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NET WORKING CAPITAL STRATEGY INFLUENCING BETA COEFFICIENT BASED ON COMPANIES LISTED ON NEWCONNECT ALTERNATIVE EXCHANGE IN WARSAW

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Abstract

The goal of this paper is to present the net working capital strategies relationship with the systematic risk ratio, namely beta coefficient, that is a measure of a stock's volatility in relation to the market. The strategy of financing assets reflected in net working capital is influencing the financial liquidity policy and the risk of the company thereafter. Decisions and strategies that are performed by management are assessed by investors when a company is listed on the exchange and should be reflected in share price volatility. The survey is based on quantitative analysis of NewConnect non-financial company data. The results of the analysis show that the relationship between net working capital indicators and beta coefficient is negative.

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Introduction

Net working capital (WCN) is a field in financial management that can be analyzed from the capital and asset point of view. When WCN is positive, it is indicating the long-term capital financing of current assets, in case its level is negative, it shows the extent to which fixed assets are financed by short-term liabilities. The level of current assets in relation to short-term liabilities influences the probability of fulfilling financial obligations because the higher current assets, the lower the risk, but on the other hand, it must be related to a higher equity level invested in a company, that influences, on the other hand, ROE.

The level of current assets may be determined based on optimization models of inventory, receivables or cash (Miller-Orr model for example). On the other hand, current assets level may be the result of equity invested in a company through IPO. If an IPO brings in more capital than was expected by a company, it can affect the level of current assets in a positive way, because not all capital will be invested in fixed assets, since these investment projects are limited. The additional amount of capital will increase the current assets level, cash, inventories or receivables and influence the financial liquidity of the company.

The strategy of financing assets is evaluated by investors, who asses managerial decisions in this area and determines their expectations of future returns. Volatility of stock prices is based on information appearing in relation to a company's performance, and the strategy of net working capital management, among other specific factors, should be reflected in the sensitivity of the prices in the context of the behavior of the overall market if this market if efficient. The beta coefficient is thus a measure of the risk, reflected in the sensitivity of share prices to the market index.

NewConnect is a market dedicated to young and developing companies, but other companies, that did not decide to enter the main market are traded there as well. Equity in these companies finances not only fixed assets but the commercialization costs, as well. The costs related to the commercialization phase are the marketing expenses and current assets high level. In the fast-growth phase a high level of inventories should cover client demand, receivables level is related to the long periods of payments that should be offered to clients and cash should be available for transaction and safety purposes. Such a high level of current assets in this phase supports the growth of young companies.

The goal of this paper is to present net working capital strategies linked to risk of a company that should be reflected in beta, the Capital Asset Pricing Model factor. The survey has been done based on the NewConnect exchange, the alternative market that after Brexit will be the biggest alternative exchange in the European Union.

Literature overview

Researchers have approached working capital management in numerous ways linking it to liquidity and risk management. While some studied optimal inventory management, others analyzed the management of accounts receivables trying to postulate an optimal policy that leads to profit maximization (Lazaridis & Tryfonidis, 2006). According to Deloof (2003), the way that working capital is managed has a significant impact on profitability of firms. Such results indicate that there is a certain level of net working capital, which potentially maximizes returns. It is generally concluded that working capital and therefore WCN management is important for creating value for shareholders (Shin & Soenen, 1998).

Firms may have an optimal level of net working capital that maximizes their value since the cost of capital is influenced by the risk arising from liquidity management. Large inventory and generous trade credit policy may lead to high sales. Moreover, large inventory reduces the risk of a stock-out. Trade credit may stimulate sales (Long & Malitz, 1993) especially in small and medium companies entering the market with a new product.

Another component of working capital is accounts payables. Raheman and Nasr (2007) state that delaying payment of accounts payable to suppliers can be an inexpensive and flexible source of financing. On the other hand, delaying of such payables can be expensive, if a firm is offered a discount for early payment. The strategy depends on the company's development stage. Small and medium companies entering the market build their credibility while the corporations use their competitive power to negotiate longer periods of payment, especially when the subcontractors are smaller companies in the supply chain.

Michalski (2012) has been looking for the relationship between liquidity and risk management. He found that accounts receivable management should contribute to the value maximization. Risk is part of the business

valuation process through a cost of equity and a discount rate in valuation models based on DCF. He presented the consequences that can result from operating risk to determine the level of accounts receivable in the enterprise. The change in the level of accounts receivables increases net working capital and influences costs of holding and managing accounts receivables. Michalski stated that beta (CAPM factor) can be used as a risk indicator in correspondence with accounts receivables management.

Michalski (2014) also states that current assets and cash in a company are maintained for risk reduction purposes in the area of company value maximization. Cash and current assets management should contribute to value maximization as well. Michalski discussed the consequences that can result from operating risk that are related to cash and current asset management policy. An increase in the level of current assets in a firm increases both net working capital requirements and the costs of holding and managing current assets and short-term liabilities. Both of them may decrease the value of the company but it depends on risk sensitivity and profitability. Beta coefficient is joined with liquidity strategy linking an aggressive strategy with higher beta and a conservative one, with lower beta.

Moreover Michalski (2016) has been focusing on financially efficient working capital decision model components and their applications in the field of risk sensitivity that influence the company's decisions on net working capital investments. Too low a level of net working capital leads some enterprises to negative changes in their sales levels and thus to lower profits. Investments in liquidity are a hedging instrument against individual risk sensitivity that is higher in the periods of crisis.

Kozakova and Pevna (2015) concluded that the most involved in the structure of net working capital are the short-term receivables; inventories are involved the least. They stated that short-term payables have a lowering effect on the level of net working capital. Cho (2015), on the other hand, analyzed empirically the determinants of net working capital. He found that WCN is positively associated with sales volatility in manufacturing firms. This implies that manufacturing companies are characterized by greater uncertainty of sales that employ more conservative working capital policy. WCN is also positively related to the firm size. This implies that companies with better capital market access have more conservative working capital policies. Cho found that WCN is negatively related to financial leverage. The determinants of net working capital in firm size also differ slightly. Net working capital is related to many factors influencing its level. It is possible that investors assess every kind of risk arising from separate areas of the business, or rather focus on the level of WCN and link it to the risk of a company.

The findings of Tahir and Anuar (2015) revealed that average collection period, net working capital level, current assets to operating income, current assets to sales ratio, and current liabilities to total assets have negative impact on return on assets, whereas the accounts payable period, inventory turnover, cash conversion cycle, net trade cycle, cash turnover ratio, current assets to total assets ratio, and current ratio have a positive relation with profitability. Sales growth and firm size have a positive relationship with profitability, while financial debt ratio, gross domestic product, inflation and interest depicted negative results. Current assets and short-term liabilities influence the net working capital level. Their optimal management should reduce cost of capital, increase sales and increase the value of a company.

Net working capital influences a firm's adjustments to operating-specific and financing-specific variables. Cash and cash equivalents, operating cash flow, and market power encourage firms to employ more aggressive working capital strategies. Firms with greater profit volatility and external financing costs employ more conservative working capital policies (Liu, Guo & Qui, 2014).

Researchers look for factors affecting net working capital and factors that are affected by WCN that influence the profitability and value of companies (Gill, Biger & Mathur 2010). The valuation models are mostly based on discount methods, taking into account the discount rate based on cost of capital, including cost of equity that may be calculated based on CAPM. Beta coefficient is indicating a systematic risk of a company assessed by investors in relation to the market index. Therefore, we can look for the relationship between net working capital and market indicators of risk that are used in the valuation models.

Model and data

Net working capital management is related to the way current and fixed assets are financed.

Current assets are financed from the payables, employees and other group obligations, short-term loans and long-term capital. These sources of financing

cover the positive difference between current assets and current liabilities, but they generate financial costs, too. In the case of loans or bonds, the interest rate is to be paid, and in the case of equity, an even higher cost is related to investors' expectations.

Net working capital determines the liquidity of the company as well. Positive WCN is related to high liquidity and conservative policy in this field, while the negative WCN is associated with low liquidity and aggressive policy. Net working capital level is closely connected to the production cycle influencing structure of assets and liabilities, especially the size of individual components of current assets and liabilities. Therefore, it is difficult to estimate the optimal level of net working capital that should be held by a company.

The working capital strategy is defined as a model consisting of goals, objectives and activities in the field of asset management and ongoing development of the appropriate structure for the sources of their financing. The aim of the conservative strategy is to maximize liquidity, while the aggressive strategy maximizes economic profit, and the moderate strategy is a variant between a conservative and aggressive approach.

A positive level of net working capital in a company is associated with a conservative strategy characterized by the following goals: high liquidity, the elimination of current threats, and maintaining of financial credibility. The management is focused on maintaining the market position and they adapt to existing market barriers, focusing thereby on the action in short periods of time. The cash conversion cycle is relatively long, and the company is financed by a high level of long-term capital, which strengthens the balance of payment of the company and its financial stability, but at the same time reduces the profitability of equity being a part of long-term financing. Some companies maintain a negative level of net working capital to maximize income over a long period of time through improvement of market position and competitiveness.

The level of net working capital oscillating around zero is associated with the moderate strategy, which is a compromise between aggressive and conservative policy, based on the assumption that the fixed capital should finance only fixed assets and current assets should be financed by short-term liabilities. In this strategy, the held constant assets in the company are financed by long-term sources (equity and long-term liabilities), the variable part of the assets are financed by short-term sources. The moderate strategy, generally known as zero working capital management, is relatively safe in terms of maintaining current liquidity, but while performing this strategy, the company should be characterized by the flexibility to acquire short-term capital, if necessary.

The size of net working capital has a large impact on the company performance and profitability and moreover the level and structure of capital determine financial liquidity. The structure of working capital changes is a result of certain decisions taken by the management company within the production cycle. They determine the purchase of raw materials for the production of goods, sales of finished products, as well as setting deadlines for receivables and payment of liabilities, and shortening and deferring these terms. The extension of the period of settlement of liabilities may undermine credibility. In contrast, when the level of capital is too high, it shows strong commitment to long-term capital in the current activities of the company.

The level of net working capital is considered by banks and other creditors of the company a measure of financial risk. A level that is too low may be the reason for limited confidence of banks and other financial institutions, which have an impact on the scope of the reduced lending and higher interest rates, taking into account the risk premium. The main objective of capital management should therefore focus on the optimal structure, which has the effect of minimizing the risk of loss of liquidity by the company, and at the same time, allows for high profits. This can occur through adjustment of current assets to the level and structure of fixed assets and implementation of strategy affecting the increase of the efficiency of assets, ensuring financial liquidity and optimizing the costs of maintenance of assets and its current financing.

There is no universal level of net working capital, but it can be determined on the basis of the optimum value of the key indicators related to the efficiency of the company's operations. The level of net working capital depends on the specifics of the company and the environment in which it operates. It can be argued that maintaining a low level of net working capital can be applied by companies that have the ability to take out short-term loans. In the absence of such opportunities, holding higher levels of cash appears to be a necessity. The low level of net working capital may also be associated with limited ability to get financing on the market.

Net working capital can be presented in relation to the level of assets held by the company, as shown below:

$$WCN / A = \frac{WCN}{A} \times 100 \quad (1)$$

where *WCN/A* - net working capital divided by total assets,

WCN – net working capital,

A – total assets.

This ratio indicates the extent to which net working capital finances the assets of the company. The negative level of this ratio may be accepted only for businesses with a high volume of cash sales (eg. warehouses, large retail entities), if they are successful in collecting enough cash to pay off current debts. In the case of other types of businesses, even low levels of WCN can indicate the threat for so called static liquidity.

Working capital conversion cycle presents the extent to which long-term capital is able to finance the operations of a company in days.

$$WCC = \frac{WCN}{S} \times d \quad (2)$$

where *WCC* – working capital conversion cycle,

S – sells,

d – number of days.

Working capital conversion cycle gives the number of days WCN will finance the business. Its negative value indicates, therefore, the number of days of the lack of capital. The longer the cycle of net working capital, the higher the liquidity of the company. This is because current assets are financed by capital that maintains sales over a longer period that is resistant to changes on the market. The aggressive policy of managing the liquidity will be reversed and a level of WCC will be associated with minimizing its value. It is important to maintain a constant relationship between net working capital and net sales.

Current ratio is also known as an indicator of static liquidity, showing the relationship of current assets to current liabilities of the company, thus, on the other hand, expressing the current liabilities financing fixed assets when its value is below 1:

$$CR = \frac{CA}{CL} \quad (3)$$

where *CR* – current ratio,

CA – current assets,

CL – current liabilities.

Current ratio is linking the issue of financial liquidity with net working capital strategies. These areas of management are similar and should be taken into consideration together, if the investors' wealth is to be maximized.

Cost of capital is related to investor requirements toward the share price. Managers determine the net working capital level (affecting current and fixed assets) and should assess the cost of capital.

An issue in estimating the cost of equity is given in the CAPM model:

$$CAPM = k_{RF} + (k_M - k_{RF}) \times \beta_e \quad (4)$$

where k_{RF} - risk-free rate,

k_M - market rate of return,

$_e$ - β coefficient of the company.

where beta is given by the following formula:

$$\beta_e = \frac{Cov(R_m, R_e)}{Var(R_m)} \quad (5)$$

where $_e$ - estimated beta of a company,

$Cov(R_m, R_e)$ - a portfolio and a company rate of returns covariance,

$Var(R_m)$ - market portfolio variance.

Beta determines the volatility of the company's value in relation to the market portfolio. The market has a beta of 1.0, and individual stocks are ranked according to how much they deviate from the market. A stock that is more volatile than the market has a beta above 1.0, and beta of a stock that moves less than the market is less than 1.0. Negative value of beta refers to the stock price movements opposite to the market.

NewConnect is an example of a growing market with companies very often in the phase of commercialization and just before it. The expectations related to the rate of return are based not only on market conditions but are influenced by the individual approach to the business of every company. Commercialization is more successful when a company invests capital in current assets to support development of the market and clients, especially when an innovative product is brought to the market. Accounts receivable are higher when clients are offered longer terms of payment and inventories are large enough to meet the demand at once. The impact of such a conservative strategy should influence the company assessment by investors.

A cross-section study has been run on a sample

of selected 350 non-financial companies, listed on the NewConnect Alternative Stock Exchange in Warsaw in the period 2007-2014. Observations of companies with negative equity on balance sheets have been removed from the database since their losses are higher than invested capital, meaning lack of development and success, even though some companies like those are traded on the NewConnect exchange.

The regression models verified in the paper include the dependent variable that is beta coefficient, and net working capital based variables describing the beta. Net working capital is related to the level of equity invested in a company and its cost. Cost of equity may be related to the beta coefficient, if CAPM is taken into consideration by investors. Net working capital is related to the strategy implemented by the company's asset financing in conjunction with an aggressive or conservative policy in this area. It is worth mentioning that the aggressive management should be associated with higher profitability, but also with higher risk, but on the other hand conservative management reduces the profitability and risk. It is expected that there exists a relationship between beta coefficient and net working capital strategy.

The linear correlation coefficient between the variables beta and WCN/A for a sample of 605 observations is -0.12. The value of the t-test statistics (for testing the significance of the correlation coefficient) is 0.08 at the significance level of p-value = 0.004. Therefore, we can state that the correlation between the indicators is negative and statistically significant. Next, the regression model was analyzed with beta being the dependent variable described by WCN/A. Table 2 presents the results of regression estimation:

Table 1: Descriptive statistics for 605 observations of beta and WCN/A

Variable	Mean	Median	Min	Max	St. dev.
Beta	0.36	0.02	-3.65	7.31	0.70
WCN/A	0.26	0.23	-1.38	1.00	0.34

Source: Own study

Table 2: OLS Estimation for a dependent variable (Y): Beta, no. of observations 605

	Coefficient	St. error	t-Studenta	p-value	
Const	0.42	0.04	11.82	<0.00001	***
WCN/A	-0.25	0.08	-2.90	0.004	***
Dependent variable mean	0.36		**Dependent variable st. dev.**		0.70
R-sq.	0.01		**Adjusted R-sq.**		0.01

Source: Own study

* Statistical significance at the 10% level, ** Statistical significance at the 5% level, *** Statistical significance at the 1% level

White's test for the heteroscedasticity of residues: Test statistics: LM = 0.578868, p-value = P(Chi- (2) > 0.578868) = 0.748687 indicates that there is no heteroscedasticity in the model. On the other hand test for the residual normal distribution: Test statistics: Chi- (2) = 570.936, p-value = 0,001 indicates no normal distribution.

We can carefully conclude that the increase/decrease in variable WCN/A unit will increase/ decrease the variable beta by 0.25 units, approx. 69% of the average value of this variable. The more net working capital invested in the enterprise, the lower the value of beta.

In the next step WCC and beta relationship will be presented. First, statistical analyses of variables were taken into consideration. Table 3 presents the results of the descriptive statistics analysis.

The linear correlation coefficient between the variables beta and WCC for a sample of 514 observations is -0.08. Value of the t-test statistic (for testing the significance of the correlation coefficient) is 0.09 at p-value = 0.06. The level of significance is more liberal, and it can be concluded that the correlation between the indicators is negative but with a low significance level. Next, parameters of the regression model were estimated, and the results are presented in Table 4.

We can carefully conclude that the increase/decrease of the variable WCC unit will increase/decrease variable beta of 0.0005 unit, or by approx. 0.1% of the average value of this variable. The relationship between the WCC

Table 3: Descriptive statistics for 514 observations of beta and WCC

Variable	Mean	Median	Min	Max	St. dev.
Beta	0.36	0.05	-3.65	7.31	0.71
WCC	81.05	68.83	-687.37	865.57	187.58

Source: Own study

Table 4: OLS Estimation for a dependent variable (Y): Beta, no. of observations 514

	Coefficient	St. error	t-Studenta	p-value	
Const	0.44	0.07	5.69	0.00	***
WCC	-0.00005	0.0003	-2.11	0.04	**
Dependent variable mean	0.32		Dependent variable st. dev.		1.01
R-sq.	0.01		Adjusted R-sq.		0.01

Source: Own study

* Statistical significance at the 10% level, ** Statistical significance at the 5% level, *** Statistical significance at the 1% level

White's test for heteroscedasticity: Test statistic: LM = 19.6286, with p-value = P(Chi-square (2) > 19.6286) = 0.001. Test for normality of residual: Test statistic: Chi-square (2) = 479.478, with p-value = 0.001. There is heteroscedasticity and no normal distribution in the model.

Table 5: Descriptive statistics for 494 observations of beta and CR

Variable	Mean	Median	Min	Max	St. dev.
Beta	0.37	0.064	-3.65	7.31	0.72
CR	2.89	2.17	0.02	9.94	2.32

Source: Own study

and the beta coefficient is negative.

Current ratio determines the liquidity risk and the higher the value of this ratio, the risk associated with the loss of liquidity of the company is lower, the same as profitability. Current ratio is an indicator of net working capital strategy as well. Table 5 presents the results of the analysis of descriptive statistics of CR and beta in a sample taken into consideration.

The coefficient of linear correlation between variables beta and CR for a sample of 494 observations is -0.10. Value of the t-test statistic (for testing the significance of the correlation coefficient) is 0.09 at p-value=0.03. We can therefore conclude that the correlation between the indicators is negative and statistically significant. Next, parameters of the regression model were estimated for the following model:

Table 6: OLS Estimation for a dependent variable (Y): Beta, no. of observations 494

	Coefficient	St. error	t-Studenta	p-value	
Const	0.42	0.04	11.82	<0.00001	***
WCN/A	-0.25	0.08	-2.90	0.004	***
Dependent variable mean	0.36		Dependent variable st. dev.		0.70
R-sq.	0.01		Adjusted R-sq.		0.01

Source: Own study

* Statistical significance at the 10% level, ** Statistical significance at the 5% level, *** Statistical significance at the 1% level

White's test for the heteroscedasticity of residues: Test statistics: LM = 1,54094, p-value = P(Chi (2) > 1,54094) = 0,462795 indicates no heteroscedasticity. Test for the residual normal distribution: Test statistics: Chi (2) =543,5, p-value = 0.001 indicates no normal distribution for the residual.

We can carefully conclude that the increase/decrease in variable CR unit will increase/decrease beta of 0.03 units, approx. 8% of the average value of this variable. The current ratio impact on the level of beta is showing that changes in stock prices take into account the decisions made by managers in the field of financial liquidity, defined as the ability to regulate the obligations.

Table 7 summarizes the Pearson correlation results between measures of net working capital and the beta coefficient.

To extend the survey, the sectors of companies traded on NewConnect were taken into consideration and the following results were obtained. First of all, while analysing the main sectors it was found that the statistically significant relationships mostly do not exist between the main variables. The only statistically significant results are presented below.

It can be carefully concluded that the impact of WCN/A on beta in the construction sector, as in the main research group, is negative.

It can be carefully concluded that the impact of WCC on beta in the trade sector, as in the main research group, is negative.

It can be carefully concluded that the impact of WCC on beta in the trade sector, as in the main research group, is negative.

It can be concluded that the impact of CR on beta in the media sector, as in the main research group, is negative.

Szczepankowski (2010) conducted research on the growth and development of NewConnect companies in terms of the sector using the growth and efficiency ratios and he found that the division into sectors does not work in the study on NewConnect. Moreover, the survey for

Table 7: Correlation between beta and net working capital indicators

	WCN/A	WCC	CR
Beta	- (-0.12)	- (-0.08)	- (-0.1)

Source: Own study

Construction sector

Table 8: Estimation for a dependent variable (Y): Beta, no. of observations 57

	Coefficient	St. error	t-Student	p-value	
Const	0.306335	0.313676	0.9766	0.3330	
WCN/A	−2.27121	1.04998	−2.163	0.0349	**

Source: Own study

* Statistical significance at the 10% level, ** Statistical significance at the 5% level, *** Statistical significance at the 1% level.

White's test for the heteroscedasticity of residues, Test statistic: LM = 6.27134, with p-value = P(Chi-square(2) > 6.27134) = 0.0434706. Test for normality of residual -Test statistic: Chi-square(2) = 996.461, with p-value = 0.0001. There is heteroscedasticity and no normal distribution in the model.

Trade sector

Table 9: Estimation for a dependent variable (Y): Beta, no. of observations 92

	Coefficient	St. error	t-Student	p-value	
Const	0.34012	0.0588	5.784	0.000	***
WCC	−0.0002	9.954e-09	−1.825	0.0713	*

Source: Own study

* Statistical significance at the 10% level, ** Statistical significance at the 5% level, *** Statistical significance at the 1% level.

White's test for the heteroscedasticity of residues: Test statistic: LM = 3.6405, with p-value = P(Chi-square(2) > 3.6405) = 0.1619. Test for normality of residual: Test statistic: Chi- square(2) = 24.2515, with p-value = 0.001. There is no heteroscedasticity in the model that has no normal distributed residual.

Media sector

Table 10: Estimation for a dependent variable (Y): Beta, no. of observations 42

	Coefficient	St. error	t-Student	p-value	
Const	0.728571	0.162614	4.480	<0.0001	***
CR	−0.0805480	0.0433637	−1.857	0.0706	*

Source: Own study

* Statistical significance at the 10% level, ** Statistical significance at the 5% level, *** Statistical significance at the 1% level.

White's test for the heteroscedasticity of residues, Test statistic: LM = 1.22264, with p-value = P(Chi-square(2) > 1.22264) = 0.542633. Test for normality of residual: Test statistic: Chi-square(2) = 1.35731, with p-value = 0.507298. There is no heteroscedasticity and residual is distributed normally.

positive and negative value of beta shows no significant results regarding the correlation and regression models with net working capital measures taken as descriptive variables.

Conclusions

The results indicate the relationship between the net working capital strategy and systematic risk measure, beta coefficient affecting the cost of equity calculated based on the Capital Asset Pricing Model. The results regarding the impact of net working capital on the level of beta show that the more conservative the approach to WNC, the lower the beta level. It can be concluded that the most aggressive approach to WCN is related to the negative high level of beta while the most conservative approach to WCN - to a high positive level of beta indicating that extreme aggressive and conservative approaches to net working capital generate higher risk. The results of research with the sector analysis confirmed the results obtained on the sample of all non-financial companies traded on NewConnect (without those with a negative equity value).

It can be concluded that net working capital management decisions affect the level of beta and the level of cost of equity as a result. The higher the cost of equity, the lower the value of a company, if we use a discount models for valuation. Young and growing companies, in the commercialization phase, should focus on net working capital management with relationship to investors' expectations. The direct factors affecting the WCN level, namely receivables, inventory and cash flow, support the development of a market and therefore should be taken into consideration by management of the company. Findings of the analysis presented in this paper confirm Michalski's (2014) statements and show, that the relationship between the net working capital indicators and beta coefficient is the same on the alternative exchange as on the main market. Investors assess the risk in the same way with no difference for company size and stage of development.

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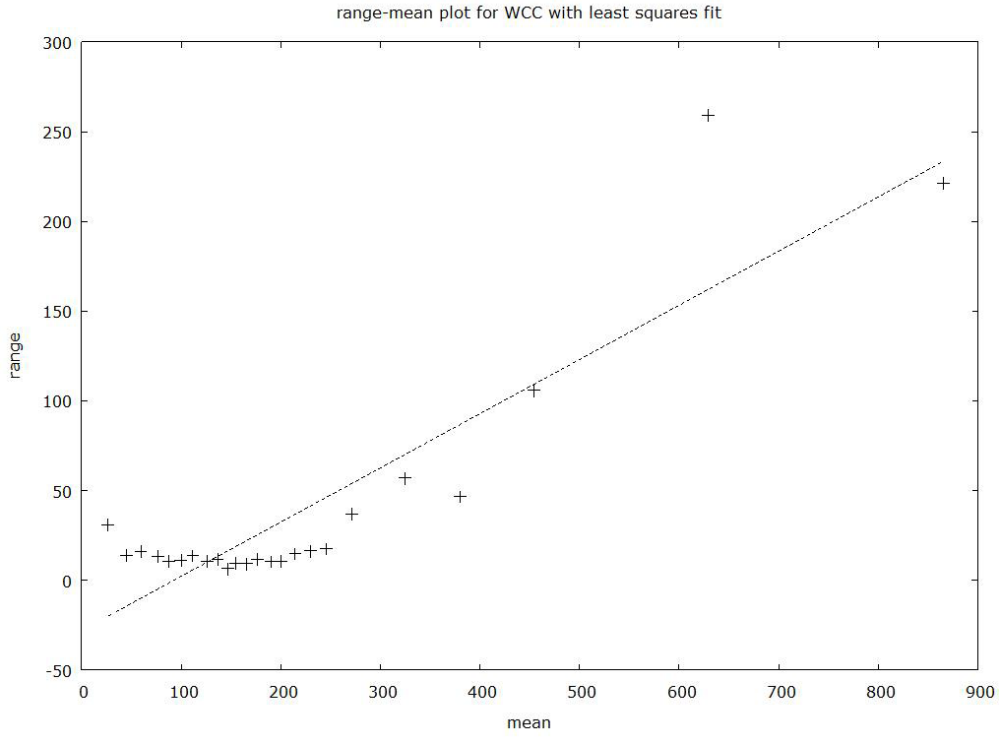
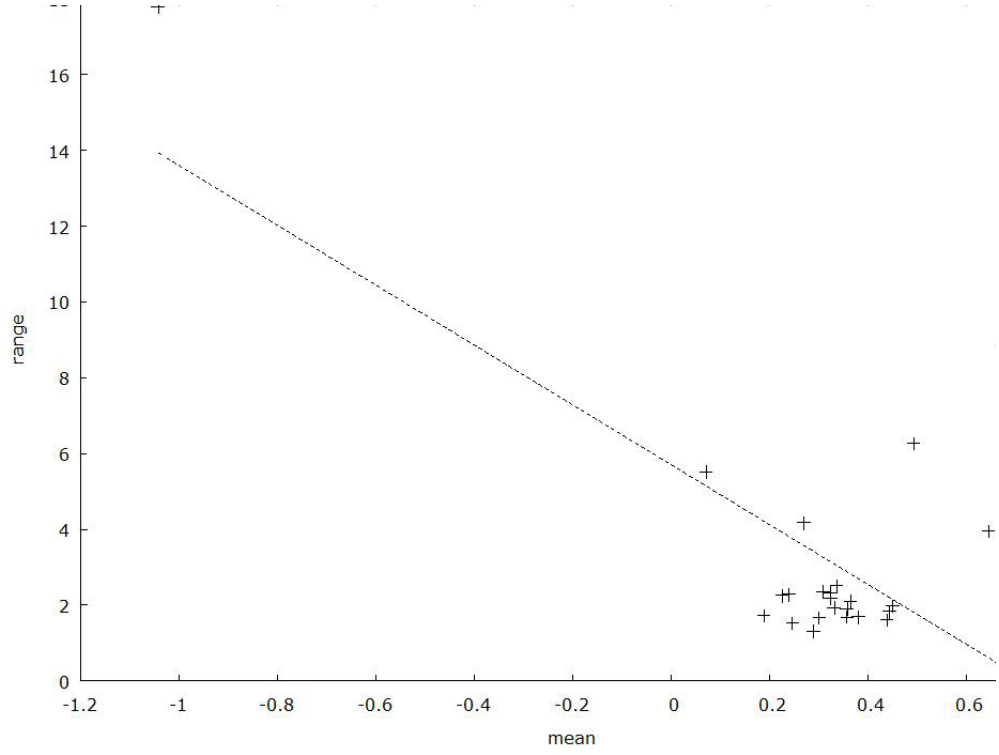
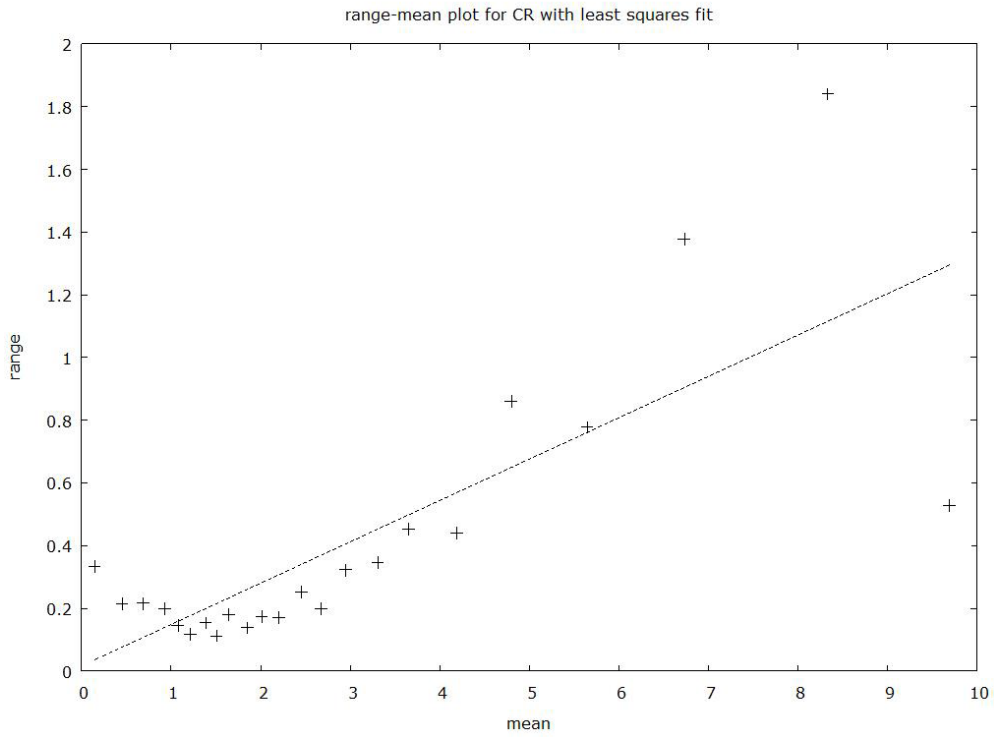
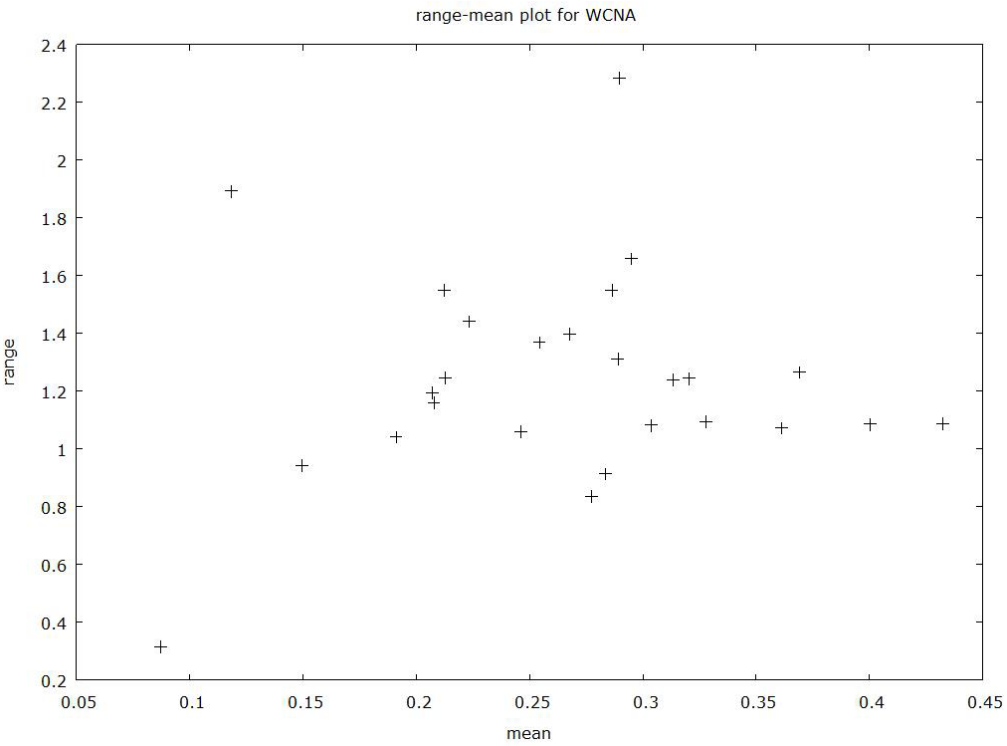
Appendix 1

Graphs representing the range and mean of every variable






range-mean plot for CR with least squares fit
range
mean
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
1
2
3
4
5
6
7
8
9
10


range-mean plot for WCNA
range
mean
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
2.2
2.4
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45