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WORKING CAPITAL MANAGEMENT AND FIRM'S OPERATING PROFITABILITY IN KAZAKHSTAN

Current study analyses the relationships between working capital management and profitability for Kazakhstani firms. Previously no studies have been conducted on the same topic in Kazakhstan, and therefore there is no available empirical evidence on the issue. The analyses are based on the OLS regression and covariance analysis applied to the sample of 133 firms listed in Depository of Financial Statements (dfo.kz). The empirical results found the significant relationship between working capital management and firms' operating performance.

Key words: working capital, cash conversion cycle, profitability.

Бұл жұмыста қазақстандық компаниялардың айналым капиталын басқару тиімділігі мен табыстылығының өзара байланысы талданған. Қазақстан Республикасында бұл сұрақ бойынша жалпы қол жетімді зерттеулер нәтижелері жоқ болғандықтан эмпирикалық дәлелдеулерде жоқ. Жұмыста ең аз қалдықтар әдісімен регрессия талдауы, сонымен қатар Қаржылық Есептілік Депозитарийінен (dfo.kz) алынған ақпараттар бойынша 133 компания арасында іріктеу негізінде айнымалылардың ковариациондық байланысының талдауы жасалған.

Кілт сөздері: айналым капиталы, қолма-қол ақшаның айырбасталу кезеңі, рентабельділік

Данная работа анализирует взаимосвязь между эффективностью управления оборотным капиталом и прибыльностью казахстанских компаний. Нет общедоступных результатов исследований по данному вопросу в Республике Казахстан и, следовательно, отсутствуют эмпирические свидетельства. В работе использован анализ регрессии методом наименьших остатков, а также анализ ковариационной зависимости переменных, примененных к выборке из 133 компаний, информация по которым была получена из Депозитария Финансовой Отчетности (dfo.kz).

Ключевые слова: оборотный капитал, цикл конверсии наличности, прибыльность.

Business success heavily depends on the financial executives' ability to effectively manage receivables, inventory, and payables. The findings of Raheman & Nasr [1] and Afza & Nazir [2] suggested that managers can create a positive value for the shareholders by reducing CCC to a possible minimum level. The good working capital management is not only positively affecting profitability of the firm, it leads to increased cash flows, and thus leads to lesser need on external financing, therefore the probability of default for the firm is reduced [2].

Kazakhstan has been changing to a market oriented economy over the past 25 years, and there is growing recognition of importance of contribution of large and medium sized enterprises in the transitional economy. The country has established national economic institutions and started the transition from centrally planned to a market economy at independence. Since recovering in 2000, Kazakhstan's growth performance has been impressive, averaging almost 8% per annum in real terms between 2000 and 2013 [2]. In order to assess the determinants of business success and understand the ways of how businesses could be improved, each individual component of business operations should be considered individually. It has been noted by Grablowsky [3] and Pike & Pass [3] that the efficient management of working capital is crucial for the survival and growth of firms. A large number of business failures have been attributed to inability of financial

managers to plan and control properly the current assets and current liabilities of their respective firms.

There was a total of 198 firms selected from the database that fit these criteria. After revision of the firms activity and financial statements, 65 firms that performed financial services were excluded from initial sample. Those firms provided such financial services as bank services, brokerage and insurance, and other financial activity. Exclusion of financial institutions is consistent with Deloof and Raheman, and is due to distinct nature of their operations. Final sample of 133 firms represent various industrial sectors, including mining, oil and gas extraction, food and personal care production, engineering, production of fertilizers and chemicals, heavy machinery construction, automobile assembler, and others.

Working capital management is determined by cash conversion cycle and its components, namely, accounts receivable, accounts payable, inventory. Operating performance of the firm is represented by net operating profit margin.

The following regression analysis model was specified to examine the relationship between components of working capital management and operating profitability:

$$\text{NOP} = \beta_0 + \beta_1\text{ITID} + \beta_2\text{QR} + \beta_3\text{FATA} + \beta_4\text{CATURN} + \beta_5\text{LEV} + \beta_6\text{TALOG} \quad (1)$$

$$\text{NOP} = \beta_0 + \beta_1\text{DSO} + \beta_2\text{QR} + \beta_3\text{FATA} + \beta_4\text{CATURN} + \beta_5\text{LEV} + \beta_6\text{TALOG} \quad (2)$$

$$\text{NOP} = \beta_0 + \beta_1\text{PDP} + \beta_2\text{QR} + \beta_3\text{FATA} + \beta_4\text{CATURN} + \beta_5\text{LEV} + \beta_6\text{TALOG} \quad (3)$$

$$\text{NOP} = \beta_0 + \beta_1\text{CCC} + \beta_2\text{QR} + \beta_3\text{FATA} + \beta_4\text{CATURN} + \beta_5\text{LEV} + \beta_6\text{TALOG} \quad (4)$$

The model is based on the study of Tauringana & Adjapong [4] who used the similar approach to estimating the possible relationship between working capital management and firm's profitability in terms of RoA and RoE. However, unlike the original study, the current study is interested in effects of working capital management policies on operating performance of the company, therefore the RoA and RoE estimates of profitability are replaced by more relevant Net Operating Profitability.

The descriptive statistics of the control variables indicate that inventory is on average 10% of current assets. The ratio of current assets to total assets is 34% in average, and the fixed assets account 66% of total assets. Size of the firms determined by the natural logarithm of total assets. The average firm size is 16.55, with standard deviation 1.67. The minimum and maximum values are 10.98 and 20.57, respectively.

The average leverage of the firms is 37%. The minimum leverage is 3.4% and maximum leverage is 234% which is unusual, but possible if the equity is negative.

The average current asset turnover ratio is 2.76 with standard deviation 2.03.

The minimum and maximum ratios are 0.29 and 13.49, respectively.

The results of correlation analysis (Table 3) indicate the following:

Correlation of ITID (Inventory holding period) with NOP show us significant positive correlation 0.179, at $\alpha = 0.05$. It indicates that lower inventory holding period is associated with higher profitability, whereas the higher inventory holding period is associated with lower profitability. That is, if the ITID is lower, the firm is able to sell its average inventory balance in the shorter period. So, the firm is avoiding excessive investments in inventory financed by costly equity and debt capital[4]. This is in consistence with literature review

and hypothesis developed regarding effects of inventory management on firm's operating profitability.

The results of correlation analysis of DSO (Days sales outstanding) with NOP shows us significant negative correlation -0.277 , at $\alpha = 0.01$. This indicates that if average days sales outstanding increases, the NOP of the firm will decrease significantly, whereas if average days sales outstanding will decrease, the NOP of the firm will decrease significantly. So, the lower period of sales outstanding means that the firm succeeds in collection of its receivables; it is able to restrict credit terms and collect higher percentage of its receivable avoiding long-aged uncollectable accounts and bad debts.

Therefore, the firm with lower DSO has less needs of expensive equity and debt capital to finance those current assets. This result is supporting the literature review and hypothesis developed regarding the effects of management of receivable accounts on the firm's operating profitability.

The results of correlation analysis of PDP (Payables deferral period) with NOP shows us significant negative correlation 0.248 , at $\alpha = 0.01$. This indicates that if average payables deferral period increases, the NOP of the firm will increase significantly, whereas if average payables deferral period decreases, the NOP of the firm will decrease significantly. That is, firm that is able to defer its cash payments to supplier is more profitable. By this, if the firm is able to obtain better (longer) credit terms without penalties for late payment, then it is able to finance larger portion of its current assets, namely accounts receivable and inventory by non-interest bearing accounts payable. Hence, again the needs for expensive equity and debt capital are decreased. The result is consistent with the literature review and hypothesis developed regarding effects of management of accounts payable on the firm's operating profitability[5].

The cash conversion cycle, which is comprehensive indicator of firm's working capital management policies, indicate significant negative correlation -0.32 , at $\alpha = 1\%$. This indicates that if the firm is able to decrease the period between cash payment for inventory and cash collection for sales, then it will be able to increase profitability. This is consistent with the correlation analysis of

ITID, DSO and PDP. That firm is more profitable, which is able to sell inventory and subsequently collect cash from customers in a shorter time period, and able to defer cash disbursements to suppliers for a longer time period. These results suggest that if the firm is holding excessive inventory balances, and is not succeeding in managing of its accounts receivable, and has no power of deferring the cash disbursements to suppliers (or purchases are mainly in cash), it is expected to be less profitable that the firm which is well-managing its current assets and liabilities.

Model 1:

$$\text{NOP} = -0.629\text{ITID} + 0.007\text{QR} - 0.139\text{FATA} - 0.142\text{CATURN} + 0.103\text{TALOG}$$

The results of this regression indicate that the coefficient of inventory holding period is significant at $\alpha = 0.01$. It proves that the increase in inventory holding period will significantly decrease profitability, and decrease in inventory holding period will significantly increase profitability.

The firms with a higher operating profitability usually have shorter inventory turnover period. The trend line shows that as the inventory turnover period increases, the profitabil-

ity of the firms is relatively decreasing. Since there is sufficient evidence of the negative relationship between the firm's inventory management efficiency and the operating profitability, the following hypothesis is accepted:

H2: There is a significant negative relationship between inventory holding period and operating profitability Model 2:

$$\text{NOP} = -0.396\text{DSO} + 0.125\text{QR} - 0.104\text{FATA} - 0.087\text{CATURN} + 0.214\text{TALOG}$$

The results of this regression indicate that the coefficient of days sales outstanding is negative and highly significant at $\alpha = 1\%$. It proves that the increase in days sales outstanding will significantly decrease profitability, and decrease in days sales outstanding will significantly increase profitability.

The firms with a higher operating profitability usually have shorter receivable collection period. The trend line shows that as the receivable collection period increases, the profitability of the firms is relatively decreasing.

Since there is sufficient evidence of the negative relationship between the firm's accounts receivable management efficiency and the operating profitability, the following hypothesis is accepted:

H4: There is a significant negative relationship between days sales outstanding and operating profitability Model 3:

$$\text{NOP} = 0.3\text{PDP} + 0.168\text{QR} - 0.002\text{FATA} + 0.12\text{CATURN} + 0.157\text{TALOG}$$

The results of this regression indicate that the coefficient of payable deferral period is positive and highly significant at $\alpha = 0.01$. It proves that the higher deferral period of payment for accounts payable is associated with higher profitability of the firm [7].

Since there is sufficient evidence of the positive relationship between the firm's accounts payable management efficiency and the operating profitability, the following hypothesis is accepted:

H3: There is a significant positive relationship between PDP and operating profitability of the firm Model 3:

$$\text{NOP} = -0.438\text{CCC} - 0.161\text{QR} + 0.005\text{FATA} + 0.079\text{CATURN} + 0.161\text{TALOG}$$

The results of this regression indicate that the coefficient of cash conversion cycle is negative and highly significant at $\alpha = 1\%$. It proves that the lower period between cash payment for purchases and cash collections from sale is associated with higher firm profitability.

The firms with a higher operating profitability usually have shorter cash conversion cycle. The trend line shows that as the cash conversion cycle increases, the profitability of the firms is expectantly decreasing. Since there is sufficient evidence of the negative relationship between the firm's working capital management efficiency and the operating profitability, the following hypothesis is accepted:

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