

***Anna Rosa, Wojciech Rosa***

Department of Economics and Management  
Koszalin University of Technology

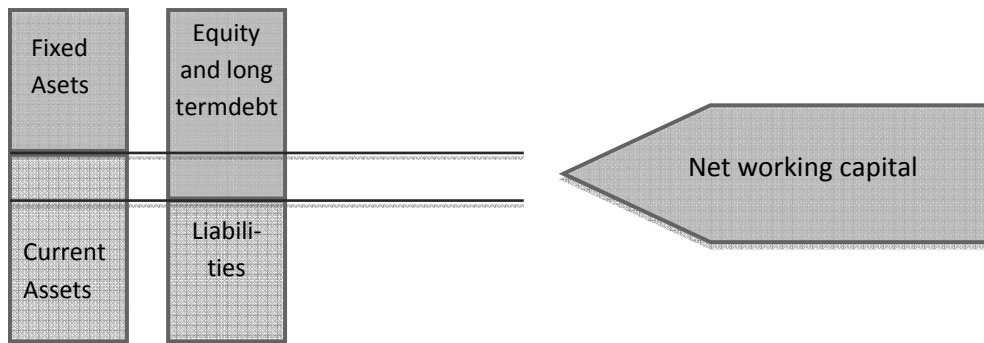
# **The purpose of working capital and the nature of working capital cycle in company on crises time**

## **Introduction**

Most businesses are started by an investors who are willing invest capital in exchange for a return on investment. The money that the investors paid in to start the company is referred to as the equity. This money invested in what is called the company assets which include everything from the property, plants, equipment to inventory, receivables and cash in the bank. In reality however most businesses don't use single source of financing assets [Preye, Sarria-Al-lende 2010, p. 3]. Second source of money is external financing. It's long term debt (bank credits, bonds) and short term debt (mostly liabilities). The balance sheet which is part of company financial statement provides snapshot of the firm at given moment in time. The report has two main parts: left – assets and the right hand side which shows sources of financing, it means equity and liabilities. Assets are split on Fixed Assets (land, buildings, equipment, long term financial assets and long term receivables) and current assets (inventory, short term receivables, short term financial assets and cash). In general, current assets are considered as one of the important component of total assets of a firm. A firm may be able to reduce the investment in fixed assets by renting or leasing plant and machinery, whereas, the same policy cannot be followed for the components of working capital.

## **Working Capital**

Working Capital (WC) is financial metric which represents operating liquidity available to a business. Net working capital: It is the difference between total assets and total liabilities of a given firm and indicates the extent to which short term-debt is exceeded by short-term assets (Figure 1).



**Figure 1**  
Net working capital

Source: Author's own work, based on P. Atrill: *Financial Management for decision makers*, Prentice Hall, 2009.

This relationship gauges how business is able to pay current debts using only its current assets. Current asset financing policies are driven by the manner of financing current assets. The company can choose one of the three policies:

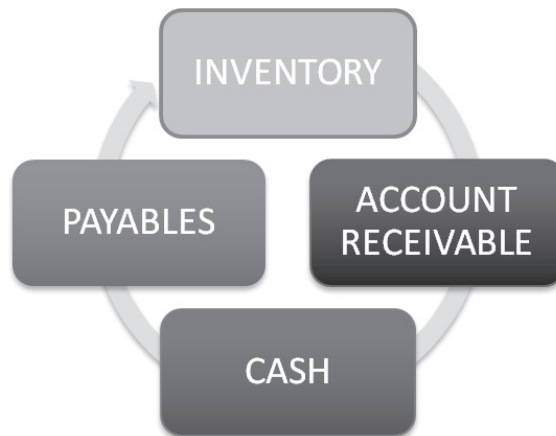
- an aggressive policy whereby a major portion of the company's fixed demand and the entirety of its volatile demand for financing current assets is satisfied with short-term financing;
- a moderate policy aiming to adjust the period when financing is needed to the period when the company requires given assets (as a result of such approach, a fixed portion of current assets is financed with long-term funds, while the volatile portion of these assets is financed with short-term funds);
- a conservative policy whereby both fixed and volatile levels of current assets are maintained with long-term financing.

In practice, working capital management has become one of the most important issues in the organizations where many financial executives are struggling to identify the basic working capital drivers and the appropriate level of working capital [Lamberson 1995, p. 45–50]. Consequently, companies can minimize risk and improve the overall performance by understanding the role and drivers of working capital. The main objective of working capital management is to maintain an optimal balance between each of the working capital components. Business success heavily depends on the ability of financial executives to effectively manage receivables, inventory, and payables. Firms can reduce their financing costs and/or increase the funds available for expansion projects by minimizing the amount of investment tied up in current assets [Filbeck, Krueger 2005, p. 11–18]. In process of working capital management to be able to control company performance, a manager needs to know more than what his goals are. The man-

agers must be able to measure the company performance and results against the goal [Drucker 1954].

## Cash Conversion Cycle

In management accounting, the **Cash Conversion Cycle (CCC)** measures express the length of time (days), that it takes for a company to convert resources inputs into cash flows (Figure 2).



**Figure 2**  
Working Capital Cycle

Source: Author's own work, based on P. Attrill: Financial Management for decision makers, Prentice Hall, 2009.

When company is fast growing based on this measure managers will know how long a firm will be deprived of cash if it increases its investment in resources in order to expand customer sales.

$$\begin{aligned}
 &+ \text{Days Inventory Outstanding (DIO)} \\
 &+ \text{Days Sales Outstanding (DSO)} \\
 &- \text{Days Payable Outstanding (DPO)} \\
 &\text{-----} \\
 &= \text{Cash Conversion Cycle (CCC)}
 \end{aligned}$$

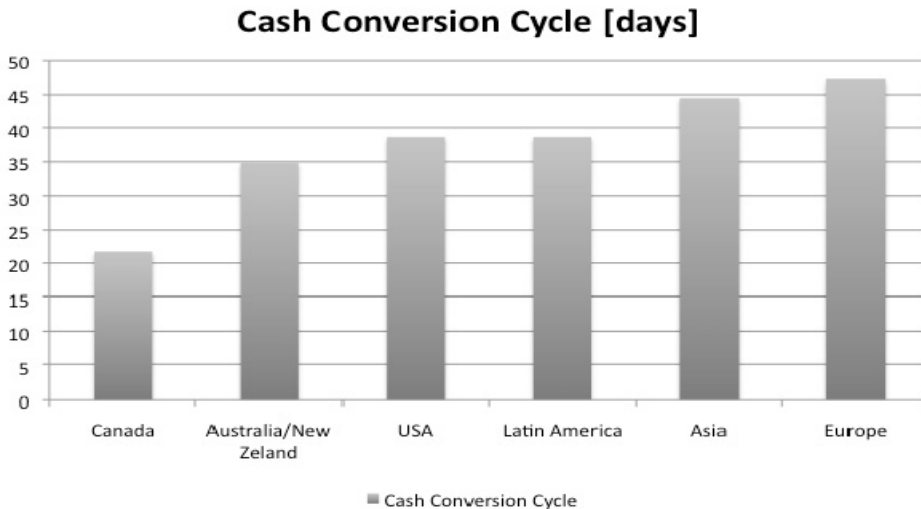
where:

$$\begin{aligned}
 \text{DIO} &= \text{Avg. Inventory} / \text{Cogs of goods sold} \\
 \text{DSO} &= \text{Avg. Receivables} / \text{Sales} \\
 \text{DPO} &= \text{Avg. Payables} / \text{Purchases Value}
 \end{aligned}$$

Based on a sample of 20,710 firm-year observations for 3,343 companies<sup>1</sup> over the 1996 to 2006 period, Matthew D. Hill, G. Wayne Kelly, and Michael J. Highfield find that the mean WC is \$296 million, or 23% of capital structure, on average [Hill, Kelly, Highfield 2010, p. 783–805]. This statistic suggests that working capital behavior deserves closer scrutiny, particularly increased net working capital reduces fixed- investment and evidence that profitability and risk-adjusted returns are negatively related to the cash conversion cycle.

The cash conversion cycle TOP 25 companies' on the world median is on level +29.6 days (2008 year financial data). And for is Apple Company has 45.2 days. Average CCC regional view across the world [Florez-Arango 2010] (Figure 3).

Some companies are inherently better placed than others. Insurance companies, for instance, receive premium payments up front before having to make any payments; however, insurance companies do have unpredictable cash outflow as claims come in. Normally, a big retailer like Wal-Mart has little to worry about when it comes to accounts receivable: customers pay for goods on the spot. Inventories represent the biggest problem for retailers; as such, they must perform rigorous inventory forecasting or they risk being out of business in



**Figure 3**  
Average Cash Conversion Cycles

Source: F.A. Florez-Arango: Optimizing Operating Working Capital, MarcusEvans Working Capital Management Conference Materials, 11th & 12th February 2010, Amsterdam.

<sup>1</sup> The initial sample includes all nonfinancial, nonutility, non-ADR, and SIC-classifiable firms covered by the Compustat database over the period 1991–2006.

a short time. Timing and lumpiness of payments can pose serious troubles. Manufacturing companies, for example, incur substantial upfront costs for materials and labor before receiving payment. Much of the time they eat more cash than they generate [McClure 2010].

For many firms, 2009 was one of their worst years. Faced with an adverse environment, many firms ‘slammed’ their working capital requirements as a response to the credit crunch. In prior years, firms may have allowed working capital positions to have outgrown their historical boundaries slightly, suggesting that some tightening of working capital might be appropriate. Concerning the operating conditions variables, sales growth and sales volatility is additional cause firms to manage operating working capital more aggressively. But in the end, working capital has to service the return and growth of the firm’s business, not the other way around. Yet, with their backs against the wall, some firms sought to reduce working capital by reducing accounts receivable payment terms and cutting inventory positions, among other initiatives [Westerman 2010]. Nowadays many firms may adopt an aggressive working capital management policy with a low level of current assets as percentage of total assets or it may also used for the financing decisions of the firm in the form of high level of current liabilities as percentage of total liabilities.

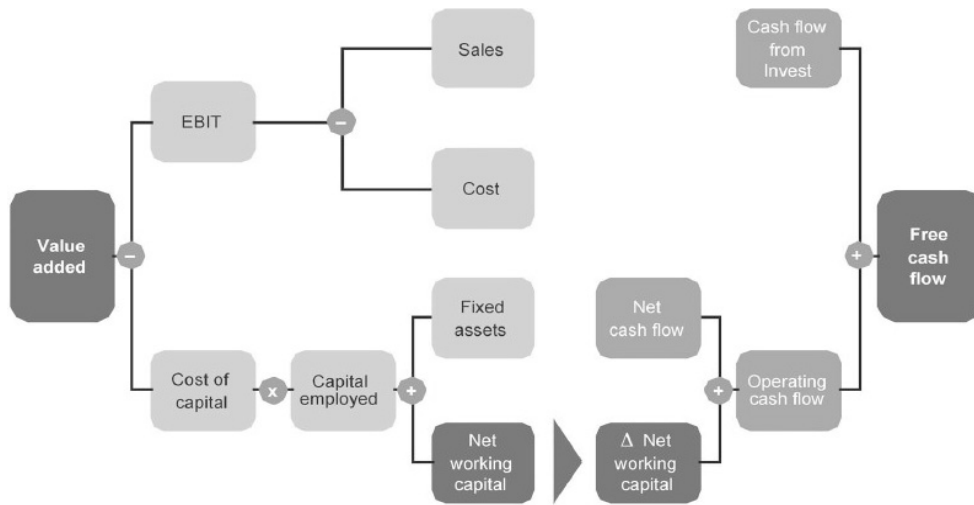
Excessive levels of current assets may have a negative effect on the firm’s profitability whereas a low level of current assets may lead to lower level of liquidity and stock outs resulting in difficulties in maintaining smooth operations [Van-Home, Wachowicz 2004]. Firms adopt working capital policies to address market imperfections over the operating cycle and incur costs and accrue benefits that affect cash flow and ultimately shareholder wealth.

## **Making more efficient use of Working Capital**

By streamlining end-to-end processes, companies can, for example, reduce stock, decrease replenishment times from internal and external suppliers, and optimize cash-collection and payment cycles. The positive effect of efficient working capital is increase of add value for shareholders and increase of free cash flow (Figure 4).

The table below lists items, which influence Working Capital levels favourably and adversely (Table 1).

The key is to uncover the underlying causes of excess operative working capital. In order to address the often hidden interdependencies among the different components and achieve maximum savings from a working capital program, companies must analyze the entire value chain, from product design to manufac-



**Figure 4**  
 Process of working capital management  
 Source: BCG.

**Table 1**  
 Factors that reduce and increase Working Capital

Factors that reduce Working Capital	Factors that increase Working Capital
– Increased profit margins	– Lower profit margins
– Customers who pay promptly	– Long production runs except where all the goods are required on market
– Advance payments by customers	
– Inventory which is sold and paid for quickly by customers	– Slow suppliers who deliver late and whose materials require substantial replace (low quality)
– Lower Inventory levels by reducing quantities and working with companies who will deliver quickly and produce low runs economically	– Holding big stocksof materials and finish goods
	– Slow schedules for the development of new products
– Factoring	– Making advance payments for delivers
– Successful promotion that speeds up the rate of sale	– Seasonal sales
– Licensing	
– Paying suppliers on completion with credit	
– Incentives to staff, suppliers, customers, sales staff and agents to speed up the rate of sale and	

Source: Open Society Institute: [http://www.osi.hu/cpd/policyresources/fmbp/chapter\\_06\\_page1\\_fmbp.html](http://www.osi.hu/cpd/policyresources/fmbp/chapter_06_page1_fmbp.html) [12.07.2010].

turing, sales and after-sales support. They must also look for ways to simplify and streamline processes and eliminate waste, always keeping potential tradeoffs in mind. For instance, cutting inventories of spare parts or reducing product customization could lead to a major reduction in inventory [Buchmann 2010].

## Conclusions

Cash is king, especially at a time when fund raising is harder than ever. Analyzing a company's working capital can provide excellent insight into how well a company handles its cash, and whether it is likely to have any on hand to fund growth and contribute to shareholder value [McClure 2010]. Best-in-class companies understood that the company- and industry-specific drivers behind each component of operative working capital and focus on optimizing the most promising ones. During this process, they consider the entire value chain to reveal the root causes of tied-up cash and take into account all interdependencies between the respective components. They apply a holistic approach in which they do not randomly reduce costs but consider all tradeoffs with costs and capital employed to optimize the company value. By applying the appropriate levers for each component, obstacles that slow cash flow can be removed and overall company processes can be improved [Buchmann 2010].

## Literature

- DRUCKER P.: *The Practice of Management*, Harper & Row, New York 1954.
- FILBECK G., KRUEGER T.: *Industry Related Differences in Working Capital Management*, Mid-American Journal of Business 20(2) 2005.
- FLOREZ\_ARANGO F.A.: *Optimizing Operating Working Capital*, MarcusEvans Working Capital Management Conference Materials, 11th & 12th February 2010, Amsterdam.
- HILL M.D., KELLY G.W., HIGHFIELD M.J.: *Net Operating Working Capital Behavior: A First Look*, Financial Management, Summer 2010.
- LAMBERSON M.: *Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity*, Mid-American Journal of Business 10(2) 1995.
- PREVE L.A., SARRIA-ALLENDE V.: *Working Capital Management*, Oxford University Press, London 2010.
- VAN-HOME J.C., WACHOWICZ J.M.: *Fundamentals of Financial Management* (12th Edition), New York, Prentice Hall Publishers 2004.
- WESTERMAN W.: *The value of working capital programs in the credit crunch*, Journal of Corporate Treasury Management, Vol. 3/05/2010.

## Internet sources

Buchmann P., Jung U.: *Best-Practice Working Capital Management: Techniques for Optimizing Inventories, Receivables, and Payables*, <http://www.qfinance.com/>

McClure B.: Working Capital Works; <http://www.investopedia.com/>

Open Society Institute,

[http://www.osi.hu/cpd/policyresources/fmbp/chapter\\_06\\_page1\\_fmbp.html](http://www.osi.hu/cpd/policyresources/fmbp/chapter_06_page1_fmbp.html)

## **Kapitał pracujący w przedsiębiorstwie w czasie kryzysu**

### **Streszczenie**

Kapitał obrotowy stanowi w firmie bufor bezpieczeństwa, który ułatwia zachowanie płynności finansowej. Zbyt niski poziom kapitału obrotowego grozi utratą płynności finansowej, a zbyt wysoki może być przyczyną powstania nieuzasadnionych, dodatkowych kosztów pozyskania kapitału przez przedsiębiorstwo. Aby zarządzanie kapitałem pracującym było efektywne finansowo, powinno zawsze rozpoczynać się od analizy cyklu obiegu gotówki w firmie. W artykule przedstawiono istotę kapitału pracującego oraz cyklu obiegu gotówki w przedsiębiorstwie. Ponadto scharakteryzowano czynniki, które mają zarówno korzystny, jak i niekorzystny wpływ na kapitał pracujący w firmie, również w czasie kryzysu.