees (Government of Canada, 2017).

In Ecuador, SMEs (commonly known as 'pymes' in Spanish), are mainly characterized by sales volume and number of employees; but also take into consideration production level and assets. For Ecuador, SMEs should have up

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<sup>4</sup> In 2015, 93% of Ecuadorian businesses are registered as family-owned according to Villagomez (2015)

to \$2 million in sales and no more than 199 employees (INEC, 2015).

SMEs represent a large portion of private sector in developed and especially in developing countries. However there is significant proof that small companies face greater growth limitations and have little access to formal sources of external finance. Nevertheless, specific financing tools such as leasing and factoring are highly useful in facilitating greater access to finance. (Beck and Demirguc-Kunt, 2006)

According to Wang (2004), SMEs contribute to the development of society and economy, as they stimulate employment, prepare entrepreneurs, fasten market competition, and preserve economic vivacity, among other functions.

For Sanchez and Llorens (2016), SMEs are a highly important driver of actual economic systems, given that they represent a significant proportion of employment. However, they argue that despite their importance these enterprises have least probabilities to access formal financing. The authors describe how financial limitations are motivated by their characteristics such as asymmetric information, agency problems and the high fixed costs that involve the scrutiny and monitoring of banks. Myers (1984) agrees with the latter as he stated that principally SMEs cannot assume they can borrow money as soon as the need arises mostly because of information asymmetries among them and lenders. See Appendix Table No. 3

## CONCLUSION AND RECOMENDATIONS

### *Conclusions*

After reviewing the literature found and analyzing authors' different perspectives, an initial key determinant of liquidity could be size, as bigger companies tend to be more

liquid and small enterprises which are highly common in developing countries are more exposed to liquidity crisis. In Ecuador according to INEC (2015) 90.64% were registered as microenterprises, which often times lack the adequate assets, access to financing and strong structure to survive a crisis (Marimuthu et al, 2014). Also, they have least probabilities to access formal financing (Sanchez and Llorens, 2016). To mitigate these risks, SMEs should be especially careful in monitoring their liquidity levels and planning in advance. They can implement liquidity ratios and the finance department should review them on a weekly basis, especially at the end of each month, comparing them with previous years and with their peers' results. The lack of planning, in the form of budgeting, forecasting the firm's cash requirements, expected sales and expenses, and future investments, often times generates drawbacks and fees such as costly loans and overdraft fees which directly affect liquidity and profitability and prevent a business from growing and sustaining through the years (Parrish and Frank, 2011). As stated by Drever and Hutchinson (2007) "the consequences of becoming illiquid can be severe to the point of bankruptcy or insolvency..." In a market relatively small as Ecuador<sup>5</sup>, illiquidity crisis tend to be even more dangerous because it is more likely that one troubled company can affect the other, and consequently a chain of late payments and even defaults can end up affecting a great number of institutions.

Moreover, there might be an existing gap in the matter of the ideal level of liquidity to maximize profitability, and vice versa. Both concepts have been studied carefully throughout the years, and its importance for a companies' effective functioning is highly recognized. However, in developing countries, especially in small and medium enterprises, they may not be revised as often as they should. All the metrics and ratios that many authors described are often times ignored, and not given the importance financial ratios deserve.

<sup>5</sup> According to World Bank Data, in 2015 Ecuador had a population of 16.14 million and a GDP of \$100,176.81 million. Compared to Argentina that had a GDP of \$584,711.49 million and a population of 43.42 million. While the United States, had

a population of 321.4 million and a GDP of \$18,036,648 million in the same year, reflecting the vast difference on their size.

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There is abundant theory about financial planning and how it can be applied to SMEs, however it has been proved by various studies that it is rarely applied among SMEs from developing countries. The studies describe how these companies tend to concentrate in the day to day operations of the business, and sometimes even do this in an informal way, and the planning and budgeting is merely revised and monitored. Repeatedly ignoring what authors such as Beaver (1966), Altman (1968) and Edmister (1972) emphasize about financial ratios' importance for the prediction of business failure. Thus, sustaining a suitable level of liquidity and constantly monitor it through financial ratios is crucial to prevent a serious liquidity crisis and even bankruptcy, and it demands careful planning on an ongoing basis (Nagy, 2014; Bubic, Mladineo and Susak, 2016). This fundamental relationship between liquidity and profitability is explained by Deloof (2003), Baños, Garcia and Martinez (2012), Nunes, Viveiros and Serrasqueiro (2012), Nunes and Serrasqueiro (2015), among others, which define liquidity as a key factor to sustain companies' profitability. This relationship can be partly described by the existing tradeoff between high amounts of net working capital and maximizing profitability, because the high values used in current assets tend to generate maintenance costs which do not add value to the company in a direct way.

#### *Recommendations*

There can be more research done to propose easier controls, like simple key performance indicators (KPIs), which "identify precisely where to take action to improve performance" (Weber and Thomas, 2005), so managers of these smalls firms can quickly detect if something is going wrong and needs immediate correction. An example of an important KPI that SMEs should apply is the Cash Conversion Cycle ( $\text{Days Inventory Outstanding} + \text{Days Sales Outstanding} - \text{Days Payable Outstanding}$ ), which indicates the period of time elapsed since the firm paid the raw material needed to produce the product until they charge for the sale of the product. Hence, the smaller its value, the faster the company can recover its cash from sales, the more cash on hand it'll have, thus the more

liquid the firm. Managers have to monitor that the cash conversion cycle don't increase significantly or it will signify an imminent liquidity problem (Lyroudi and Lazadiris, 2000). Other useful KPIs include: EBITDA (earnings before interest, tax, depreciation and amortization), ROA (return on assets), ROE (return on equity), Debt/Equity. Companies can effectively achieve controls such as calculation of KPIs by assigning a person from the financial department to be in charge of this matters, and constantly monitor and report results, at least at the end of each month.

In addition, when in need of cash and to prevent liquidity constraints, Ecuadorian businesses should opt more for alternative ways of financing, especially factoring, as a supporting instrument and occasional substitute of bank loans, which facilitate access to financing (Beck and Demirguc-Kunt, 2006) and can alleviate the cash flow cycle, and often times enables the business to better manage its liquidity (Benea and Duma, 2013), and consequently its operations and profitability.

#### *Limitations and future research*

There were limitations in the research since most academic papers focused on United States, Europe and even Africa but little research has focused on South America. Many liquidity concepts and metrics make reference to develop countries, which do apply them on a regular basis, thus there were not as many examples about the developing world. Also, there was a gap among various authors regarding how liquid a company should be, or an ideal level of liquidity based on its activity, which is a highly important aspect for a company's effective management and future performance. For now, this compilation of analyzed authors can serve as a guidance for many small local and international companies depending on their industry and type of economic activity, given that SMEs often face the issue of how liquid they should be in order to ensure prompt payments of their obligations but also to appear financially sound to potential lenders or investors (Drever and Hutchinson, 2007).

Also, empirical analysis can be done, to verify and contrast if the studies made in other countries could be applied to Ecuador. Finally, a highly interesting and guiding study would be to detect which are the key determinants of liquidity among Ecuadorian companies, by using historical financial and demographic information of local firms from various industries. This empirical tabulation would be the next step after this informative and conscientious report on why liquidity determinants could help secure Ecuadorian companies for the long term, despite the changing trends within the globalized business world.

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APPENDIX

**Table No 1 – Definitions of Liquidity/  
Liquidity vs Profitability**

Author	Year	Affirmation
Keynes	1937	There is no absolute standard of liquidity but just a scale of liquidity, different kinds of assets fulfill the need for liquidity in diverse degrees.
Beaver	1966	Financial ratios as a metric to evaluate credit worthiness of clients. Prediction of failure: inability of firms to cover financial obligations when due.
Altman	1968	How liquid firms should be, in order to ensure prompt payment and, at the same time appear to be financially healthy to potential lenders. Emphasizes the importance of using liquidity measures.
Edmister	1972	Ratio analysis useful for foreseeing business failure using three consecutive annual statements. The predictive power of ratio analysis is cumulative since no lone variable can foresee failure as sound as a group of variables.
Myers	1984	Liquidity has to be carefully measured given that companies cannot assume that they can borrow money every time they need it.
Davidson & Dutia	1991	Size is a key determinant of liquidity, small businesses have inferior current and quick ratios than large companies appearing to be less liquid.
Deloof	2003	Profitability (gross op income) = # of days accounts receivable; # of days inventory; # days accounts payable; cash conversion cycle; size (natural log of sales); sales growth ; financial debt ratio; fixed financial assets/total assets.
Drever & Hutchinson	2007	Age, collateral, profitability and bank overdrafts are important determinants of liquidity.
Ropega	2011	Small firms don't have adequate structure and assets to survive a liquidity crisis. They are obligated to engage in expensive debt to continue daily operations, affecting its profitability. Thus, face more threats since they don't have abundant financial resources that larger firms possess.
Baños, Garcia & Martinez	2012	Profitability (Gross Op Income) = working capital mgt = cash conversion cycle (accounts receivable/sales) x 365 + (inventories/purchases) x 365 - (accounts payable/purchases) x 365; Size (natural log of sales); growth of sales (sales1-sales0/sales0); Leverage (debt/total assets).
Diaz	2012	Liquidity represents the ability of a company to generate resources allowing it to meet its short-term commitments.
Nunez, Viveiros & Serrasqueiro	2012	Profitability (Op Ebit /Total assets) = Age (log of years existence), Expenditure R&D (Expend R&D/Total Assets), Size (log of total assets), Liquidity (short-term liabilities/current assets), Long-term Debt (median & long term liabilities/Total Assets), Risk (% variation of Op Ebit)
Lin, Zhao & Guan	2014	Top management occasionally alter the financial reporting procedure to attain personal gains, deteriorating the reliability of earnings in financial reports which will eventually harm the company's performance.
Marimuthu et al	2014	Effect of size on liquidity, concluding that SMEs must enhance asset management for greater value creation, improve their effectiveness of use of leverage and correct internal operations simultaneously.
Nagy	2014	To fulfill obligations on time, firms must maintain certain levels of liquidity, which demand careful planning and strategy on an ongoing basis.
Tomczak	2014	One of the root causes of business failure is the deficiency of monitoring of their financial condition.
Williams	2014	The higher the amount of resources the company owns, the greater chance for the company to survive.
Ayako, Githui & Kungu	2015	Factors such as large and independent board of directors have a positive impact on firm performance; a big board stimulates diverse opinions while board independence lessens agency costs by assuring more control, which is implemented on behalf of the investors.
Nunes & Serrasqueiro	2015	Profitability = size (log of sales), age (log of # of existence years), liquidity (total current assets/ total short debt), long-term debt (long term debt/total assets), R&D expenditure (R&D expense/total assets) and risk (absolute value of % variations of ebit).
Bubic, Mladineo & Susak	2016	Sustaining a suitable level of liquidity and constantly monitor it through financial ratios is crucial to prevent serious liquidity crisis, and help companies to be better prepared when problems arise. Liquidity is along with profitability a fundamental pillar of business management.



**Table No. 2 – Key Liquidity Ratios**

Author	Title	Year	Key Ratios
<b>Lyroutdi and Lazaris</b>	The Cash Conversion Cycle and Liquidity Analysis of the Food Industry in Greece	2000	<b>Cash Conversion Cycle:</b> (Receivables Conversion Period + Inventory Conversion Period - Payment Deferral Period)
<b>Deloof</b>	Does working capital management affects profitability of Belgian firms?	2003	<b>Working Capital</b> involves accounts payable, accounts receivable, and inventories. (Current Assets - Current Liabilities)
<b>Filbeck and Krueger</b>	An Analysis of Working Capital Management Results Across Industries	2005	<b>Days to Sales Outstanding</b> ratio (Accounts Receivable/ (Sales/365)), <b>Inventory Turnover</b> (Inventory/(Sales/365))
<b>Drever and Hutchinson</b>	Industry Differences In The Determinants Of The Liquidity Of Australian Small And Medium Sized Enterprises	2007	<b>Net Working Capital ratio</b> (Current assets – Current liabilities / Total Assets)
<b>Bellouma</b>	Effects of Capital Investment on Working Capital	2010	<b>Working Capital</b> = Current Assets – Current Liabilities
<b>Kirkham</b>	Liquidity Analysis Using Cash Flow Ratios and Traditional Ratios: The Telecommunications Sector in Australia	2012	Cash flow Ratios: <b>Price Over Cash Flow</b> (Share Price/Operating Cash Flow Per Share), <b>Cash Flow Margin</b> (Cash from Operations/Sales), <b>Quick Ratio</b> (Current Assets - Inventory/Current Liabilities)
<b>Toth, Ierna &amp; Peter</b>	Benchmark Values for Liquidity Ratios in Slovak Agriculture	2013	<b>Current Ratio</b> (Current Assets/Current Liabilities), <b>Quick ratio</b> (Currents Assets - Inventory/Current Liabilities), <b>Cash ratio</b> (Cash and Cash Equivalents/Current Liabilities)
<b>Tomczak</b>	Comparative analysis of liquidity ratios of bankrupt manufacturing companies	2014	<b>Current Ratio</b> = Current Assets/Current Liabilities
<b>Bubic, Mladineo &amp; Susak</b>	Vat rate change and its impact on liquidity	2016	<b>Quick Ratio</b> = (Current Assets – Inventories) / Current Liabilities

<b>BALANCE SHEET</b>		
Cash	5,000,000.00	
Marketable Securities	10,000,000.00	
Accounts Receivables	15,000,000.00	
Inventories	20,000,000.00	
Fixed Assets	25,000,000.00	
Current Liabilities	20,000,000.00	
Current Ratio	2.50	$(C2+C3+C4+C5)/C7$
Quick Ratio	1.50	$(C2+C3+C4)/C7$
Net Working Capital Ratio	0.40	$(SUMA(C2:C5)-C7)/SUMA(C2:C6)$
Working Capital	30,000,000.00	$SUMA(C2:C5)-C7$
Cash Ratio	0.25	$C2/C7$

**Table No. 3 - Characteristics of SMEs**

Author	Year	Characteristics
Ayyagari, Beck & Demirguc-Kunt	2003	Benchmarks: number of employees, total net assets, sales, and investment levels. Most common: up to 250 employees.
Beck & Demirguc-Kunt	2006	Greater growth limitations and little access to formal sources of external finance. Leasing and factoring to facilitate access to financing.
Drever & Hutchinson	2007	How liquid SMEs should be to ensure prompt payments of their obligations but also appear financially sound to potential lenders.
European Commission	2017	No more than 250 employees. Equal or less than €50m in turnover, and equal or less than €43m in balance sheet total.
Government of Canada	2017	Small: 1-99 employees, Medium: 100-499 employees. Small businesses account for about 30 % of Canada's GDP, while medium-sized businesses account for 9 %.
INEC - Ecuador	2015	Pymes: less than \$2 million in sales and no more than 199 employees.
Marimuthu et al	2014	Size as key determinant of liquidity, SMEs must enhance assets management for greater value creation, improve effectiveness of use of leverage and correct internal operations simultaneously.
Myers	1984	SMEs cannot assume they can borrow money from banks as the need arises because of information asymmetries between them.
Sanchez & Llorens	2016	SMEs represent a significant proportion of employment but have least probabilities to access formal financing.
Caruso	2015	Definition of SMEs varies by industry, in manufacturing SMEs have 500 employees or less, whereas wholesale trades have 100 employees or less.
Wang	2004	SMEs contribute to the development of society and economy, stimulate employment, prepare entrepreneurs, fasten market competition, and preserve economic vitality.

**Table No. 4 – Alternative Ways of financing**

Author	Year	Financing Method	Description
Jobst	2006	Securization	Process of converting a group of selected financial assets into tradable liability and equity obligations as contingent claims backed by identifiable cash flows from the credit and payment performance of these asset exposures. Acts as a tool of disintermediation by substituting capital-market based finance for credit finance, as it sponsors financial relationships between third parties without the lending and deposit-taking competences of banks.
Jobst	2006	Collateral	Uses account receivables to acquire short-term credits. The moneylender proposes a short-term loan against the unpaid invoices at a proportion of 65% to 85% of the face value for bills matured under 90 days. The lender does not own the invoice; therefore, it does not undertake accountability for collecting the remaining debt; making it a form of simplified factoring by pledging the invoices as bulk.
Ravas and David	2010	Factoring	The institution who bought the receivables profits when it collects a larger sum than the price it previously paid for the receivables.
Cela et al	2013	Factoring	Process where a specialized company assumes accountability of collection and management of accounts receivable to its clients. A form of short-term funding grounded on the sale of accounts receivable for an inferior value based on an interest rate for the service provided.
Jain and Shao	2015	Bond and Stock Market	An initial public offering (IPO) has the power to profoundly change the financial structure of a company as well as lessen its cost of capital
Tan and Ma	2016	Internal Capital Market	Transactions within conglomerates; it occurs when a member of a conglomerate is facing financial difficulties: it borrows money from its parent company or from other subsidiaries.