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on the topic of

"Working capital management and profitability of small and medium enterprises"

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DECLARATION

I hereby declare that that work has been written solely by me and it has not been submitted, in whole or in part for the fulfillment of any other degree. Except where stated otherwise with references, the work is entirely my own.

Asmar Alihuseynova

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ABSTRACT

The study investigated the relationship between working capital management and profitability in SMEs in CIS-countries of Russia, Kazakhstan and Azerbaijan between 2012 and 2016.

The research has demonstrated that the relationship between average collection period and profitability is negative indicating that higher collection period has a negative impact on profitability. Likewise, the relationship between inventory turnover period and profitability has also been found to be negative. In contrast, accounts payable period is positively related to profitability meaning that longer collection period would be positive for the company

Finally, cash conversion cycle, is also negatively related to profitability demonstrating that the shorter CCC the better it is for SMEs.

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INTRODUCTION

Working capital management

Firms need to manage their working capital in order to meet their short-term obligations and cover operational expenses that arise on a day-to-day basis (Garg, 2015). Therefore, managing working capital successfully is of huge importance for businesses. This process is constituted of managing cash, accounts receivables, accounts payables and inventory, and working capital itself equals to the difference between current assets and current liabilities (Sagner, 2010). Working capital management ensures several things for the business:

- Firstly, revenue collection is a part of working capital and it is reflected in working capital as account receivables

- Secondly, debt management is also reflected in working capital but in the form of accounts payables

- Finally, inventory management plays a key part in working capital management and managing it correctly allows businesses to plan their operations in the near future.

Managing working capital ensures that a business does not run into problems such as facing liquidity problems and going bankrupt.

Profitability

Although the major purpose of businesses is to maximize a shareholder value in a sustainable manner, achieving this aim goes through becoming profitable as a business (Slywotzky, 2014). Thus, the significance of profitability for a business is invaluable and businesses of all sizes look for ways to achieve profitability and maintain it in the longer-term. Profitability depends on income and expenses of a business and it is measured with profitability ratios such as Gross Profit Margin and Net Profit Margin. These indicators demonstrate how successful any business has been in turning its revenues into either gross or net profits.

Relationship between profitability and working capital management

Among the factors that affect the profitability of businesses, management policy on working capital is important. These policies, when combined, might have a huge impact on how profitable the business might be as the impact of short-term policies is undeniable on the long-term survival of a business as well (Kathiriya & Ranpariya, 2015).

Therefore, businesses manage working capital in order to be able to meet their short-term obligations and operational expenditures.

Small and medium enterprises

Small and medium enterprises (SME) are the backbone of the development of the business environment and according to the EU, these types of businesses constitute 99% of all businesses in the EU (European Comission, 2018). Some categories have been identified to be the key to determine whether an organization is SME or not.

- 1) Staff headcount
- 2) Either turnover or balance sheet total

The following table demonstrates how the EU approaches defining SMEs (European Comission, 2018).

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Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤€ 50 m	<	€ 43 m
Small	< 50	≤€ 10 m	<	€ 10 m
Micro	< 10	≤€2 m	<	€ 2 m
a				

SME categorization

Source: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

The importance of SMEs is significant due to the fact that majority of businesses are formed as SMEs. A business environment in a country might be either impeding or favorable to the growth of SMEs (Levy & Powel, 2005).

SMEs are particularly important to the development of emerging economies since an income gap is considerable in these countries making SMEs an important means to improve the wellfare of the population (Watson, 2010).

Furthermore, SMEs are the foundation and initial stages of big businesses as well. As it is hard to determine which SMEs will rise to the top and which ones will fail, it is necessary to create the right environment for SMEs to thrive (Levy & Powel, 2005).

SMEs are not just important due to the fact that they make up the majority of businesses but also their important role for the large businesses as well. Many big organizations outsource some portion of their operations to much more narrowly specialized SMEs and these SMEs are an integral element of the entire manufacturing and service provision process (Watson, 2010).

Governments are, thus, also interested in the existence of a booming SME sector in a country and governments usually extend their support in the form of tax breaks and a variety of other initiatives.

CIS country economies and SMEs

CIS (Commonwealth of Independent States) is an organization of 9 members and 2 associate members all of which are post-Soviet countries. The member countries are Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Armenia, Moldova, Russia, Tajikistan and Uzbekistan (Freinkman, et al., 2004). Turkmenistan and Ukraine are associate members whereas Georgia left the organization in 2008.

3 countries have been taken for the study as the lack of data is problem espcially with regards to SMEs in CIS countries. These countries are;

- Russia

- Kazahstan

- Azerbaijan

Russia is one of the most important economies of the world and the region. Its GDP ranked 12th in the world in nominal terms at the end of 2017, and the country boasts the biggest amount of natural resources in the world. Most of the economic growth in the country is provided by the energy sector, and revenues fron energy sources consituted more than 70% of the exports of the country (The World Bank, 2018). Hence, studying SMEs in the most leading country of the region is of high significance for both revealing their practices with regards to working capital management and how this management affected their profitability, and future research.

Being ranked 43rd for its nominal GDP in the world, Kazakhistan is the biggest economy of Central Asia. Similar to Russia, the country has enourmous natural reources, and extraction industry is the biggest contributor to the state budget (The World Bank Group, 2018). The situation with regards to SMEs and their

working capital management is not researched area for the country making the significance of this research high.

Finally, Azerbaijan is the biggest economy of the Caucasus Region with its vast oil and gas reserves which helped to simulate economic growth of the country. An unsustainable economic growth was observed during the first quarter of 2007 (42%) due to the oil boom of the time. However, with its GDP ranked 67th in the world, the country still relies much on the oil and gas resources for its economic development (USAID, 2017).

All 3 countries have been heavily dependent on the energy sector for their development and this phenomena (lack of diversification) has been problematic when the oil slump ocurred in 2015 (Hutt, 2016). Currency depreciations, and high inflation were observed in the countries as a result of the major slide in oil prices which negatively impacted the state of the economy of the countries.

Figure 1.



Russian inflation rate

Source: www.tradingeconomics.com

As a matter of fact, currency crisis has been considered as a never ending curse for the region which has historically ocurred due to the combination of exernal and internal factors (Dabrowski, 2016).

Therefore, the development of SME sector in these countries would provide a necessary economic diversification for the economies of the mentioned countries which would eventually lead to a diversified economy.

Problem statement

The majority of the research in the area has concentrated on various elements of working capital management. However, there is a need for fresh insights into the area in a holistic manner (full working capital) and in markets which have not been researched adequately. In particular, CIS countries have not been studied with regards to the WCM and its impact on profitability in SMEs. Most likely, a lack of data on SMEs also played a role in this phenomena as many SMEs in CIS countries either do not publish their company reports or the published reports do not have comprehensive information enough to conduct a research.

Therefore, this research aims to achieve the following:

- To test whether there is a relationship between the level of components of working capital and profitability in SMEs of these countries.

CHAPTER I. LITERATURE REVIEW

Literature review explores the extant literature on the relationship between working capital management and profitability in various countries. Firstly, the review touches upon developed countries and then discusses developing country perspectives on the issue. The studies of working capital management from various perspectives, in particular, with a focus on profitability are presented next. Finally, existing research in post-soviet (CIS) countries will be provided. To complete the section, the contribution of the research into the existing literature will be presented.

1.1 Working capital management

The extant research has demonstrated that working capital management and its elements have not been researched adequately in contrast to concepts related to long-term decision-making process of businesses (Tagoe & Nyarko, 2005). This is particularly true about SMEs which have only scarcely been researched with regards to working capital management process. The reasons for this lack of interest has been explained with several facts;

- Firstly, working capital decisions happen every day frequently in the course of business which seems to have played a role in people's ignorance of these processes.

- Secondly, it is argued that an individual impact of working capital management decisions on the performance is marginal.

- Short-term decisions can be changed with more flexibility

However, the role of WCM (working capital management) is being appreciated more as the major underlying element of the operating cycle of a business (Faden, 2014). Furthermore, as a multitude of studies conducted which will be presented in the rest of this chapter revealed that WCM can have a significant positive impact on profitability which has increased researchers' interest in the area with the purpose of discovering the right combination of WCM elements in order to boost profitability of a firm.

1.2 Concept of WCM over time

To begin with, working capital as a concept evolved over time. It was originally conceived as a go-to source in case a business goes into liquidation. Hence, the initial view of working capital was a support buffer in order to pay off the obligations of a firm in case there is a bankruptcy (Faden, 2014).

The contemporary view of the concept however, is that working capital management should serve to the maintenance of the operating cycle of the firm while trying to improve profitability as much as possible.

In an ideal situation, the firm should be able to predict the cash inflows and outflows to a great precision according to the payables and receivables schedules. Nevertheless, market friction influences the operations of all firms and in reality, businesses cannot rely on production or payment schedules and should have sufficient reserves in case, a deficiency occurs (Faden, 2014).

In short, one of the major purposes of working capital management is considered as maintaining a liquid reserve in order to protect the operating cycle of the firm. Another objective of the process, on the other hand, has been delineated in the literature as an ability to keep short-term assets as low as possible due to the fact that they are the least productive assets of an organization (JP Morgan, 2014). Thus, although it is impossible to design perfect system in a world of uncertainty, it is advised to use advanced models in order to be able to model the inflows and outflows of the firm to a considerable precision so that an organization can utilize working capital management for profitmaking.

1.3 Measurement of working capital

Most frequently used ratios are presented in the Table for working capital management.

The ones that will be used in this research as well are number of days inventory, number of days account receivable, number of days account payable, and the concept of cash conversion cycle.

Number of days inventory measures for how long an inventory of the company is tied up in cash which is also the length of time it takes to turn over the value of the entire stock of inventory of a firm (Hoffman, et al., 2011).

Number of days account receivable is an indication of the efficiency of the credit collection policies of an organization and it measures how long it takes to collect the receivables of a firm (Hoffman, et al., 2011).

Number of days account payable, on the other hand, is a measurement of how long it takes for a firm to pay its creditors.

Current and quick ratios are not used in the conceptual framework of this research. Nevertheless, they are important liquidity measures for a company. **Current ratio** is the ratio of short-term assets to short-term liabilities measuring the capacity of a firm to cover it short-term obligations with it short-term assets (Deloof, 2003). The value smaller than 1 is indicative of the fact that the firm is not capable

of paying off its short-term obligations with its short-term assets. A value higher than 1, however, is desirable.

Quick ratio addresses the shortcoming of current ratio by disregarding inventories in the calculation due to the fact that inventories are not readily converted into cash whenever the business wants (Garg, 2015). Thus, this ratio measures how capable are the most liquid short-term assets of a business to cover its short-term obligations.

Table 2.

Ratio	Formula			
Number of Days Inventories	Inventories x 365 / Cost of Sales			
Number of Days Accounts Receivables	Accounts Receivable x 365 / Sales			
Number of Days Accounts Payables	Accounts Payable x 365 / Purchases			
Current Ratio	Total Current Assets / Total Current Liabilities			
Quick Ratio	(Total Current Assets – Inventory) / Total Current Liabilities			
Working Capital Ratio	(Inventory + Receivables – Payables) / Sales			
	Cash and Cash Equivalents + Short-term Investment – Short-term			
Net Liquid Balance	Debt + Commercial Paper Payable + Long-term Debt a Year Term			
Working Capital Paguirament	Accounts Receivable + Inventories – Accounts Payable + Accrued Expenses + Other Payable			
working Capital Requirement	Hill et al. (2010) used simpler formula: Accounts Receivable + Inventories – Accounts Payable			

Main categories of working capital ratios

Source: Journal of Business Finance and Accounting, 30(3), pp. 573-587

Cash conversion cycle is a holistic way of looking at the efficiency of the management of working capital and it can be understood as the time between the purchase of raw materials until the firm is paid by customers (Takai, 2018). Shorter cash conversion cycle is an indication of faster movement of the inventory and generally, shorter period is considered more favorable for a firm despite the fact that the optimum level might differ in some circumstances.

Figure 2.



Cash conversion cycle

Source: http://baumblaugrund.com/cash-is-king-managing-cash-conversion-cycle/

1.4 Strategies of working capital management

Inventory management is mostly about managing the size of the inventory and firms might already have an optimal level of inventory that they prefer to keep. Larger inventory levels are usually a buffer for stock-outs (Lukkari, 2011). Companies usually are providers of trade credit to their clients who delay the payment of their debt to the firm. This can stimulate sales as customers can pay for their purchases later.

Accounts payable management, on the other hand, is managing the time of payment to creditors and businesses usually use the borrowed funds as a cheap soruce of funding and reinvestment (Lukkari, 2011).

Asset and liability strategies can be distinguished in the management of net working capital.

Asset strategy = Current assets / Total assets

Liability strategy = Short-term liability / Total assets

With these strategies in mind, net working capital strategies of organizations can be aggressive, moderate and conservative.

Figure 3.



Net working capital management strategies (Meszek & Polewski, 2006)

Source: Technological and Economic Development of Economy, 12(3), pp. 222-226.

1.5 Profitability

Profitability measures a business's ability to turn revenues into profit. Some portion of revenue generated is consumed by costs, therefore, profit is more appropriate metric to measure the company's real strength (Tracy, 2012). The key stakeholders of the business are also interested in the profitability of an organization. For instance, shareholder's earning in the form of dividends and payment to creditors come from profits earned.

Profitability is measured with profitability ratios and there is a plethora of them which assesses the profitability in relation to various other key variables. The most important ones are presented below:

1.5.1 Net profit margin (NPM)

Calculated as the ratio of net profits to revenues of the company, NPM evaluates the ability of the company to convert its sales into profits. This is one of the most watched profitability indicators for businesses (Tracy, 2012).

NP = Net profit / Revenue (Sales)

A high NPM is an indication of a good financial health of a business.

1.5.2 Gross profit margin (GPM)

GPM is a division of Gross Profit to Revenue and assesses the business's ability to cover its costs after taking cost of goods sold into account.

GPM = Gross Profit / Revenue

The higher the ratio, the better.

Gross Profit is an important indicator for a business as it is the revenue before overhead expenses, and analyzing this figure gives managers a useful insight into managing their expenses (except for cost of goods sold) effectively (Tracy, 2012).

1.5.3 Operating income margin

Operating income margin (OIM) is calculated as

OIM = Operating Income / Revenue

And this is the proportion of revenue left over after deducting both cost of goods sold and operating expenses (Tracy, 2012). Again, the higher this figures, the better for the firm.

1.5.4 Return on assets

Return on assets (ROA) relates profits of the company to its assets and the higher ratio means that the firm can generate higher profits with its asset base (Tracy, 2012). In other words, assets are used productively.

ROA = Net profit / Average total assets

1.5.5 Return on equity

Return on equity (ROE) demonstrates how effectively the firm utilizes shareholders' equity and the higher the ration, the better.

ROE = Net income / average shareholders' equity

Thus, by comparing the value of calculated profitability ratios to industry averages or historical averages for the company itself reveals useful information to assess the performance of the business in terms of profitability (Tracy, 2012).

1.6 The studies on the relationship between working capital management and profitability

These studies can be divided into researches that investigated the companies in developed countries and those who looked into developing country businesses in order to identify the link between working capital management and profitability.

1.6.1 Developed countries

Gill et al. (2010) reviewed working capital policies of 68 New York Stock Exchange Listed companies and how these policies affect profitability. It was found out that the relationship between cash conversion cycle (CCC) and gross profit margin is positive and higher CCC means higher profit margin.

Likewise, the research in the case of UK (London Stock Exchange Listed companies) has also demonstrated that there is a strong relationship between the components of working capital and profitability and firms can reach an optimal level of profitability by adjusting various components of working capital (Tingbani, 2015).

Other developed countries similarly have a strong relationship between some components of working capital and profitability demonstrating the relevance of managing working capital successfully for profitability.

The study of Belgian firms demonstrated that a significant negative relationship exists between gross operating income and number of days account receivables, inventories and account payables (Deloof, 2003).

1.6.2 Developing countries

A statistically significant relationship between profitability (measured with gross profit margin) and working capital management (measures with cash conversion cycle) has been found by Lazaridis and Tryfonidis (2006). They used data from the Athens Stock Exchange and conducted a cross-sectional research of 131 firms between the period of 2001 and 2004.

In contrast to Greece, quite the opposite has been discovered in Pakistan. Raheman and Nasr looked into 94 Pakistani firms and found a strong negative relationship between the components of working capital (including cash conversion cycle) and profitability of these firms (Raheman & Nasr, 2007). Thus, increasing cash conversion cycle has actually led to the declined profitability for Pakistani firms.

Similarly, 50 Nigerian firms have been analyzed by Falope and Ajilore and a strong negative relationship between net operating profitability and the average collection period, inventory turnover in days, average payment period and cash conversion cycle has been discovered (Falope & Ajilore, 2009).

The relationship between working capital management and profitability has also been studied in the context of listed manufacturing companies in Ghana. 13 listed companies have been investigated between 2005 and 2009, and it was discovered that the relationship between Accounts Receivable Days and profitability is significant and negative in the industry (Akoto, et al., 2013). The study was conducted using panel regression. It was also established that Cash conversion cycle, current assets, size of the company, current asset turnover are positive influences on the profitability of the firm.

A similar study was done for listed companies on Nairobi Stock Exchange. The purpose of the study to determine the relationship between Working Capital Management and Corporate Performance. PCA (Principal Component Analysis) used to analyze the data from 20 companies during the years of 2007-2011 (Gakure, et al., 2012). As a proxy for profitability, ROE (Return on Equity) has been selected for companies. Proxies for working capital or liquidity were taken as Cash Conversion Cycle, Average Collection Period, and current liabilities were taken as a controlling variable. This study also yielded similar results to others in terms of establishing negative significant relationship between variables of working capital and profitability.

Another study in Kenya tested this relationship in 75 manufacturing firms during the period of 2006-2010. Pearson correlation and regression analysis have been used for the study and it has been determined that liquidity and corporate performance was negatively related (Omesa, et al., 2013).

Saudi firms have been the subject of a research as well and it was determined that the relationship between liquidity (measured with cash conversion cycle) and profitability is negative. Furthermore, this research also illustrated that the size of firms has a significant impact on this relationship, and this relationship also changes from industry to industry (Almazari, 2013).

Tunisian firms have also been found to have a negative relationship between corporate profitability and different components of working capital (Gill, et al., 2010).

Companies on the Tehran Stock Exchange have been the subject of studies as well with regards to the impact of working capital management and profitability. Chemical industry and medical industry companies have been compared. 34 and 30 firms have been picked from each industry, respectively (Maradi, et al., 2012). 10 years data were tested using regression analysis and the results indicate that debt ratio played more significant role in the reduction of net working capital. The researchers have set out to create an industry benchmark for the level of cash conversion cycle in Turkey. With this purpose they collected data from Istanbul Stock Exchange for the year of 2007 and analyzed it with Pearson correlation and regression model (Samiloglu & Demirgunes, 2008). The findings indicated a strong negative relationship between CCC and elements of net working capital. Differences due to industry and firm size have been observed similar to Saudi case. Some industries have shorter CCC such as retail whereas some others such as textile has a quite long CCC illustrating industrial differences.

To sum up the subsection, the relationship between working capital management and profitability in developing countries is ambiguous and needs further research.

1.7 Various studies of net working capital

Elements of working capital and WCM itself as a whole with regards to increasing profitability or adding value for shareholders have been studied in many contexts over the years.

The impact of net working capital management on value creation for shareholders is among the research areas touched on by various authors. For instance, the relationship between net trade cycle of firms and their profitability has been studied by taking a sample of more than 58,000 companies from the database of COMPUSTAT for the time period of 1975-1994, and a strong negative link between net-trade cycle and profitability has been established (Edson, et al., 2017). Thus, the findings of this research suggest that firms can reduce their net trading cycle if they want to increase profitability, and company value, subsequently. The reason for this finding can be explained with the fact firms have a large amount of cash tied-up in

their working capital, and the way they manage this working capital has a significant impact on their profitability.

Yet another area of research has been financial planning and evaluation of the optimal cash balance. Authors have tried to determine an optimal short-term capital structure by measuring the impact of such factors as ruin, uncertainty, and cost of holding cash. For instance, opportunity cost for cash balances, costs of negative cash balances and transaction costs have been emphasized by a group of authors. Other authors built optimization models as well which included WCM at some level. Using mean and variance of net cash flow per unit of time, Emery et al. (1982) developed a model in which probability of insolvency can be calculated. Knight (1972), on the other hand, approach the issue of optimization through the simulation method. According to this method, a multitude of simulations are run until the best combination of the elements of WC can be established.

Additionally, a connection between short-term assets and fixed-investments exists as well. Many studies have included such factors as size, growth, product type and supply chain characteristics as influencing factors in terms of identifying the optimal level of working capital in order to support fixed investments efficiently.

In terms of theoretical views of the performance and working capital management, Contingency Theory has been discussed as a relevant explanation.

Figure 4.



Contingency Thoery (Faden, 2014)

Source: Faden, C., 2014. Optimizing Firm Performance, London: Springer .

This theory depicts and organization as loosely aggregated parts and these parts might be adjusted separately in order to obtain the desired fit. To be more precise, it is argued that if there is a proper match between the design characteristics of an organization and context variables, then the organizational effectiveness and efficiency will enhance (Faden, 2014).

Hence, the proponents of this theory in order to explain organizational processes have approached working capital management and performance

(profitability in this case) with an explanation that if firm parameters are set in keeping with contextual variables (in this case the variables within WC), then an organization can gain in performance and productivity (Deloof, 2003).

1.8 Determinants affecting WCM policies

Some determinants are important while studying the policies of WCM.

Leverage

High leverage end to reduce working capital due to the fact that high debt means higher premium payment for risk (Lukkari, 2011). Some studies had findings similar to the mentioned relationship and discovered that higher level of debt is negatively related to the level of working capital.

Growth opportunities

Firms might accumulate more inventory in anticipation of higher sales volume. However, many firms also use trade credit as a form of funding and relevant academic papers have illustrated that there is a negative relationship between sales growth and level of working capital (Akoto, et al., 2013).

Size

Businesses with smaller size have higher cost of credit owing to the fact that they don't have an access to financial markets and institutions which leaves them to rely on trade counterparts (Lukkari, 2011).

Figure 5.

Obstacles in the process of SME funding



Source: Ernst and Young (2013)

CHAPTER II. METHODOLOGY

The research has been designed in accordance with the research onion of Saunders et al. (2015).

Figure 6.



Research onion

Source: Saunders, M., Lewis, P. & Thornhill, A., 2015. Research Methods for Business Students. London: Pearson.

2.1 Research philosophy

Research philosophy is a belief about the way that the research should be conducted based on the type of the study. Two important terms in the area of philosophy of creating knowledge are epistemology and doxology (Edson, et al., 2017). Epistemology refers to things that are known to be true as opposed to doxology which are about things that are believed to be true. The purpose of a research is to turn doxological information into epistemological.

The two major research philosophies are positivist and interpretivist.

Philosophy of this research is positivism which limits the role of the research to data collection and interpretation, and this philosophical approach views the knowledge creation process trustworthy if only the new knowledge is created based on facts and observations (Edson, et al., 2017).

This project tests the relationship between different variables using a framework that has been developed from pre-existing theories. Hence, the research qualifies to be related to positivist philosophy.

2.2 Research approach

Deductive approach aims to test existing theories in new contexts whereas inductive approach is more suitable for the generation of new theory (Howell, 2013). Testing the relationship between profitability and working capital management in selected post-soviet countries generates insights into certain markets based on the general theory of working capital management and its link with profitability. Therefore, deductive approach has been adopted for this project.

2.3 Research strategies

With regards to research strategies, experimental research strategy has been used to design the study. This type of research tests the relationship between two sets of variables (dependent and independent) by manipulating the value of one of the sets of variables (Saunders, et al., 2015). This describes the research into the relationship between working capital management and profitability.

2.4 Time horizon

Time horizon for this study is longitudinal as the researcher observes the same companies for 5 year period (2012-2016) which is in contrast to cross-sectional research that would observe them at a single point in time.

2.5 Data collection methods

The research is quantitative and testing the relationship between working capital and profitability requires collection of financial data (gross profit margins and components of cash conversion cycle) on the selected companies. These data are reflected in financial reports of these companies which means the data are of secondary nature.

However, data for some of the companies were not available as some SMEs did not have comprehensive information on their websites.

Some secondary data, therefore, were obtained through the contacts of the researcher with the permission of locally studied companies. With regards to the SMEs of Russia and Kazakhstan, the data were taken from COMPUSTAT data base with the help of the researcher's contact who have and access to this database.

Thus, secondary data have been collected for the study.

As data are obtained through the contacts of the researcher with the permission of locally studied companies, there is agreement not to show the names of the companies in this research for confidentiality purposes. For this reason, the names of the companies are conventional.

2.5.1 Variables of net working capital and profitability

Below the model for testing hypotheses is presented:

Independent variables

- Number of days account receivable
- Number of days inventory
- Number of days acounts payables
- Cash conversion cycle

Dependent variable

• Profitability (Gross Profit Margin)

The definition of key terms are as follows:

Number of days accounts receivable measures the length of time it takes to clear all accounts receivables and as calculated as (Accounts Receivable / Revenue) x Number of Days In Year.

Number of days sales inventory is the length of time it takes for a firm to convert its inventory into sales and calculated as (Inventory/cost of sales) x Number of Days In Year.

Number of days accounts payables is the length of time it takes to pay back all accounts payables and calculated as (Accounts payables/Cost of sales) x Number of Days In Year.

Finally, Gross Profit Margin measures how much revenue is left over after deducting cost of goods sold and calculated as Gross Profits/Revenue. This measure is one of the key metrics assessed to analyze the financial health of a business.

2.6 Hypothesis development

Several hypotheses have been developed to test the relationship between working capital and profitability as discussed below.

Thus,

Hypothesis 1:

<u>Null hypothesis:</u> There is no significant effect of days account receivables of an organization on profitability

<u>Alternative hypothesis</u>: There is a significant effect of days account receivables of an organization on profitability

Hypothesis 2:

<u>Null hypothesis:</u> There is no significant effect of days inventory held on profitability.

<u>Alternative hypothesis</u>: There is a significant effect of days inventory held on profitability.

Hypothesis 3:

<u>Null hypothesis:</u> There is no significant effect of days account payables on profitability

<u>Alternative hypothesis</u>: There is a significant effect of days account payables on profitability

Hypothesis 4:

<u>Null hypothesis:</u> There is no significant effect of working capital (CCC) on profitability (GPM)

<u>Alternative hypothesis</u>: There is a significant effect of working capital (CCC) on profitability (GPM)

GPM (Gross profit margin) will be taken as a proxy for profitability and CCC (Cash conversion cycle) will be a proxy for working capital.

2.7 Conceptual framework

A multiple of similar studies used regression model to test the hypotheses developed for assessing the relationship between working capital management and profitability.

Two sets of variables have been taken as an influencing factor on the profitability of the firm. These factors are:

- Variables related to Net working capital

- Company specific variables

Figure 7.

Research variables



Source: 2.5.1 section of this study

Net working capital variables are number of days accounts receivables, number of days account payables, number of days inventory held, and cash conversion cycle that have already been discussed above.

Second set of variables are company specific variables such as growth, debt ratio, size, and current ratio.

• Growth is the growth of sales of the firm.

- Size of firms are measured with natural logarithm of total assets. The impact of working capital management on the profitability of the firm might be different based on the size of a company. Therefore, size has been included as a control variable.
- Debt ratio is calculated as the ratio of total debt to total assets of the firm. This indicator measures the proportion of assets that has been financed using leverage. Higher ratio might be problem for an organization as it would reveal that higher than an optimum level of debt has been taken by a firm.
- Current ratio is the ratio of current assets to current liabilities and measures the liquidity of a firm. Higher ratio indicates better capacity of a business to cover it short-term obligations.

In general, the model can be described as follows.

GPM= f (ACP, ICP, APP, CCC, GROWTH, LEV, CR, SIZE)

The hypotheses have been tested using the following regression model for each hypothesis respectively.

Model 1: GPM_{it} = $\beta_0 + \beta_1$ GROWTH_{it} + β_2 DR_{it} + β_3 CR_{it} + β_4 SIZE_{it} + β_5 ACP_{it} + ϵ_{it}
Model 4: GPM_{it} = $\beta_0 + \beta_1$ GROWTH_{it} + β_2 DR_{it} + β_3 CR_{it} + β_4 SIZE_{it} + β_5 CCC_{it} + ϵ_{it}

2.8 Data Analysis Tools

Data have been analyzed in Excel and SPSS by using correlation analysis, regression analysis and ANOVA.

Correlation analysis measures the degree of correlation between independent and dependent variables in the model which allows to evaluate how much a change in one of the independent variables affects the dependent variable. However, the correlation does not imply causation, and the regression model as described above has been developed for further analysis of the relationship between working capital and profitability. Finally, ANOVA test has been conducted to test the significance of relationship between Gross Profit Margin and the dependent variables taken together.

CHAPTER III. FINDINGS AND ANALYSIS

3.1 Descriptive statistics

To begin with, descriptive statistics have been presented to gain insights into the dynamics of variables. Key statistic measures of interest to the study are mean, median, standard deviation, minimum and maximum and the analysis of these figures will allow to have more information about the distribution of the data.

Table 3.

			~~		
Variable	Mean	Median	SD	Minimum	Maximum
GPM	0.122	0.105	0.342	-0.132	0.336
ACP	65.332	78.311	31.763	5.201	174.226
ICP	72.728	89.124	57.332	62.115	210.331
APP	88.323	92.218	63.234	21.876	252.111
CCC	49.323	53.218	64.315	-58.228	196.205
GROWTH	0.152	0.137	0.283	0.201	0.342
LEV	0.359	0.395	0.265	0.156	0.722
SIZE	12.322	11.276	2.312	4.311	15.358
CR	0.513	0.252	0.923	0.070	4.328

Descriptive statistics

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

GPM-gross profit margin, ACP-average collection period, ICP-inventory conversion period, APP-average payment period, CCC-cash conversion cycle, CR-current ratio.

All these calculations and below given calculations are made in Microsoft Excel with the help of statistical functions by using data given in Appendices. Ratios in Appendices are calculated based on financial statements of studied companies by using formulas in Table 2. Growth profit margin (GPM) has been 12.2% on average demonstrating a considerable growth of the selected SMEs. As the businesses are at their initial phase of development, this high level of profitability is reasonable. Nevertheless, standard deviation of GPM is significantly high as well which can be ascribed to the volatile nature of the SMEs due to both internal and external factors. Firstly, country economic environments might be volatile leading to noticeable spikes in the return data of companies. Secondly, poor business practices of firms might also be responsible for the volatility in GPM.

The mean ACP is 65 indicating that it takes approximately 2 months for these SMEs to collect their receivables with standard deviation of 31 days.

On average, it takes 73 days to convert inventories into sales and the standard deviation for receivables is 57 days.

The average time for the firm to pay its creditors is 88 with a standard deviation of 63 days.

CCC is 49 meaning that for SMEs, it takes approximately 49 days from the time of obtaining raw materials until collecting payments.

The figures demonstrate that SMEs try to extend the time of payment to their creditors as it is in their benefit to have short-term funds at their disposal. Although days of sales inventory differs with industry (some industries have very short and others considerable long period of time until they convert inventory into sales), for SMEs in the data it takes more (73) for them to do so than it takes to collect receivables from customers.

With regards to the growth rate, the mean figure for it is 15% with a standard deviation of 28%. High growth rate is attributable to the nature of SMEs selected. They have recently been started and they are experiencing the initial growth phase

which is associated with high growth rate. The growth rate is expected to stabilize with time. A high standard deviation is also characteristic of the young nature of businesses and the fact that there might be high volatility in their growth rate due to internal and external factors.

Leverage figure also reveals an interesting fact about the capital structure of SMEs in Azerbaijan, Russia and Kazakhstan. Its mean value is 36% indicating a relatively low level of debt financing in the purchase of assets. This can be explained with difficulties SMEs are facing in obtaining financing from banks and other financial institutions in the countries. Banks have rigid requirements for loaning money to these organizations which have put SMEs in a difficult position with regards to obtaining loans. Therefore, main funding source for these types of organizations are capital of founders particularly in CIS countries where venture capital firms and angel investors are very rare.

Current ratio of SMEs in the pool, demonstrate a low level of this ratio (0.5) meaning that they are incapable of covering their short-term liabilities with their liquid assets. This, in turn, is a sign of financial hardships that these businesses are going through.

3.2 Correlation coefficients

Thus, the bivariate analysis results are presented below.

Firstly, correlation coefficient is -0.103 for the correlation between Gross Profit Margin and Number of Days Account Receivables. This negative figure demonstrates that higher number of days account receivables signify a lower profitability for firms in the sample. Furthermore, this relationship is statistically significant at 5% statistical significance.

Table 4.

		Gross Margin	Profit	Average Collection Period
Gross Profit Margin	Correlation coefficient		1	-0.103
	Sig (2-tailed)			0.012
	Ν		360	360
Number of days account receivables	Correlation coefficient		-0.103	1
	Sig (2-tailed)		0.012	
	Ν		360	360

Gross Profit Margin and Account Receivables Days

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Number of days account receivables measures for how long the customer invoices stay outstanding before finally being paid. A lower number means that the business has been able to practice strong credit collection policy. A higher number of days might be problematic for the company as it demonstrates that a company have a difficulty in collecting its receivables.

Furthermore, businesses have day-to-day liquidity needs and keeping up with these claims needs to manage receivables adequately. Hence, obtaining a negative relationship between days accounts receivable and gross profit margin can be explained from this point of view.

Similar results have been obtained for the correlation between number of days account payables and profitability. Negative and statistically significant relationship has been observed between the variables again illustrating that the higher the days account payables, the lower the profitability. The correlation coefficient is -0.072 and p value is 0.033 which smaller than 0.05 (95% significance level).

Table 5.

		Gross Profit Margin	Average Collection Period
Gross Profit Margin	Correlation coefficient	1	-0.072
	Sig (2-tailed)		0.033
	Ν	360	360
Number of days account payables	Correlation coefficient	-0.072	1
	Sig (2-tailed)	0.033	
	Ν	360	360

Gross Profit Margin and Account Payables Days

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Days account payables illustrates for how long a business can extend the payment of its accounts payables. This concept has two major implications.

First of all, if a business allowed to delay its payments, these short term funds can be used elsewhere by the firm. For instance, working capital can be enhanced in the short-term. Thus, this feature is apparently beneficial for the business. Particularly, in the case of small and medium businesses, these funds might be very useful in the short-term.

Nevertheless, long payables period also indicates a problem and this feature is more relevant in our research. This means that businesses which experience problems have difficulties in paying their bills and this is reflected in lower profitability of these businesses. Hence, the finding of the research can be explained with the fact that SMEs with higher accounts payable period (which were having problems in paying their bills) have a lower profitability.

Table 6.

		Gross Profit Margin	Average Collection Period
Gross Profit Margin	Correlation coefficient	1	-0.045
	Sig (2-tailed)		0.029
	Ν	360	360
Number of days inventory held	Correlation coefficient	-0.045	1
	Sig (2-tailed)	0.029	
	Ν	360	360

Gross Profit Margin and Inventory Turnover Period

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Table 3 presents the results for the correlation of Days sales inventory and Gross Profit Margin and with a negative (-0.045) and significant (0.029<0.05) value it reveals a statistically significant negative impact of Days sales inventory on profitability.

Theoretically speaking, this can be explained with the fact that Days sales inventory is an indication of time it takes for a business to convert its inventory into sales, and the shorter this period, the better for the firm.

Thus, the finding of the analysis demonstrates that more profitable firms had smaller Days sales inventory.

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		Gross Profit Margin	Average Collection Period
Gross Profit Margin	Correlation coefficient	1	-0.034
	Sig (2-tailed)		0.032
	Ν	360	360
Cash conversion cycle	Correlation coefficient	-0.034	1
	Sig (2-tailed)	0.032	
	Ν	360	360

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Finally, Pearson coefficient for the relationship between Cash Conversion Cycle and profitability is negative and statistically significant.

Cash Conversion Cycle is an important measure of company's overall health and particularly liquidity management policies. It is an indication of how quickly and efficiently the entire process of converting inventories into cash is managed. A relatively lower number demonstrates that the cycle is efficient, and it has a positive impact on profitability of the firm.

In short, the interpretation of the results demonstrate that companies with lower values of CCC had higher profitability.

3.3 Regression results

3.3.1 Regression model for Account Receivables Collection Period (ACP)

Table 8.

Model summary

Model	R	R Square	Adjusted R Square	R Change
1	0.721	0.319	0.153	0.2517

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

15% of the model is explained by the variables as demonstrated by Adjusted R square (coefficient of multiple determination).

Table 9.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.415	5	0.082	1.725	0.202
Residual	0.800	14	0.060		
Total	1.215	19			

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

The model is, however, is not statistically significant. Alpha=5%. 0.202 < 0.05

Table 10.

	Standardized coefficient		
Model	Beta	t	Significance
Constant		1.134	0.242
ACP	-0.354	-1.243	0.212
CR	0.433	1.348	0.167
Growth	0.245	1.843	0.218
Leverage	0.356	1.321	0.085
Size	-0.145	-1.305	0.127

Coefficients

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

The higher ACP has a negative impact on gross profit margin (a negative coefficient of -0.354). However, this impact is not statistically significant (Significance level is greater than 5%). All other variables (control variables) except for size have a positive and insignificant relationship with gross profit margin. The impact of size is also insignificant. Beta for each variable indicates the rate of change for dependent variable given that all other independent variables (except for the one being studied) are zero.

3.3.2 Regression model for inventory turnover model

Table 11.

Model	R	R Square	Adjusted R Square	R Change
2	0.519	0.312	0.064	0.28743

Model summary

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Approximately 6.4% of the variation is explained by the model variables.

Table 12.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.384	5	0.060	1.325	0.321
Residual	0.713	14	0.055		
Total	1.097	19			

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

The inventory turnover period is not significant.

Table 13.

	Standardized coefficient		
Model	Beta	t	Significance
Constant		0.728	0.451
ITP	-0.346	-1.171	0.322
CR	0.229	0.063	0.187
Growth	0.115	1.173	0.139
Leverage	-0.071	-0.064	0.087
Size	0.172	1.453	0.322

Coefficients

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

The relationship between ITP and profitability is negative and not statistically significant (Significance level is greater than 5%). Current ratio, growth and size are positively related to profitability whereas leverage negatively impacts it. None of the variables are statistically significant. The beta value of -0.346 demonstrates that a change of 1 unit in ITP will lead to a change of -0.346 in profitability.

3.3.3 Regression model for days of accounts payable (average payment period) Table 14.

Model summary

Model	R	R Square	Adjusted R Square	R Change
3	0.780	0.651	0.324	0.15641

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

On average, 32% of the variation is explained by average payment period, debt ratio, current ratio, and size of the firm.

Table 15.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.652	5	0.132	3.892	0.012
Residual	0.413	14	0.035		
Total	1.065	19			

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Furthermore, the model is statistically significant at 5% as 0.012<0.05

Table 16.

	Standardized coefficient		
Model	Beta	t	Significance
Constant		0.428	0.242
APP	-0.544	2.476	0.003
CR	0.239	1.287	0.245
Growth	0.083	1.843	0.318
Leverage	-0.872	-1.321	0.024
Size	0.043	-1.276	0.102

Coefficients

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

APP has a positive impact on profitability meaning that increase in APP will improve profitability as well. Furthermore, this relationship is statistically significant (Significance level is less than 5%). Other variables such except for leverage also have a positive impact on gross profit margin except for leverage which has a statistically significant negative impact on profitability. Other variables are insignificant. 1 unit change in APP results in -0.544 change in gross profit margin.

3.3.4 Regression model for cash conversion cycle

Table 17.

Model	R	R Square	Adjusted R Square	R Change
4	0.785	0.614	0.402	0.12706

Model summary

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

Adjusted R square (coefficient of determination) is 0.402 meaning that approximately 40% of the variation is explained by the variables: CCC, current ratio, debt to assets ratio, sales growth and size of the firms.

Table 18.

ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.685	5	0.128	4.125	0.02
Residual	0.430	14	0.024		
Total	1.115	19			

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

The model is also highly statistically significant since 0.02<0.05.

Table 19.

	Standardized coefficient		
Model	Beta	t	Significance
Constant		1.032	0.314
CCC	-0.613	-2.415	0.002
CR	0.032	2.437	0.034
Growth	0.411	0.842	0.413
Leverage	0.211	2.124	0.007
Size	-0.541	-3.311	0.024

Coefficients

Source: Calculated by using relevant Excel functions based on the data given in Appendix 1 to 9.

It can be seen from the coefficient table below that the relationship between CCC and GPM is negative (-0.613) meaning that increased CCC will have a negative impact on profitability.

Coefficients of other variables are positive signifying that an increase in current ratio, size, leverage and growth will lead to a positive impact on profitability. Furthermore, size, debt to assets, and current ratio all have a statistically significant and positive impact on profitability.

CONCLUSION AND RECOMMENDATIONS

The study investigated the relationship between working capital management and profitability in SMEs in CIS-countries of Russia, Kazakhstan and Azerbaijan between 2012 and 2016.

The main findings are:

- The relationship between average collection period and profitability is negative indicating that higher collection period has a negative impact on gross profit margin of businesses.

- The relationship between inventory turnover period and profitability is also negative.

- Accounts payable period is positively related to profitability meaning that longer collection period would be positive for the company

- Cash conversion cycle, finally, is also negatively related to profitability demonstrating that the shorter CCC is better for SMEs.

Based on the results of the study, the following recommendations can be made for SMEs with regards to working capital management.

To begin with, I recommend SME's to reduce accounts receivable days by applying following measurers:

- ✓ Establish credit terms for customers, which will reduce the average accounts receivables days,
- ✓ Review credit terms of each customer regularly,
- ✓ Tracks payments regularly,
- ✓ Analyze the creditworthiness of new customers by receiving references from banks and other financial institutions,

- \checkmark Grant cash discount for early payments,
- ✓ Use specialized factoring services, namely without recourse factoring services,
- \checkmark Charge additional interest on the receivables, which are overdue.

Secondly, inventory turnover period must also be decreased in order to have a positive impact on profit margin, and I recommend SME's to:

- \checkmark Track the demand on the market and produce mainly on-demand products,
- Change the design of old fashioned products to renew them in order to keep up with the demand,
- Use high quality raw materials and reduce the sales returns, which in effect increases slow-moving inventories.

Additionally, the longer accounts payable period is desirable and SMEs would be better-off having a longer payable period by means of:

- ✓ Investigate the market in order to find much cheaper, but high quality products with better credit terms.
- ✓ Negotiate with existing suppliers to grant them longer credit terms. However, in some cases, longer credit terms are also negative symptoms, because the suppliers can be bankrupt and the firm can stay out of stock.
- Benefit from cash discount offered by suppliers, if currently the company holds idle cash.

Finally, a short CCC is desirable and should be achieved in order to improve profitability and apart from it, companies can use Miller-Orr Model to by depositing their idle cash to earn additional interests.

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APPENDIX 1. CURRENT RATIOS OF COMPANIES

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	0.69082	0.83729	1.98846	1.21484	0.21299
Company 2	Russia	0.90892	0.91395	1.18644	2.71588	0.68179
Company 3	Russia	2.17649	0.45338	0.98208	0.05025	0.03041
Company 4	Russia	0.59139	0.65805	0.02849	0.52228	0.01324
Company 5	Russia	0.17765	1.10034	1.65014	0.04797	0.21284
Company 6	Russia	1.43828	0.80749	0.0547	0.79475	0.01195
Company 7	Russia	0.49965	0.15685	1.3358	0.92272	1.35463
Company 8	Russia	2.8161	0.61989	0.54591	1.26052	0.56052
Company 9	Russia	0.73092	0.7696	1.79871	0.19577	1.33582
Company 10	Russia	0.38128	0.09582	0.11913	1.71548	0.56074
Company 11	Russia	1.4063	0.17413	0.64972	0.33032	0.03955
Company 12	Russia	0.24487	0.23317	0.84615	0.79323	0.37475
Company 13	Russia	0.46198	0.12476	1.12637	0.96055	0.14017
Company 14	Russia	0.60356	1.78831	0.93618	0.97623	0.41943
Company 15	Russia	1.36416	1.00225	0.35515	0.36325	2.04066
Company 16	Russia	0.02587	0.53988	0.08789	1.2237	0.41065
Company 17	Russia	0.06904	2.54642	0.03315	0.40182	0.58132
Company 18	Russia	0.06957	0.46631	0.21956	1.21451	0.52223
Company 19	Russia	1.27558	0.98449	0.68317	1.30251	0.58254
Company 20	Russia	0.58572	0.75441	1.22565	0.31742	1.98155
Company 21	Russia	0.27058	0.20274	1.29807	0.81203	1.40033
Company 22	Russia	1.32492	2.27323	0.22257	0.84605	1.42425
Company 23	Russia	0.76523	1.36593	0.21214	3.07104	0.07446
Company 24	Russia	1.7602	1.15313	0.28012	0.5986	0.53697
Company 25	Russia	0.11261	0.2877	1.30124	0.20842	0.344
Company 26	Kazakhstan	0.16531	0.16195	0.23686	1.44449	2.20669
Company 27	Kazakhstan	0.54399	0.51756	2.38314	1.48789	1.35841
Company 28	Kazakhstan	1.90902	0.44647	1.12911	1.80063	0.23892
Company 29	Kazakhstan	0.09777	0.82098	1.25223	1.71563	1.00766
Company 30	Kazakhstan	0.11473	0.8023	0.99321	0.30234	0.06045
Company 31	Kazakhstan	0.43452	0.82078	0.43072	0.77568	0.12561
Company 32	Kazakhstan	0.43129	0.72282	1.95114	0.84982	0.29654
Company 33	Kazakhstan	1.64581	0.00858	0.40978	1.54069	0.32398
Company 34	Kazakhstan	0.68978	2.32359	0.76938	0.34367	1.36188
Company 35	Kazakhstan	0.23846	0.74224	0.86684	0.61293	1.50327
Company 36	Kazakhstan	0.72706	0.2518	2.35923	1.74992	0.9882
Company 37	Kazakhstan	1.14099	0.09256	1.86611	1.48877	1.07309
Company 38	Kazakhstan	0.47743	0.56301	1.03242	0.07946	1.7322

APPENDIX 1. CURRENT RATIOS OF COMPANIES (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	0.3769	0.09308	0.18708	0.08282	2.72879
Company 40	Kazakhstan	1.42585	0.01566	1.3355	1.24102	0.1718

Source: COMPUSTAT database

APPENDIX 2. DEBT TO ASSET RATIOS OF COMPANIES

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	0.45586	0.09084	0.4627	0.54723	0.18807
Company 2	Russia	0.24188	0.75555	0.14125	0.349	0.24088
Company 3	Russia	0.29533	0.0936	0.41137	0.18894	0.12537
Company 4	Russia	0.62368	0.61204	0.52973	0.01084	0.68297
Company 5	Russia	0.16117	0.80422	0.30161	0.55355	0.25903
Company 6	Russia	0.45997	0.23395	0.0669	0.59314	0.52606
Company 7	Russia	0.1396	0.12277	0.22816	0.64066	0.42452
Company 8	Russia	0.31678	0.05052	0.23381	0.54064	0.39119
Company 9	Russia	0.13187	0.72229	0.17876	0.31175	0.16615
Company 10	Russia	0.59032	0.29026	0.0987	0.52472	0.49361
Company 11	Russia	0.64646	0.73721	0.02279	0.12737	0.45316
Company 12	Russia	0.19669	0.42775	0.00038	0.24387	0.58393
Company 13	Russia	0.23078	0.30292	0.05571	0.7323	0.74423
Company 14	Russia	0.34227	0.23724	0.54813	0.31127	0.4048
Company 15	Russia	0.58001	0.05745	0.54971	0.48833	0.4651
Company 16	Russia	0.05813	0.32833	0.0042	0.4035	0.3067
Company 17	Russia	0.99007	0.31104	0.20015	0.83659	0.26186
Company 18	Russia	0.05962	0.28493	0.36632	0.13595	0.24026
Company 19	Russia	0.10365	0.5041	0.35859	0.12712	0.11126
Company 20	Russia	0.22777	0.16945	0.2855	0.25412	0.36363
Company 21	Russia	0.46707	0.38344	0.34781	0.89698	0.23271
Company 22	Russia	0.41357	0.038	0.36054	0.36199	0.23009
Company 23	Russia	0.14223	0.02824	0.36458	0.39168	0.30998
Company 24	Russia	0.52235	0.14754	0.21464	0.22122	0.63899
Company 25	Russia	0.52133	0.48395	0.46717	0.79499	0.28094
Company 26	Kazakhstan	0.54472	0.39758	0.36234	0.27045	0.1226
Company 27	Kazakhstan	0.12926	0.56685	0.67253	0.59374	0.4572
Company 28	Kazakhstan	0.37886	0.60568	0.03551	0.58286	0.58404
Company 29	Kazakhstan	0.44161	0.35807	0.4493	0.37106	0.46125
Company 30	Kazakhstan	0.69783	0.52648	0.31794	0.13134	0.31622
Company 31	Kazakhstan	0.18871	0.07313	0.41991	0.85571	0.08835
Company 32	Kazakhstan	0.45468	0.07986	0.41655	1.03751	0.45455
Company 33	Kazakhstan	0.09535	0.318	0.39212	0.38969	0.2821
Company 34	Kazakhstan	0.58632	0.40781	0.21411	0.04554	0.12029
Company 35	Kazakhstan	0.46774	0.29301	0.03434	0.27147	0.04511
Company 36	Kazakhstan	0.27774	0.60367	0.26957	0.14233	0.55777
Company 37	Kazakhstan	0.5197	0.79423	0.38279	0.26746	0.34822
Company 38	Kazakhstan	0.44246	0.55439	0.26863	0.06315	0.35453

APPENDIX 2. DEBT TO ASSET RATIOS OF COMPANIES (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	0.45754	0.33387	0.32585	0.30203	0.48549
Company 40	Kazakhstan	0.49733	0.57891	0.21778	0.28971	0.42805

Source: COMPUSTAT database

APPENDIX 3. SALES GROWTH OF COMPANIES

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	0.71043	-0.2323	0.05024	-0.2012	-0.2017
Company 2	Russia	-0.0292	0.32994	0.33996	0.78324	0.24317
Company 3	Russia	0.40022	0.11489	-0.3063	0.24458	-0.4131
Company 4	Russia	0.1973	0.5351	-0.0403	-0.0025	0.17586
Company 5	Russia	0.6166	0.28087	0.43415	-0.2202	-0.0119
Company 6	Russia	-0.0908	0.23011	0.03695	0.63732	-0.1614
Company 7	Russia	0.21349	0.17813	0.37327	0.20676	0.44546
Company 8	Russia	0.13096	-0.1871	0.10192	-0.0318	0.15159
Company 9	Russia	0.3626	0.13252	0.25386	-0.0259	0.26983
Company 10	Russia	0.34971	0.39136	0.1534	0.00965	0.03085
Company 11	Russia	0.47637	0.17535	0.29032	-0.3064	0.11753
Company 12	Russia	0.1303	0.19908	0.41617	0.27782	0.48065
Company 13	Russia	-0.0526	-0.0633	0.21836	0.48563	0.05631
Company 14	Russia	0.14049	0.23019	0.40278	0.30267	0.17784
Company 15	Russia	0.4352	0.12225	-0.2493	-0.0537	0.2864
Company 16	Russia	0.48766	0.17048	0.51941	0.03843	-0.3001
Company 17	Russia	0.25448	0.10345	-0.2413	0.04028	0.39632
Company 18	Russia	0.37172	-0.1082	0.20168	-0.231	0.39995
Company 19	Russia	0.34706	0.56092	-0.0914	0.15608	0.27189
Company 20	Russia	-0.207	0.46303	0.21433	0.44978	0.12268
Company 21	Russia	0.36739	0.23802	0.13231	-0.5511	0.56104
Company 22	Russia	0.16942	-0.428	0.36139	0.408	-0.2442
Company 23	Russia	0.45032	0.13758	0.08792	0.42463	0.05903
Company 24	Russia	0.354	0.16233	0.31167	0.83383	0.05913
Company 25	Russia	-0.0105	-0.1429	0.26056	0.01568	0.09039
Company 26	Kazakhstan	0.28075	0.11882	-0.073	0.27675	0.73926
Company 27	Kazakhstan	0.46108	-0.0959	0.3016	0.35595	-0.2501
Company 28	Kazakhstan	0.19223	0.15539	0.2435	0.20765	0.56047
Company 29	Kazakhstan	0.37867	-0.0357	-0.0501	0.18596	0.06523
Company 30	Kazakhstan	0.51159	0.18186	0.42356	0.31256	0.56207
Company 31	Kazakhstan	0.52725	0.06958	0.05349	0.13347	0.33904
Company 32	Kazakhstan	0.40767	0.16721	-0.0945	0.93782	0.61253
Company 33	Kazakhstan	-0.1871	-0.6146	0.09766	0.04951	0.26858
Company 34	Kazakhstan	0.50008	-0.1961	0.17799	0.50485	0.14293
Company 35	Kazakhstan	0.24391	0.98774	-0.4434	0.06206	0.30449
Company 36	Kazakhstan	-0.1138	0.05088	0.26877	-0.0281	0.22117
Company 37	Kazakhstan	-0.203	0.61827	0.45638	0.13678	-0.0077
Company 38	Kazakhstan	0.03164	0.43286	-0.123	0.09202	-0.0788

APPENDIX 3. SALES GROWTH OF COMPANIES (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	-0.0377	0.08294	0.52069	0.27148	-0.3102
Company 40	Kazakhstan	0.2487	-0.0213	-0.1377	0.08972	-0.1372

Source: COMPUSTAT database

APPENDIX 4. ACCOUNTS RECEIVABLES DAYS

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	73	56	76	34	11
Company 2	Russia	79	90	18	47	18
Company 3	Russia	13	103	21	39	64
Company 4	Russia	91	70	13	106	55
Company 5	Russia	65	105	58	94	70
Company 6	Russia	140	89	104	22	73
Company 7	Russia	23	83	94	36	42
Company 8	Russia	82	28	73	58	48
Company 9	Russia	49	74	35	87	66
Company 10	Russia	91	47	42	84	-9
Company 11	Russia	54	46	44	33	57
Company 12	Russia	63	91	64	56	71
Company 13	Russia	61	90	58	38	9
Company 14	Russia	104	107	126	100	87
Company 15	Russia	96	28	53	27	109
Company 16	Russia	-6	55	38	64	72
Company 17	Russia	128	70	161	136	44
Company 18	Russia	65	147	133	73	-19
Company 19	Russia	35	63	2	65	43
Company 20	Russia	20	152	69	19	161
Company 21	Russia	53	68	62	44	72
Company 22	Russia	122	44	44	108	18
Company 23	Russia	62	80	40	45	5
Company 24	Russia	18	60	31	107	35
Company 25	Russia	44	52	51	19	121
Company 26	Kazakhstan	93	52	65	109	85
Company 27	Kazakhstan	45	98	81	57	23
Company 28	Kazakhstan	32	94	39	39	95
Company 29	Kazakhstan	53	-12	80	46	31
Company 30	Kazakhstan	18	58	34	32	104
Company 31	Kazakhstan	56	108	15	40	35
Company 32	Kazakhstan	71	69	63	60	48
Company 33	Kazakhstan	94	41	125	-11	57
Company 34	Kazakhstan	100	30	79	97	52
Company 35	Kazakhstan	88	60	94	46	102
Company 36	Kazakhstan	48	43	109	48	42
Company 37	Kazakhstan	31	30	109	65	63
Company 38	Kazakhstan	117	87	57	36	70

APPENDIX 4. ACCOUNTS RECEIVABLES DAYS (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	20	92	31	57	92
Company 40	Kazakhstan	28	28	58	28	70

Source: COMPUSTAT database

APPENDIX 5. DAYS OF INVENTORY ON HAND

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	46	160	129	53	30
Company 2	Russia	47	56	52	60	73
Company 3	Russia	52	85	110	124	93
Company 4	Russia	85	52	151	149	126
Company 5	Russia	101	107	83	69	10
Company 6	Russia	70	40	108	141	37
Company 7	Russia	140	106	100	165	177
Company 8	Russia	102	102	76	16	84
Company 9	Russia	96	15	73	113	93
Company 10	Russia	148	63	58	43	169
Company 11	Russia	16	30	98	171	60
Company 12	Russia	103	75	140	128	96
Company 13	Russia	84	29	112	112	95
Company 14	Russia	44	118	61	68	15
Company 15	Russia	133	16	213	25	87
Company 16	Russia	58	114	81	64	202
Company 17	Russia	115	129	100	42	111
Company 18	Russia	97	98	52	114	178
Company 19	Russia	194	75	47	113	81
Company 20	Russia	76	29	99	92	61
Company 21	Russia	96	237	107	60	26
Company 22	Russia	72	56	39	69	87
Company 23	Russia	20	22	111	205	108
Company 24	Russia	93	115	103	85	46
Company 25	Russia	158	46	28	192	126
Company 26	Kazakhstan	74	202	124	39	131
Company 27	Kazakhstan	66	111	98	171	105
Company 28	Kazakhstan	60	185	25	117	145
Company 29	Kazakhstan	26	99	33	44	32
Company 30	Kazakhstan	15	59	17	81	87
Company 31	Kazakhstan	58	147	101	52	82
Company 32	Kazakhstan	73	25	75	82	105
Company 33	Kazakhstan	110	13	72	169	55
Company 34	Kazakhstan	126	50	29	25	204
Company 35	Kazakhstan	75	102	152	97	40
Company 36	Kazakhstan	66	79	76	45	109
Company 37	Kazakhstan	55	142	92	61	108
Company 38	Kazakhstan	11	69	122	166	104

APPENDIX 5. DAYS OF INVENTORY ON HAND (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	99	110	18	48	26
Company 40	Kazakhstan	28	102	90	50	132

Source: COMPUSTAT database

APPENDIX 6. AVERAGE PAYABLE DAYS

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	133	87	134	37	39
Company 2	Russia	49	281	229	91	85
Company 3	Russia	44	118	70	63	82
Company 4	Russia	104	121	63	74	128
Company 5	Russia	113	34	104	80	117
Company 6	Russia	128	157	54	89	69
Company 7	Russia	23	179	185	28	38
Company 8	Russia	37	40	88	91	104
Company 9	Russia	184	17	159	43	40
Company 10	Russia	86	67	39	66	161
Company 11	Russia	108	42	71	216	115
Company 12	Russia	97	204	137	68	132
Company 13	Russia	141	37	159	108	80
Company 14	Russia	45	74	84	15	147
Company 15	Russia	71	49	80	134	144
Company 16	Russia	155	59	83	121	58
Company 17	Russia	21	130	20	160	91
Company 18	Russia	81	24	89	147	50
Company 19	Russia	109	90	38	32	97
Company 20	Russia	79	28	178	19	96
Company 21	Russia	80	45	102	194	148
Company 22	Russia	201	54	154	107	94
Company 23	Russia	140	147	95	172	89
Company 24	Russia	131	144	47	82	40
Company 25	Russia	20	151	67	84	103
Company 26	Kazakhstan	112	56	113	75	19
Company 27	Kazakhstan	97	84	117	93	66
Company 28	Kazakhstan	70	233	37	65	52
Company 29	Kazakhstan	68	181	146	46	170
Company 30	Kazakhstan	135	45	164	14	37
Company 31	Kazakhstan	24	17	60	87	59
Company 32	Kazakhstan	168	179	83	82	90
Company 33	Kazakhstan	174	131	100	151	181
Company 34	Kazakhstan	31	69	131	181	75
Company 35	Kazakhstan	92	130	238	62	82
Company 36	Kazakhstan	194	34	195	126	139
Company 37	Kazakhstan	51	79	155	97	92
Company 38	Kazakhstan	121	119	205	133	97

APPENDIX 6. AVERAGE PAYABLE DAYS (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	84	52	157	140	96
Company 40	Kazakhstan	46	71	45	30	123

Source: COMPUSTAT database

APPENDIX 7. GROSS PROFIT MARGINS

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	-0.4075	-0.2371	0.26274	0.24234	0.14792
Company 2	Russia	-0.1385	0.30534	0.50013	-0.2136	-0.0844
Company 3	Russia	0.2149	-0.0712	0.38359	0.54656	0.41123
Company 4	Russia	0.32626	0.2691	0.75068	0.18015	0.18822
Company 5	Russia	-0.3281	0.11505	0.03939	0.42329	0.33441
Company 6	Russia	-0.4135	-0.0204	0.43428	0.58152	0.27097
Company 7	Russia	0.08561	0.46262	-0.1694	0.05065	0.02548
Company 8	Russia	-0.1387	0.06631	0.09751	-0.0986	-0.2619
Company 9	Russia	0.70756	0.16275	0.09342	0.1093	-0.2335
Company 10	Russia	0.48166	0.09362	0.18815	0.62552	-0.0518
Company 11	Russia	0.61484	-0.0587	0.00672	-0.4036	0.31904
Company 12	Russia	0.30522	-0.0369	-1.1027	0.20973	0.54113
Company 13	Russia	0.4268	0.11801	0.04561	0.11385	0.87669
Company 14	Russia	0.10955	-0.0179	0.02359	0.02408	0.18312
Company 15	Russia	0.27036	0.33547	0.14513	0.68334	0.43108
Company 16	Russia	-0.5098	0.28879	-0.0514	-0.0277	-0.0253
Company 17	Russia	0.15942	0.21148	0.21517	-0.3147	0.41581
Company 18	Russia	-0.4624	0.30063	0.14106	0.14268	0.25234
Company 19	Russia	0.29989	-0.1418	0.38805	0.1767	0.58305
Company 20	Russia	-0.3013	0.43124	0.37846	-0.1598	0.73504
Company 21	Russia	0.75971	-0.1128	0.0783	0.37053	0.64938
Company 22	Russia	0.11464	-0.0025	0.90475	0.05318	0.50422
Company 23	Russia	0.16585	-0.463	-0.1563	0.24103	0.16018
Company 24	Russia	0.55186	-0.0154	0.10196	0.33103	0.15376
Company 25	Russia	-0.0945	0.17207	0.36703	0.03548	0.16607
Company 26	Kazakhstan	0.18707	0.75296	-0.3966	0.4079	-0.0376
Company 27	Kazakhstan	0.57273	-0.1497	0.46245	0.83822	0.4081
Company 28	Kazakhstan	0.35029	-0.2454	0.29207	0.04857	-0.3092
Company 29	Kazakhstan	-0.5382	-0.1979	-0.2621	-0.1317	0.00067
Company 30	Kazakhstan	-0.0904	0.36374	0.38658	0.488	0.65189
Company 31	Kazakhstan	0.34754	0.11173	0.30516	-0.3878	-0.3518
Company 32	Kazakhstan	0.18395	-0.4614	-0.3316	0.41384	0.50466
Company 33	Kazakhstan	-0.3708	0.00789	-0.1288	-0.1835	-0.1705
Company 34	Kazakhstan	-0.186	0.16669	0.02095	0.26416	0.57586
Company 35	Kazakhstan	0.07998	0.56397	0.53034	-0.375	-0.1628
Company 36	Kazakhstan	0.00789	-0.1626	0.22086	0.03399	0.21959
Company 37	Kazakhstan	0.48493	0.12184	-0.2381	0.04466	0.42039
Company 38	Kazakhstan	0.47523	0.21694	0.09067	0.38946	0.39567

APPENDIX 7. GROSS PROFIT MARGINS (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	0.23444	0.41315	-0.6337	0.05917	0.94484
Company 40	Kazakhstan	-0.2551	0.33799	0.18481	-0.1138	0.54208

Source: COMPUSTAT database

APPENDIX 8. SIZE OF COMPANIES

Company	Country	2012	2013	2014	2015	2016
Company 1	Russia	15.7477	12.1759	10.8576	9.17172	11.1806
Company 2	Russia	13.9106	12.895	10.3554	14.8589	9.87229
Company 3	Russia	8.88262	17.8892	11.6435	13.3294	12.258
Company 4	Russia	5.47943	13.4559	14.3413	11.8589	4.09913
Company 5	Russia	14.7125	12.0257	10.0329	11.7214	10.9704
Company 6	Russia	7.69501	11.1324	11.1803	10.2046	9.81473
Company 7	Russia	11.3295	13.9308	10.6502	16.2162	11.2883
Company 8	Russia	12.2377	10.6431	12.1782	8.42066	9.4601
Company 9	Russia	8.33576	12.5876	14.9101	11.4104	15.2894
Company 10	Russia	14.8762	15.5717	11.7037	13.3006	8.51183
Company 11	Russia	10.2398	10.841	12.8235	10.3059	9.41411
Company 12	Russia	9.26295	10.1998	12.3362	9.26383	13.1194
Company 13	Russia	13.6512	8.02326	10.672	16.9282	14.5881
Company 14	Russia	9.71511	13.1629	8.83083	14.4411	10.2474
Company 15	Russia	11.4062	12.095	12.7381	11.8916	17.239
Company 16	Russia	14.7716	14.3314	13.3578	7.98999	11.347
Company 17	Russia	10.3746	10.5566	10.4763	12.1587	14.9432
Company 18	Russia	12.8269	6.54019	7.97493	9.26002	17.8874
Company 19	Russia	12.7032	8.96285	12.0346	10.3627	10.7988
Company 20	Russia	10.7344	10.2911	11.2402	14.4866	13.3224
Company 21	Russia	10.9986	14.4806	13.2712	12.9295	13.3385
Company 22	Russia	14.7996	13.1822	14.3405	10.2252	14.3536
Company 23	Russia	12.0202	11.365	17.7414	8.70586	12.5958
Company 24	Russia	8.76125	14.3284	17.862	14.6796	13.3645
Company 25	Russia	10.7865	14.2786	14.2661	15.5789	11.867
Company 26	Kazakhstan	12.4139	12.6027	16.4403	13.5196	16.3451
Company 27	Kazakhstan	13.0433	15.2505	11.8431	14.9741	12.5537
Company 28	Kazakhstan	10.7887	6.48248	14.2385	11.6332	13.4498
Company 29	Kazakhstan	11.5057	7.47026	10.8242	13.0122	14.4354
Company 30	Kazakhstan	11.7676	11.2647	13.1637	14.8717	13.3837
Company 31	Kazakhstan	10.4973	12.0769	10.1983	10.4864	12.0859
Company 32	Kazakhstan	8.39499	15.1679	7.7238	13.3868	9.59516
Company 33	Kazakhstan	15.8009	11.0617	11.2823	11.25	10.0999
Company 34	Kazakhstan	15.9043	10.9925	7.91802	12.0516	8.56243
Company 35	Kazakhstan	11.8936	7.30892	8.84591	14.4699	12.0407
Company 36	Kazakhstan	14.281	12.154	16.4175	12.5208	11.8007
Company 37	Kazakhstan	11.4725	13.6857	16.3939	12.1436	12.6623
Company 38	Kazakhstan	9.85121	12.1505	10.9102	10.1238	10.4959
APPENDIX 8. SIZE OF COMPANIES (CONT'D)

Company	Country	2012	2013	2014	2015	2016
Company 39	Kazakhstan	10.9594	10.7103	12.9399	13.5628	14.0154
Company 40	Kazakhstan	13.3788	15.4407	13.4723	14.7291	14.3789

Source: COMPUSTAT database

INCOME STATEMENTS

Company 41	2012	2013	2014	2015	2016
Revenue	4,906,993	4,676,364	7,057,569	11,275,455	9,024,874
Cost of goods sold	4,023,734	3,741,091	5,260,006	6,122,572	7,509,598
Gross profit	883,259	935,273	1,797,563	5,152,883	1,515,276
Operating expenses	697,774	738,866	1,420,075	4,070,777	1,197,068
Operating income	0	0	0	0	0
Operating profit	185,484	196,407	377,488	1,082,105	318,208
Other income/expenses	0	0	0	0	0
Interest expenses	55,645	58,922	113,246	324,632	95,462
Interest income	0	0	0	0	0
Profit before taxes	129,839	137,485	264,242	757,474	222,746
Taxes	25,968	27,497	52,848	151,495	44,549
Net profit	103,871	109,988	211,393	605,979	178,196
Company 42	2012	2013	2014	2015	2016
Revenue	510.258	758,968	1.048.780	1.006.724	1.516.629
Cost of goods sold	418,412	607,174	781,656	546,651	1,261,987
Gross profit	91,846	151,794	267,124	460,073	254,642
Operating expenses	72,559	119,917	211,028	363,457	201,167
Operating income	2,230	0	1,243	1,115	1,250
Operating profit	21,518	31,877	57,339	97,730	54,725
Other income/expenses	0	0	0	0	0
Interest expenses	6,455	9,563	17,202	29,319	16,417
Interest income	546	510	725	812	954
Profit before taxes	15,608	22,824	40,862	69,223	39,261
Taxes	3,122	4,565	8,172	13,845	7,852
Net profit	12,487	18,259	32,690	55,379	31,409

Company 43	2012	2013	2014	2015	2016
Revenue	1,255,321	1,347,688	2,284,883	2,604,058	3,985,173
Cost of goods sold	1,029,363	1,078,150	1,702,923	1,414,004	3,316,062
Gross profit	225,958	269,538	581,960	1,190,055	669,110
Operating expenses	178,507	212,935	459,748	940,143	528,597
Operating income	0	0	0	0	0
Operating profit	47,451	56,603	122,212	249,911	140,513
Other income/expenses	0	0	0	0	0
Interest expenses	14,235	16,981	36,663	74,973	42,154
Interest income	0	0	0	0	0
Profit before taxes	15,608	22,824	40,862	69,223	39,261
Taxes	3,122	4,565	8,172	13,845	7,852
Net profit	12,487	18,259	32,690	55,379	31,409
0	2012	2012	2014	2015	2017
Company 44	2012	2013	2014	2015	
Kevenue	425,675	740,636	987,387	1,026,418	1,168,700
Cost of goods sold	349,054	592,509	/35,899	557,345	972,475
Gross profit	76,622	148,127	251,487	469,073	196,225
Operating expenses	60,531	117,021	198,675	370,568	155,018
Operating income	0	0	0	0	0
Operating profit	16,091	31,107	52,812	98,505	41,207
Other income/expenses	0	0	2,235	0	0
Interest expenses	4,827	9,332	15,844	29,552	12,362
Interest income	0	0	0	0	0
Profit before taxes	11,263	21,775	34,734	68,954	28,845
Taxes	2,253	4,355	6,947	13,791	5,769
Net profit	9,011	17,420	27,787	55,163	23,076

Company 45	2012	2013	2014	2015	2016
Revenue	981,000	1,241,818	1,869,222	2,839,554	3,114,423
Cost of goods sold	804,420	993,455	1,393,131	1,541,878	2,591,512
Gross profit	176,580	248,364	476,091	1,297,676	522,912
Operating expenses	139,498	196,207	376,112	1,025,164	413,100
Operating income	0	0	0	0	0
Operating profit	37,082	52,156	99,979	272,512	109,811
Other income/expenses	0	0	0	0	0
Interest expenses	11,125	15,647	29,994	81,754	32,943
Interest income	0	0	0	0	0
Profit before taxes	25,957	36,509	69,985	190,758	76,868
Taxes	5,191	7,302	13,997	38,152	15,374
Net profit	20,766	29,208	55,988	152,607	61,494
Company 46	2012	2013	2014	2015	2016
Revenue	703.427	824.789	970.744	1.280.305	1.158.804
Cost of goods sold	576.810	659,831	723,495	695.205	964.240
Gross profit	126.617	164,958	247.248	585,099	194,563
Operating expenses	100,027	130,317	195,326	462,228	153,705
Operating income	0	0	0	0	0
Operating profit	26,590	34,641	51,922	122,871	40,858
Other income/expenses	0	0	0	0	0
Interest expenses	7,977	10,392	15,577	36,861	12,257
Interest income	0	0	0	0	0
Profit before taxes	18,613	24,249	36,346	86,010	28,601
Taxes	3,723	4,850	7,269	17,202	5,720
Net profit	14,890	19,399	29,076	68,808	22,881

Company 47	2012	2013	2014	2015	2016
Revenue	1,573,091	1,844,496	2,170,898	2,863,176	2,591,461
Cost of goods sold	1,289,935	1,475,597	1,617,971	1,554,705	2,156,355
Gross profit	283,156	368,899	552,928	1,308,472	435,106
Operating expenses	223,694	291,430	436,813	1,033,693	343,734
Operating income	0	0	0	0	0
Operating profit	59,463	77,469	116,115	274,779	91,372
Other income/expenses	0	0	0	0	0
Interest expenses	17,839	23,241	34,834	82,434	27,412
Interest income	0	0	0	0	0
Profit before taxes	41,624	54,228	81,280	192,345	63,961
Taxes	8,325	10,846	16,256	38,469	12,792
Net profit	33,299	43,383	65,024	153,876	51,168
Company 48	2012	2013	2014	2015	2016
Revenue	2 310 000	3 327 486	4 477 831	5 226 748	5 628 842
Cost of goods sold	1.894.200	2,661,989	3.337.327	2,838,124	4.683.759
Gross profit	415.800	665,497	1.140.504	2.388.624	945.083
Operating expenses	328,482	525,743	900,998	1,887,013	746,615
Operating income	0	0	0	0	0
Operating profit	87,318	139,754	239,506	501,611	198,467
Other income/expenses	0	0	0	0	0
Interest expenses	26,195	41,926	71,852	150,483	59,540
Interest income	0	0	0	0	0
Profit before taxes	61,123	97,828	167,654	351,128	138,927
Taxes	12,225	19,566	33,531	70,226	27,785
Net profit	48,898	78,262	134,123	280,902	111,142

Company 49	2012	2013	2014	2015	2016
Revenue	438,902	539,231	704,855	596,871	523,277
Cost of goods sold	359,900	431,384	525,329	324,101	435,419
Gross profit	79,002	107,846	179,527	272,770	87,858
Operating expenses	62,412	85,198	141,826	215,489	69,408
Operating income	0	0	0	0	0
Operating profit	16,590	22,648	37,701	57,282	18,450
Other income/expenses	0	0	0	0	0
Interest expenses	4,977	6,794	11,310	17,185	5,535
Interest income	0	0	0	0	0
Profit before taxes	11,613	15,853	26,390	40,097	12,915
Taxes	2,323	3,171	5,278	8,019	2,583
Net profit	9,291	12,683	21,112	32,078	10,332
Company 50	2012	2013	2014	2015	2016
Revenue	540.950	936.379	934.881	895.522	1.121.848
Cost of goods sold	443.579	749.103	696.767	486.269	933.489
Gross profit	97.371	187.276	238.114	409.254	188.358
Operating expenses	76.923	147,948	188.110	323.310	148,803
Operating income	0	0	0	0	0
Operating profit	20,448	39,328	50,004	85,943	39,555
Other income/expenses	0	0	0	0	0
Interest expenses	6,134	11,798	15,001	25,783	11,867
Interest income	0	0	0	0	0
Profit before taxes	14,314	27,530	35,003	60,160	27,689
Taxes	2,863	5,506	7,001	12,032	5,538
Net profit	11,451	22,024	28,002	48,128	22,151

BALANCE SHEETS

Company 41	2012	2013	2014	2015	2016
ASSETS	1,007,587	1,110,079	1,168,995	1,199,701	1,605,977
Non-current assets	523,610	581,731	606,745	666,631	799,957
Current assets	483,977	528,348	562,250	533,071	806,020
Account receivables	235,543	290,189	266,974	294,472	603,668
Inventory	128,434	118,159	132,693	100,050	102,352
Prepayments	0	0	12,543	15,000	0
Cash and cash equivalents	120,000	120,000	150,040	123,548	100,000
LIABILITIES AND	1,007,587	1,110,079	1,168,995	1,199,701	1,605,977
EQUITY					
Non-current liabilities	20,986	20,986	20,986	20,986	20,986
Current liabilities	353,795	364,204	371,877	375,799	411,392
Account payables	312,854	319,737	326,771	330,365	362,992
Financial debt	12,500	15,400	15,400	15,400	15,400
Provisions	0	0	0	0	0
Current income tax liability	28,441	29,067	29,706	30,033	32,999
Equity	632,806	724,889	776,131	802,917	1,173,599
Company 42	2012	2013	2014	2015	2016
ASSETS	1,630,070	886,774	1,501,707	1,470,925	2,152,958
Non-current assets	1,224,331	273,198	473,267	646,492	1,229,254
Current assets	405,739	613,576	1,028,439	824,433	923,704
Account receivables	15,409	118,017	698,134	176,112	294,004
Inventory	160,173	159,723	8,575	89,349	180,924
Prepayments	0	0	0	0	0
Cash and cash equivalents	230,157	335,836	321,731	558,972	448,776
LIABILITIES AND	1,630,070	886,774	1,501,707	1,470,925	2,152,958
EQUITY					
Non-current liabilities	125,000	125,000	125,000	125,000	125,000
Current liabilities	264,200	512,552	324,419	513,302	999,857
Account payables	240,000	488,246	300,340	489,049	975,854
Financial debt	20,750	20,439	20,132	19,830	19,533
Provisions	0	0	0	0	0
Current income tax liability	3,450	3,866	3,946	4,423	4,470
Equity	1,240,870	249,222	1,052,288	832,622	1,028,101

Company 43	2012	2013	2014	2015	2016
ASSETS	1,451,889	1,419,522	1,305,123	1,284,504	3,907,159
Non-current assets	754,244	782,841	708,223	717,915	3,258,315
Current assets	697,645	636,682	596,900	566,589	648,844
Account receivables	496,609	437,953	426,528	377,113	504,095
Inventory	191,035	163,278	127,372	150,726	129,749
Prepayments	0	0	0	0	0
Cash and cash equivalents	10,000	35,450	43,000	38,750	15,000
LIABILITIES AND	1,451,889	1,419,522	1,305,123	1,284,504	3,907,159
EQUITY					
Non-current liabilities	32,000	32,000	32,000	32,000	32,000
Current liabilities	605,948	489,775	540,839	605,558	701,964
Account payables	580,491	435,852	497,228	559,107	631,160
Financial debt	12,000	12,000	12,000	12,000	12,000
Provisions	0	0	0	0	0
Current income tax liability	13,457	41,923	31,611	34,451	58,804
Equity	813,941	897,747	732,284	646,945	3,173,194
Company 44	2012	2013	2014	2015	2016
ASSETS	1.029.756	682.348	778.338	901.059	2.781.075
Non-current assets	645.234	284.296	369.438	497.077	2.407.145
Current assets	384.523	398.051	408,900	403,982	373.930
Account receivables	52,000	53,459	55,000	55,437	59,000
Inventory	182,057	197,136	203,494	193,026	162,521
Prepayments	0	0	0	0	0
Cash and cash equivalents	150,466	147,457	150,406	155,520	152,409
LIABILITIES AND	479,628	536,876	650,887	1,018,475	515,952
EQUITY					
Non-current liabilities	186,359	193,000	194,458	200,110	200,110
Current liabilities	293,269	343,876	456,429	818,365	315,842
Account payables	286,540	324,540	367,054	728,000	228,540
Financial debt	0	0	57,900	57,900	57,900
Provisions	0	0	0	0	0
Current income tax liability	6,729	6,987	15,805	17,226	29,402
Equity	550,129	145,472	127,450	(117,415)	2,265,123

Company 45	2012	2013	2014	2015	2016
ASSETS	451,350	409,526	436,487	672,802	919,482
Non-current assets	250,000	232,000	237,000	253,400	265,120
Current assets	201,350	177,526	199,487	419,402	654,362
Account receivables	136,265	123,950	185,369	116,271	214,830
Inventory	56,145	44,542	4,128	301,891	424,532
Prepayments	0	0	0	0	0
Cash and cash equivalents	8,940	9,034	9,990	1,240	15,000
LIABILITIES AND	451,350	409,526	436,487	672,802	919,482
EQUITY					
Non-current liabilities	12,450	12,450	12,450	12,450	12,450
Current liabilities	173,066	226,020	250,013	300,942	368,873
Account payables	150,112	202,731	228,429	278,411	338,225
Financial debt	11,047	11,047	11,047	11,047	11,047
Provisions	7,421	7,584	0	0	0
Current income tax liability	4,486	4,658	10,537	11,484	19,601
Equity	265,834	171,056	174,024	359,410	538,159
Company 46	2012	2013	2014	2015	2016
ASSETS	98.312	100.747	87.033	87.972	90.316
Non-current assets	67,500	68.850	54.000	55.080	56.182
Current assets	30.812	31.897	33.033	32.892	34.134
Account receivables	8,530	9.020	9.527	9.394	10.205
Inventory	17.362	17.362	18.450	19.498	21.359
Prepayments	1.420	1.753	500	0	258
Cash and cash equivalents	3,500	3,762	4,556	4,000	2,312
LIABILITIES AND	98,312	100,747	87,033	87,972	90,316
EQUITY					
Non-current liabilities	2,094	3,200	700	851	1,002
Current liabilities	57,047	55,492	66,396	36,345	26,021
Account payables	31,477	29,004	43,376	15,580	5,027
Financial debt	24,000	22,230	20,130	18,000	17,550
Provisions	0	1,858	1,000	0	0
Current income tax liability	1,570	2,400	1,890	2,765	3,444
Equity	96,218	97,547	86,333	87,121	89,314

Company 47	2012	2013	2014	2015	2016
ASSETS	477,341	878,047	858,384	775,340	525,015
Non-current assets	180,000	183,520	187,000	195,000	250,000
Current assets	297,341	694,527	671,384	580,340	275,015
Account receivables	250,527	242,635	215,776	201,686	228,082
Inventory	43,314	437,192	440,117	371,154	39,433
Prepayments	0	0	0	0	0
Cash and cash equivalents	3,500	14,700	15,491	7,500	7,500
LIABILITIES AND	477,341	878,047	858,384	775,340	525,015
EQUITY					
Non-current liabilities	8,000	9,977	13,486	871	778
Current liabilities	129,916	274,375	119,166	369,808	194,715
Account payables	74,569	215,910	60,046	307,107	127,992
Financial debt	30,000	30,000	30,000	30,000	30,000
Provisions	0	0	0	0	0
Current income tax liability	25,347	28,465	29,119	32,701	36,723
Equity	339,424	593,696	725,731	404,660	329,522
Company 48	2012	2013	2014	2015	2016
ASSETS	297.590	564.684	624.592	596.087	501.191
Non-current assets	220.000	235.790	287.340	310.545	372.654
Current assets	77,590	328.894	337.252	285.542	128.537
Account receivables	52,055	62,193	62,322	72,059	69,340
Inventory	18,495	186.681	187,930	158,483	16,838
Prepayments	0	0	0	0	0
Cash and cash equivalents	7,040	80,020	87,000	55,000	42,359
LIABILITIES AND	297,590	564,684	624,592	596,087	501,191
EQUITY					
Non-current liabilities	12,447	11,280	8,205	7,500	3,041
Current liabilities	44,223	192,433	192,390	201,621	68,461
Account payables	39,535	187,513	186,650	197,364	65,675
Financial debt	2,800	2,800	3,570	1,820	50
Provisions	0	0	0	0	0
Current income tax liability	1,888	2,121	2,169	2,436	2,736
Equity	240,920	360,971	423,997	386,967	429,689

Company 49	2012	2013	2014	2015	2016
ASSETS	1,075,337	1,081,432	1,051,599	998,784	1,143,191
Non-current assets	800,359	812,657	812,657	812,657	812,657
Current assets	274,978	268,775	238,942	186,127	330,534
Account receivables	86,238	106,627	91,459	71,449	101,591
Inventory	30,000	33,754	48,753	50,120	38,043
Prepayments	8,740	12,954	13,500	14,558	10,000
Cash and cash equivalents	150,000	115,440	85,230	50,000	180,900
LIABILITIES AND	1,075,337	1,081,432	1,051,599	998,784	1,143,191
EQUITY					
Non-current liabilities	23,400	23,400	23,400	23,400	23,400
Current liabilities	95,033	94,041	89,338	117,114	100,952
Account payables	38,673	43,314	44,180	52,132	42,749
Financial debt	50,440	44,740	39,685	58,752	52,113
Provisions	0	0	0	0	0
Current income tax liability	5,920	5,987	5,473	6,230	6,090
Equity	956,904	963,991	938,861	858,270	1,018,840
Company 50	2012	2013	2014	2015	2016
ASSETS	1.022.911	1.102.428	1.143.141	1.200.336	1.255.916
Non-current assets	245,783	289,310	291,456	294,315	301,000
Current assets	777,128	813,118	851,685	906,021	954,916
Account receivables	75,000	77,025	79,105	81,241	83,434
Inventory	457,128	491,093	527,581	566,780	608,892
Prepayments	0	0	0	13,000	17,590
Cash and cash equivalents	245,000	245,000	245,000	245,000	245,000
LIABILITIES AND	1,022,911	1,102,428	1,143,141	1,200,336	1,255,916
EQUITY					
Non-current liabilities	52,000	50,115	48,772	46,000	50,000
Current liabilities	435,778	482,578	589,628	706,648	1,159,400
Account payables	376,040	420,220	548,310	675,248	1,103,480
Financial debt	54,000	56,102	35,000	28,000	52,000
Provisions	0	0	0	0	0
Current income tax liability	5,738	6,256	6,318	3,400	3,920
Equity	535,133	569,735	504,741	447,688	46,516

Source: Data are original in nature and acquired by using personal contacts of the researcher. There is an agreement not to show the names of the companies in this research for confidentiality purposes. For this reason, the names of the companies are conventional.