

## THE TURNOVER CYCLE OF CAPITAL IN SMALL AND MEDIUM-SIZED ENTERPRISES FROM THE CONSTRUCTION SECTOR LISTED ON NEWCONNECT

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### **Abstract**

*The dynamics of small and medium-sized enterprises play a key role in the development of the Polish economy. These entities are essential for the sustainable functioning of the economy, allowing one to benefit from the effects of the dynamic development of future generations. In the first part of the article the diagnostics on the liquidity of a company is presented. Then liabilities turnover, receivables turnover cycle and inventory turnover cycle are briefly characterized. In the second part of the article issues concerning cash management are discussed. Proper capital management is a major media to a company and added value because it improves efficiency and contributes to the proper planning in terms of financial requirements and the rational obligations incurred. The third part of the paper verifies the effectiveness of usability indicators to determine the time length of the cycle. Using the indicators discussed a company obtains information about the levels of cash to enable it to minimize maintenance costs.*

**Keywords:** *debtors cycle, inventory turnover cycle, trading liabilities cycle, cash turnover cycle*

### **1. Introduction**

The need to distinguish small and medium-sized enterprises as well as establish their specifications and conditions for development and, among others, accounting issues is determined primarily by the scale of these small and medium-sized businesses. They represent over 98% of all enterprises in the EU and employ more than 87 million employees, forming the backbone of the European economy. A commonly expressed belief is that the sector of small and medium-sized businesses raises the spirit of competition, adapts to changing customer needs, contributes to socio-economic growth of European countries, and positively affects the increase in efficiency of the economy as a whole.

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In 2012 there were more than 4.3 million small and medium-sized enterprises in the EU, offering services based on expertise, including 46,000 enterprises operating in the high-tech sector. These include small and medium-sized companies that produce drugs or electronics, providing services in the field of research and development, etc. Together they represent more than one-fifth (21.1%) of all SMES in the EU (Karmańska, 2013, p. 5). Despite such a large expansion of small and medium-sized enterprises in Poland, they are constantly facing numerous barriers to development. Apart from financial problems, the most often listed problems are: inadequate experience and education of managers and employees, insufficient knowledge of a company's financial management and the lack of access to internal and external information, defined as short-term and reckless operation of businesses related to raising financial information processing and constructed (Lipiec, 2000, p. 9).

The research area covering the subject of this article has been selected due to the fact that the sector of small and medium-sized companies from the construction sector is the motor driving the economy. However, economic development in Poland has been affected by an industry crisis lasting for over a year now. For this paper entities were chosen that are listed on the NewConnect market in the construction line of business and have been operating over 12 months with a similar structure of operation as the NewConnect market.

## **2. The cycle of working capital**

The aim of widely understood financial-accounting services in every company functioning in a free market economy is to maintain liquidity at an optimal level. An optimal level of liquidity is particularly important in a period of high inflation and at the time of starting a business. At a time when the company is unable to liquidate often outdated goods or products, it is not possible to recover these frozen funds. In this situation, as a consequence of the decline in revenue from sales, and the lack of impact of the duties on a regular basis, the company may not smoothly adjust its obligations, which leads to payment congestion. The company loses confidence in their suppliers, and thus deepens its problems on the procurement market causing temporary difficulties for the company. From the experience of highly developed countries indications are that the main reason for the demise of small and medium-sized enterprises is the loss of liquidity.

A diagnosis for keeping afloat requires a very thorough analysis of the operating cycle, especially its length and timing of collection of import duties and regulating commitments (Sierpińska, 1992, p. 31). There also exists the need to examine the level of working capital and compare it with the level

of wealth and sources of short-term financing that affect the network. The management of financial capital is often related to the following issues: Rotary cycles (operation and charges) and net operating cycle. The first is associated with the management of financial assets, which are assets: monetary measures, short-term securities, accounts receivable, inventories, accruals. With regard to the net operating cycle, also called the cash conversion cycle, consideration should be given to the liabilities of the company, especially to the current liabilities in respect to supplies and services.

In order to make these comparisons in the first place, calculation of the level of working capital in terms of days should be made regularly. Net working capital in terms of days is presented by the following Model 1 (Sierpińska & Wędzki, 1997):

$$\text{Net working capital} = \frac{\text{working capital} * 360}{\text{net sales}} \quad (1)$$

This relationship reflects the number of days, for which the working capital is sufficient. With an increase in sales, the level of working capital decreases in relation to the sales figure. If the market does not proportionally increase the working capital, such financial policy runs the risk of loss of liquidity.

An analysis of the level of working capital must be enriched by indicators allowing the determination of the rotation of turnover (inventory, accounts receivable, cash) and the rotation of current commitments, i.e. the length of the period for which the undertaking has been granted credit by suppliers.

A company maintains inventories, mainly in order to preserve the rhythm of production and sales. However, it may not freeze too much capital in stock volumes, because this leads to an increase in capital costs and lower rates of return, and in the short term, the loss of liquidity. The cycle of stock turnover is presented by Model 2 (Kozłowski, 2003, p. 149):

$$\text{inventory turnover} = \frac{\text{inventory} * 360}{\text{Cost of products sold}} \quad (2)$$

It informs when a company renews its supplies connected with sales transactions. A high rate of rotation indicates slow inventory rotations, while a low rate means a quick rotation.

The same problem occurs when the duty cycle is determined. The period of rotation of liabilities is represented by Model 3 (Ross & Westerfield & Jordan, 1999):

$$\text{receivables turnover} = \frac{\text{receivables} * 360}{\text{sales volume}} \quad (3)$$

This determines the number of sales days on which cash has not yet been received and provides information to management on how the company has credited receivers of the products and for how long the funds are frozen. If the collection period of accounts receivable by the company differs significantly from that of the industry, this could prove the basis for a negative opinion concerning financial management and control services. A very short recovery period tends to be the result of a raw financial policy, which may ultimately lead to inhibited sales efforts.

The credit period of a company with current liabilities is expressed by a cycle of commitments. The rotation cycle of obligations is presented by Model 4 (Ross et al. 1999):

$$\text{Liabilities turnover} = \frac{\text{liabilities} * 360}{\text{Cost of products sold}} \quad (4)$$

This relationship represents the delay time in adjustment of current liabilities as the current liabilities are used primarily to finance current expenditure related to monetary costs.

The length of the working cycle is conditioned by the length of exploitation cycle and the time that passes between the moment when the liability is created to the time it is settled by the receiver. This period is counted from the moment of receipt of materials for production taking into consideration storage, production, storage of finished products until receipt of payment (Kralicek, 1995, p. 29).

The length of the operating cycle is determined by the length of the period from the date of purchase for the production of materials to their sales. This is the time in which stocks remain of material necessary for production, as well as supplies of finished goods at the end of the production period (Kralicek, 1995, p. 30).

The cycle of commitments or so-called, net turnover cycle – is the time of repayment, the settlement of liabilities, the period from the date of purchase until the purchased goods and services are paid for (Kralicek, 1995, p. 30). It is in the interest of the entrepreneur to have this period prolonged.

### **3. Management of cash in small and medium-sized enterprises**

The importance of small and medium-sized enterprises has been determined appropriately by P. Drucker, who stated that they are „the heel of the market economy” and represent the democratic base of socio-economic policy. Although there are many different concepts and views on their role in the economy, most of them serve economic and social functions. Drucker highlights their historical role in most market economies, the quantitative

dominance and, above all, social, economic and similar effects of their operation. In analyzing the importance of SMES with respect to their efficiency, this takes on mainly a qualitative dimension, but also includes quantitative characteristics as well (Serafin, 2012, p. 70).

We can distinguish three themes in terms of retention of capital in an enterprise (Sierpińska & Wędzki, 1997):

- transactional – the use of cash in the first place to finance current transactions, the level of cash resources in this case depends on the level of activity of the company during times when there is a larger demand for cash, with an excess of cash during a regression,
- prudential – relating to the need to be possession of cash in the case of unforeseen events, which may entail the need for a sudden and rapid disbursement of funds, it first and foremost concerns random events, flood, fire, collision, automotive, etc.,
- speculative – where the company retains certain cash levels for the purpose of securing participation in occasional transactions yielding significant profits for the company, and which have no connection with the company's current activities.

In this article an analysis is conducted of the cash conversion cycle in small and medium-sized enterprises from the construction business which have been listed on the NewConnect market for over 12 months.

The cash conversion cycle is the time that passes between the moment that a company pays for purchased materials till it receives money for products sold. The cash conversion cycle is presented by Model 5 (Pluta, 1999, p.42):

$$(C) KG = C KZ + C IN (C) W (5)$$

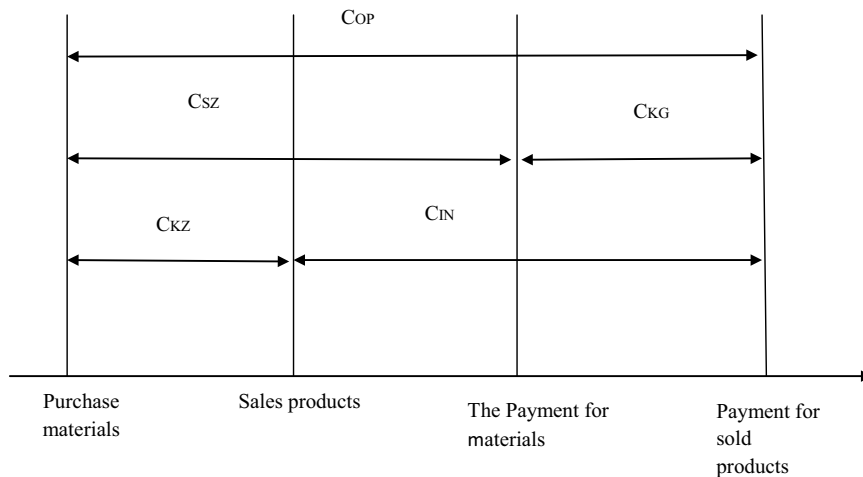
(C)KG-cash conversion cycle expressed in days

(C)KZ-conversion cycle inventories (inventory turnover in days)

(C)IN-collection cycle (accounts receivable turnover in days)

(C)SZ-the cycle of liabilities (Payables turnover days)

This can be represented graphically. The following diagrams depict the operating cycle taking into account the cash conversion cycle in 2 situations:



**Figure 1.** Cash conversion cycle

Source: Pluta W. (1999)

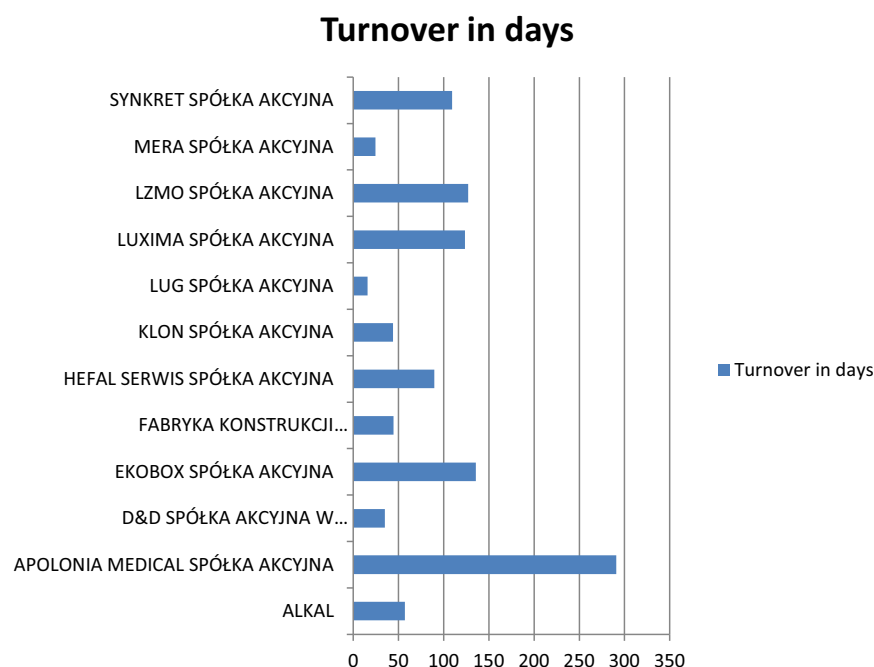
The shorter the cash cycle, the more beneficial it is for the company. A short cash cycle means that the money invested in current assets goes back to the company quickly and can be reused. The length of a cash cycle is significantly varied for different types of production. The cycle index of stocks depends on the company since this specification depends on the production, and trade credit for consumers and credit policy. At the same time it needs to be taken into account that to calculate the cash conversion cycle timely, liabilities should be included. Including total current short-term liabilities together with past due liabilities will lead to erroneous conclusions along with a shortened cash conversion cycle. The length of the cash cycle determines in fact the demand for working capital in the enterprise. There can be various reasons for short cash conversion cycles. They may be due to short stocks and their low conversion cycle, low levels of sales income (selling for cash or for short payment terms) and/or a high level of current liabilities, resulting from a long period of business credit by suppliers. Similarly, a longer cycle may be caused by an extended conversion cycle and larger stock levels, a high level of dues (longer payment terms for customers) and/or a low state of current obligations (Sierpińska & Wędzki, 1997).

A large level of past due obligations may be the cause of a negative cash flow cycle. For example, if the inventory cycle is 30 days, the cash due cycle – 45 days and the cycle of current liabilities 90 days, the cycle of cash levels will be negative (15 days). The cause of this negative cash flow cycle may be, apart from forced commercial credits, the structure of current assets. If there

is a large proportion of short term investments and prepaid expenses in this structure, then short term liabilities will finance these asset components. In terms of negative cash cycle, in practice there is often negative working capital meaning that sources of short-term sources finance fixed assets (Sierpińska & Jachna, 2007). A negative cash cycle is apparently visible in the policy of hypermarkets operating on our market. Current activity is financed with obligations to counterparties.

#### 4. Case study

Figure 2 presents an account of a receivable turnover in days in companies in the construction business listed on the NewConnect market.



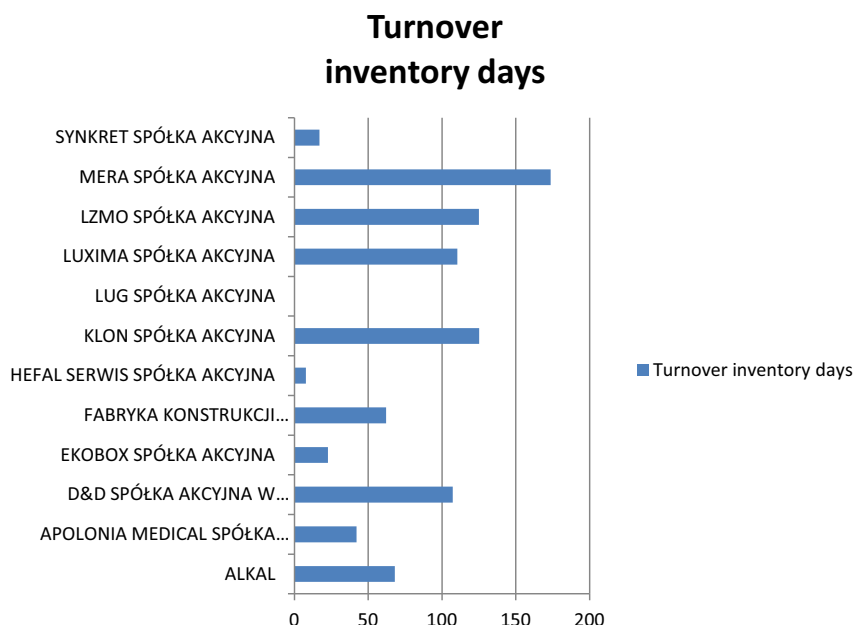
**Figure 2.** An account of a receivable turnover in days in the group of New-Connect companies analyzed for the year 2011

Source: own elaboration based on data from [www.newconnect.pl](http://www.newconnect.pl).

From among the group of companies analyzed, the highest indicator in rotation of accounts receivable belonged to the APOLONIA MEDICA joint stock company. The recovery period in receivables in this company amounted to 289 days. The fastest recovery charges were recorded at LUG joint stock

company. The average life of receivables with respect to the group accounted for 91 days, the average value (median) was indicated to be 73 days.

Figure 3 shows the inventory turnover in days in companies in the construction business listed on the NewConnect market.



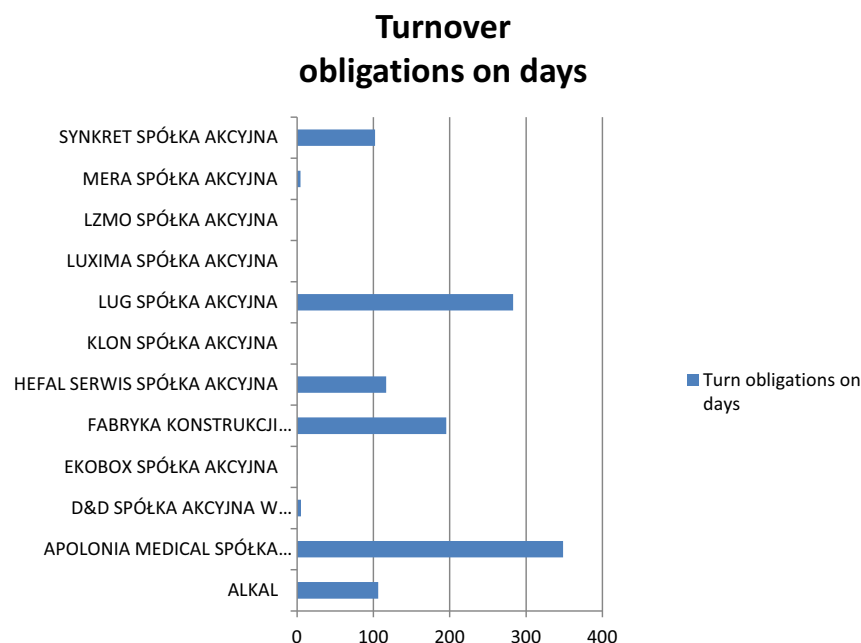
**Figure 3.** Inventory turnover in days in the group of NewConnect companies analyzed for the year 2011

Source: own elaboration based on data [www.newconnet.pl](http://www.newconnet.pl).

From among the group of companies analyzed the largest rotation of stock was recorded in MERA joint stock company meaning the company renews its stocks every 174 days. The lowest stock turnover was recorded in LUG joint stock company – the period amounted to 0 because it could be an internal company policy. The company does not have stocks. The average renewal period in the group amounted to 72 days, the average value (median) indicated that every 65 days companies renewed stocks.

Figure 4 shows the rotation indicator on commitments in the construction sector of companies noted on the NewConnect market.





**Figure 4.** The rotation rate of the obligations in the group of NewConnect companies for the year 2011

Source: own elaboration based on data [www.newconnet.pl](http://www.newconnet.pl).

From among the group, the company with the largest rotation of commitments was found to be in APOLONIA MEDICAL joint stock company. Here the average time for payment of commitments amounted to 349 days. This means that the longer the time, the smaller the needs are for working capital. The lowest rate of rotation of the obligations at the level of 0 days were recorded by 4 companies: EKOBOX Shelf, MAPLE Joint-stock company, LUXIMA Joint-stock company and LZMO Joint-stock company. This means that these companies regulate their obligations immediately without procrastination. The average in the rotation period in the group amounted to 97 days, the average value (median) amounted to 54 days which means that, on average, companies in the construction industry settle their obligations after this period passes.

## 5. Conclusions

Table 1 presents the overall results of the group of companies from the construction sector listed on the NewConnect market.

**Table 1.** The results of a comprehensive survey of companies from the construction sector listed on the NewConnect market for the year 2011

Company	The rotation indicator accounts receivable in days	The rotation indicator the obligations on	The rotation indicator stocks in days	Market cycle cash
ALKAL	57	106	68	19
APOLONIA MEDICAL JOINT-STOCK COMPANY	291	349	42	-16
D & D JOINT STOCK COMPANY in the BANKRUPTCY of SYSTEMIC SCLEROSIS	35	5	107	137
EKOBOX JOINT-STOCK COMPANY	136	0	23	158
TIMBER FACTORY JOINT-STOCK COMPANY	44	195	62	-89
HEFAL SERVICE JOINT STOCK COMPANY	90	117	8	-19
A CLONE OF THE JOINT-STOCK COMPANY	44	0	125	169
LUG JOINT-STOCK COMPANY	16	283	0	-267
LUXIMA JOINT-STOCK COMPANY	123	0	110	234
LZMO JOINT-STOCK COMPANY	127	0	125	252
MAYOR OF JOINT-STOCK COMPANY	24	4	174	194
SYNKRET JOINT-STOCK COMPANY	109	102	17	24
<b>The Average</b>	<b>91</b>	<b>97</b>	<b>72</b>	<b>66</b>
<b>The Median</b>	<b>73</b>	<b>54</b>	<b>65</b>	<b>80</b>

Source: own elaboration based on data [www.newconnet.pl](http://www.newconnet.pl).

The average accounts receivable turnover in the group amounted to 91 days and was about 6 days less than rotation. This means that, in the group of construction sector companies listed on NewConnect, the receivables collection period was shorter than the period due date. However, a longer period of inventory turnover in days, which amounted to 72 days, makes it necessary to finance the production cycle in the test companies through the use of external financing and long-term credit other than short commercials. In the group it was equity and short-term bank loans.

The sector of small and medium-sized enterprises is crucial for the economic development of our country. In recent years, legal and administrative arrangements for the functioning of enterprises have been significantly

improved as reflected in the international rankings and in the current activities of the companies. After 2009, a year of declined earnings in small and medium-sized businesses and one that saw a slight increase in large ones, these results testify to the improved condition of these entities. Since 2003 turnover in the business sector has increased by more than two-thirds (69%), and in SMEs by a half (52,3%). However, this improvement meant the yearly average rate of revenue growth in the years 2003-2009 (6.8%) was only in terms of small businesses. Large companies in 2010, with an increase in the annual average result aligned 2003 – 2009, and micro-and medium-sized businesses have clearly obtained worse results.

On the basis of the study by the author of the presented paper concerning the marketing cycle of cash in small and medium-sized enterprises, it can be concluded that the average cycle amounted to 66 days. According to the author, factors affecting positive cash turnover ratio are: an extended period of recovery and stock market cycle in relation to the shorter maturity period. The author exposes the structure of the trading cycle, for conservative cash functions in the test group. From among the group of 12 companies, four of them experienced a negative market cycle. The first company was AOLONIA in which a short period of inventory turnover and a fast period of payment settlement resulted in a quick conversion of cash and the same negative cycle of circulation of cash. In the case of Wooden Structures Factory the situation was the same, although the company had a very quick recovery period which was determined by a restrictive credit policy with respect to its contractors. The company HEFAL had a very short life cycle inventory turnover and a very well planned inventory management, which led to a negative cycle of the circulation of cash. LUG company probably had very good commercial credit terms. However, the length of period financed with commercial credit may be misleading and put forth the question as to internal transactions within the capital group.

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