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Access to finance, working capital management and company value: Evidences from Brazilian companies listed on BM&FBOVESPA

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ABSTRACT

In this research, we have analyzed the impact of financial leverage on the relationship between working capital and company value and how financial constraints on access to financing affect this relationship. In addition, we have analyzed the relationship between working capital and company value. Using a sample of Brazilian public companies listed on BM&FBOVESPA from 1995 through 2009, we found evidence for the following conclusions: an extra Real (R$) of investment in working capital is significantly less worth, on average, than an extra Real (R$) of investment in cash; and, on average, increasing the level of working capital at the beginning of a fiscal year reduces company value.

1. Introduction

The corporate finance literature has traditionally focused on the study of long-term financial decisions, especially those relating to investment, capital structure, dividends or company valuation decisions. However, short-term assets and liabilities are important components of the total assets of a company and also need to be carefully analyzed. The management of these short-term assets and liabilities warrants careful analysis, considering that the management of working capital plays an important role for corporate profitability and risk, and hence for company value.

The importance of working capital management is not new in the finance literature. In general, a great deal of academic researches has focused on different individual aspects of working capital management: cash management and securities, like the studies of Kim, Mauer, and Sherman (1998) and Faulkender and Wang (2006); trade credit, like the study by Petersen and Rajan (1997), among others. However, Schiff and Lieber (1974), Sartoris and Hill (1983) and Kim and Chung (1990) reinforce the need to consider the joint effects of these individual aspects of working capital management. That is, we need to consider all these aspects simultaneously, as there is a mutual influence between them (i.e., the credit policy of a company influences its sales and, at the same time, the level of inventories and the use of trade credit). Thus, all aspects of managing the working capital influence each other and the company value.

Moreover, several empirical analyses show that there is statistical evidence for the relationship between a company's profitability and efficiency of working capital management (i.e., the profitability of a company is inversely proportional to its cash conversion cycle), like the studies of Shin and Soenen (1998), Deloof (2003), and Garcia-Teruel and Martinez-Solano (2007).

In this sense, since working capital is an important component of cash flow from operations, and cash flow from operations is part of the estimation of free cash flows, it is easy to conclude that the efficient management of working capital is value relevant to any company. So, we can state that efficient management of working capital is a key part of the overall strategy of any company to create shareholder value.

In order to test the applicability of this concept to the Brazilian market, we focus on the effect of working capital investment on company value. More specifically, we intend to analyze what value do shareholders place on an extra Real (R$) of working capital held by companies.

In Brazil, given the historical difficulty on access long term financing by local companies, working capital has fundamental importance as a tool for creating shareholder value. For a long time, the main (or the only) source of long term financing was the National Bank for Economic and Social Development (BNDES), but this source was restricted mainly to a few large corporations. Moreover, Brazilian companies commonly use short term financing sources as long term sources through the constant renewal of the credit lines. This is the case of ACC (Advances on Exports Contracts) lines, ACE (Advance against Draft Presentation) lines, factoring and bill discounting, which replace the long term credit lines, although they are considered short-term credit lines. In fact, these kinds of credit lines are indeed long term financing, given the almost automatic renewals of credit lines.

Besides, a company that faces financial constraints can be expected facing a higher financial cost when raising external funds. As a result, the marginal value of cash holding and the marginal

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value of working capital holding may be higher for these kinds of firms since internal funds enable the firms to avoid incurring this higher financial cost. Additionally, if these companies have good investment opportunities, the higher the cost of raising external funds, the higher the probability that these value-enhancing projects will be abandoned if internal funds are insufficient. So, we could infer that for financial restricted companies, higher cash and working capital holdings increase the likelihood of taking positive net present value projects that would otherwise be abandoned, whereas liquidity provides no such benefit for unrestricted companies.

By managing working capital efficiently, companies can reduce their dependence on external funding, and use the released cash for further investments, improving the company financial flexibility. Moreover, by managing working capital efficiently, a firm can lower their financing costs as less external funds will be needed to finance the working capital requirements.

So, the implied relationship between investment in working capital and financing raises the issue of how financing influences the valuation effects of investment in working capital. Consequently, we also focused on how constraints on a company's financing (its access to public capital markets) influence the effect of financing on the relationship between investment in working capital and company value.

Thus, we have two objectives in this study. The first one, using the large panel of firms, is to analyze the relationship between working capital investment and company value. To check the robustness of our results, we also focus our analysis on two sub-samples of companies that should differ in the value shareholders place on an extra Real (R$) of working capital investment in the firm. To do it, we divided our sample into commercial and non-commercial companies and into low and high stock exchange liquidity firms in order to test for differences in the value shareholders place on an additional investment in working capital between these sub-samples.

The second objective is to analyze whether specific financial characteristics of companies, particularly those that lead to financial restrictions on access to capital, affect this value (the tested hypothesis is that companies with better access to capital markets suffer a lower value reduction when funding the additional investment in working capital). That is, if shareholders believe that difficulty in accessing capital markets may sometimes lead firms to abandon value-creating investments, then the relative value of a Real (R$) of holding working capital may be worth more than a Real (R$).

Using the data on Brazilian public companies listed on BM&FBOVESPA from 1995 through 2009, we found evidence for the following conclusions: an extra Real (R$) of investment in working capital is significantly less worth, on average, than an extra Real (R$) of investment in cash; on average, increasing the level of working capital, at the beginning of a fiscal year, reduces company value; commercial companies suffer a smaller value reduction when they increase, at the beginning of the fiscal year, the investment in working capital; and, we cannot state that the financial leverage increase to finance the additional working capital investment reduces company value.

The study is structured as follows: after the Introduction section, item 2 will provide the literature review; item 3 will present the details of the selection criteria of the sample of stocks and the descriptive statistics for each used variable; item 4 will describe the methodological procedures used in this study; item 5 will focus on the analysis of results; and item 6 will present the conclusions, the limitations of this study, and proposals for future lines of research that can improve the knowledge of the topic addressed here. Finally, references are provided in item 7.

2. Literature review

The importance of working capital management is not new in the literature on finance. Some time ago, many researchers (Gupta, 1969; Gupta & Huefner, 1972) analyzed a range of financial indicators as part of the management of working capital, concluding that there are differences in the average profitability, activity, leverage and liquidity ratios among industry groups.

Over the years, a point that has received considerable attention from several authors is what optimal level of company working capital. Deloof (2003) and Howorth and Westhead (2003) confirm that companies seek to maintain an optimal level of working capital in order to maximize their value. There is also a long debate about the risk/return tradeoff among different policies for working capital, in which a more aggressive working capital policy is associated with higher returns and higher risks, while more conservative policies for working capital are related with lower risks and returns, according to Gardner, Mills, and Pope (1986) and Weinraub and Visscher (1998).

Shin and Soenen (1998) examine the relationship between different accounting measures of profitability and the cash conversion cycle (understood as a summary measure of efficiency of a company's working capital management). They conclude that companies that manage their working capital more efficiently (i.e. a lower cash conversion cycle) have higher operating cash flow and are potentially more valuable. Deloof (2003) analyzes a sample of large Belgian companies during the period 1992 to 1996 and the results confirmed that these companies could improve their profitability by reducing the number of days of accounts receivable and by reducing inventory levels. In the same vein, Garcia-Teruel and Martinez-Solano (2007) also suggest that managers can create value by reducing the average number of days of accounts receivable and inventory. That is, the studies have showed that as the cash conversion cycle increases it will lead to decreasing company profitability and managers could create a positive value for the shareholders by reducing the cash conversion cycle to a possible optimum level.

On the other hand, company cash and liquidity management has been the focus of some recent research, for example, Kim et al. (1998) and Faulkender and Wang (2006). Kim et al. (1998) study the determinants of liquidity and the company's decision to invest in liquid assets. Faulkender and Wang (2006) analyze the marginal value of cash levels as a function of differences in the financial policies of companies.

In the Brazilian context, we can state that academic research on working capital management is very limited and, moreover, the consulted Brazilian studies also relate to individual aspects of company management of working capital. In relation to trade credit, Bandeira (2008) confirms the hypotheses of substitution, complementarity and reputation for the use of trade credit and Brando (2010) finds evidence of supply of trade credit as a strategic element for those companies and presented evidence that companies with credit restrictions and lower gross margin offer more trade credit. Furthermore, Nakamura and Palombini (2010) study the determinants of working capital management in the Brazilian market and find evidence that the level of debt, size and growth rate can affect the company's working capital management.

Thus, both in Brazil and abroad, there is a range of academic research on various individual aspects of the working capital management. However, according to Schiff and Lieber (1974), Sartoris and Hill (1983) and Kim and Chung (1990), the joint effects of these individual aspects must be considered, as there are mutual influences between them (e.g., a company's credit policy will affect its sales and, at the same time, its inventory levels and supply of trade credit). Thus, all aspects of the management of working capital influence one another and the value of the company.

In this way, Kieschnick, LaPlante, and Moussawi (2009), using the methodology developed by Faulkender and Wang (2006), was the first research to show the relationship between working capital management and firm value for a sample of US firms. Using data on US corporations from 1990 to 2004 period, Kieschnick et al. (2009) find evidence for the following conclusions: (i) a dollar invested in net operating capital is worth less on average than a dollar held in cash; (ii) on average, an additional dollar of investment in net operating