Statistical Analysis of the Working Capital Policy Impact on Stock Return

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Abstract

Present master thesis investigates the impact of an aggressive or conservative Working Capital Policy on Stock Returns. Firms listed in the HDAX are studied for the time period 2005-2012. Results reveal a significant relationship between Working Capital Policy measurements and profitability as well as market value. The regression output demonstrates a strong impact of profitability on Stock Returns, while 2 out of 7 Working Capital Policy measurements show a significant effect on Stock Returns. However, a final statement concerning the relationship of an aggressive or conservative Working Capital Policy and Stock Returns cannot be issued. Nevertheless, it should be in firm's interest to develop a clear Working Capital Policy strategy and to implement this one consistently, due to the fact that such a policy seems quite influential on firm's profitability as well as its market value. Finally, these variables are significant for investors' investment decisions.

Key words: Working Capital Policy, Stock Returns, Profitability, Market value, Investors' investment decisions

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1   Introduction

Shares of companies are traded in the stock market, whereby the stock price determines the amount of company's funds. Therefore, the stock market is an important source of firms' finance in order to realize profitable investment projects and to maximize their enterprise value. (Mishkin, 2013, p. 46) Simultaneously, investors just signify their own willingness to invest if a company is able to provide the prospect of attractive returns. Thereby, the risk/reward of an investment plays a major role. Generally, companies, which achieve great economic success, are also able to provide attractive returns. With reference to investments, these companies will finally be preferred by investors. Due to this selection mechanism, companies have to secure sustainable economic success in order to create investment incentives. (Franke and Hax, 2009, pp. 369-370)

Mainly the German stock market is determined by actions of institutional investors. Therefore, the firm's stock price performances are significantly influenced by buying or selling decisions of these investors. Referring to the article of the named business magazine "Wirtschaftswoche", dated on May 2013, 63% of shares, listed in the German stock market "DAX", are held by institutional investors. In general, they are interested in investments with high expected returns. Hence, they indicate the incentive to gather information about firms, which shares their own, to monitor all activities of the management. Accordingly, monitoring management strategies seems quite necessary, due to the fact that managers become more interested in pursuing their own objectives, such as job security and empire buildings. Therefore, managers are more interested in meeting short-term earning goals, even if this contradicts to the objective of maximizing long-term value of institutional investors. (Callen and Fang, 2013, pp. 3047-3048) Thus, the investors have to ensure that firm's policy is oriented by shareholder value maximization, whereby this value is to define as the ability of the firms' management to increase for example profitability or dividends. Consequently, shareholder value maximization includes all strategic decisions, which have an impact on the amount of Free Cash Flows (FCF) over time. (Wiedmann and Heckemüller, 2003, pp. 49-50) Due to these facts, the **purpose** of the underlying thesis is to evaluate the relationship between companies' Working Capital Policy (WCP) and Stock Returns.

Several renowned studies[1] showed a significant relationship between Working Capital Management (WCM) and the profitability of firms, whereas the WCM was measured by firm's

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[1] See Literature Review

Cash Conversion Cycle (CCC). While researchers concordantly concluded, the ability of firms to generate higher profits by an effective WCM, the relationship between WCP and stock prices has not been focused by researchers yet. This thesis aims at closing this **research gap** by examining the impact of WCP on stock returns. Therefore, the **research question** of this thesis is defined by:

"Are Stock Returns statistically affected by an aggressive or conservative WCP?"

The **objective** is to provide statistical evidence of the relationship between firms' specific WCP and their stock returns. In order to achieve this goal, different WCP measurements will be used for the identification of companies' WCP, listed in the German stock market, whereby the assumptions (1) – (5) will be revised:

A (1): The WCP depends on benchmarks.

A (2): The WCP differs between industries.

A (3): The WCP is affected by economic conditions.

A (4): The WCP is positively correlated with firm size.

A (5): Firms, which are following a WCP, hold a shorter CCC.

Finally, the WCP impact on profitability, market value and stock returns will be assessed by investigating the following hypothesis:

H (1): There is a significant relationship between WCP indicators and Return on Assets.

H (2): There is a significant relationship between WCP indicators and Return on Equity.

H (3): There is a significant relationship between WCP indicators and Tobin's Q.

H (4): There is a significant relationship between WCP indicators, profitability and Stock Returns.

Investors are interested in information concerning company's profitability in order to derive future profit expectations. The validation of profitability is mainly measured by ratios. If stock returns are affected by firm's WCP, institutional investors can employ these ratios as an additional information source for their expectation formation. Furthermore, they should be concerned to ensure that firms are applying an effective WCP over the long-term horizon in order to maximize their shareholder value. This thesis enriches the finance literature on the relationship between WCP, profitability and Stock Returns.

The thesis proceeds as follows: Section 2 reviews prior literature. Section 3 describes the theoretical principles. Section 4 identifies companies' WCP, listed in the German stock market, and investigates assumptions (1) - (5). Section 5 reports the statistical results of WCP on profitability, market value and Stock Returns. Section 6 gives a more detail discussion on related literature. Section 7 shows limitations of this thesis and suggests recommendations concerning further research. Section 8 briefly concludes.

8   Conclusions

The thesis investigates the WCP of German companies, listed in the HDAX, as well as its impact on profitability, market value and Stock Returns for the time period from 2005 until 2012.

The proportion of different ratios to a benchmark is an indicator for the identification of firms' WCP. In order to prove the first assumption, the identification of WCP depends on the benchmark, two approaches have been applied: analysis by industry and firms' size. The outcome of the analysis by industry clarifies that for 22 of 38 companies a possible WCP could be evaluated. The analysis by firms' size reveals for 24 of 50 companies such a policy. These results illustrate an intersection of 14 companies with a WCP, whereby an identical policy regarding the IP as well as the FP could just be observed for 9 of 14 firms. This result reveals that the identification of WCP depends strongly on the benchmark and validates the first assumption. Furthermore, it is assumed that the WCP differ between industries. By analyzing firms' CCC this assumption could be confirmed and seems consistent to the results of other studies. Considering the GDP, IFO and LIBOR interest rates, representing macroeconomic variables, a link between these variables and the CCC of firms is notable. Consequently, the third assumption cannot be rejected. Analyzing the relationship between WCP and firm size, a negative correlation could be revealed, which contradicts the assumption number 4. Due to this fact larger firms hold a longer CCC and, therefore, a less effective WCP. For the investigation of the assumption number 5, the results of the WCP identification are linked with the average length of CCC. The findings accent that firms hold a shorter CCC by following a specific WCP.

The statistical results reveal a significant relationship between WCP measurements and profitability as well as market value. Additionally, the regression output demonstrates a strong impact of profitability on Stock Returns. However, a final statement concerning the **research question** whether stock returns are affected by a specific WCP cannot be issued since only 2 of 7 WCP ratios show a significant result. Nevertheless, it should be in firm's interest to develop a clear WCP strategy and to implement this one consistently, due to the fact that such a policy seems quite influential on firm's profitability as well as its market value. Finally, these variables are significant for investors' investment decisions.

From investors' point of view the WCP ratios should be considered in their investment analysis as an additional source of information due to the influential effect on profitability and market value.