

Платформа II. Вплив інструментарію контролінгу на розвиток корпоративних фінансів

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Working Capital Management in German Listed Firms:

Does Value-Based Management Matter?

Motivation. In the aftermath of recent global crisis, in light of rising precautionary demand for liquidity and increasing cash hoarding by firms, the analysis of working capital (WC) management has gained revived interest among corporate finance scholars. Meanwhile, gradual post-crisis deterioration of WC performance, WC volatility, current trillion-dollar cash opportunities trapped in WC, and some anecdotal evidence of companies with the sharp increase in WC flows and cash conversion cycles further raise public awareness on the issue. Yet, existing evidence on the determinants of WC performance is compartmentalized and relatively scarce.

Research question. Building up on the contingency theory, institutional theory, and agency theory, we empirically investigate the relationship between value-based management (VBM) control systems and WC management. Theoretically, gross WC is used by firms to run daily operations smoothly and support a firm's short-term solvency. *From the perspective of an executive*, gross WC may serve the risk management purpose by enabling firms to hedge ex ante uncertain liquidity needs, smooth intertemporal demand and price fluctuations, and absorb liquidity shocks. However, benefits of alleviating downside risks come at the cost of financing (unproductive) current assets that is not financed by current liabilities, which is net WC or NWC. *Thus, from the perspective of a shareholder*, firms face a trade-off between holding more NWC enabling to satisfy spontaneous liquidity needs or holding less NWC, and thereby, realizing higher return on investment. One way to

enforce efficient management of NWC is to charge financial managers the opportunity cost for the use of NWC. This idea is fundamental to value-based key performance indicators (KPIs) and underlines our analysis, while we hypothesize that firms steered by management control systems focused on shareholder value creation are more efficient in their NWC management.

Research design. To empirically test this hypothesis, we hand-collect a novel extensive panel data set on VBM implementation by German listed firms using the well-established method of content analysis of annual reports [4; 8]. Based on the sample of 162 German firms listed in the Prime Standard segment of the Frankfurt Stock Exchange over 2002-2014, we examine the effect of VBM adoption on the level of NWC and the speed of the NWC adjustment. Our analysis proceeds in two steps. *First*, we descriptively analyze the level of NWC (and its individual components) in a cross-section of firms and relative to the firm-specific target derived from the standard partial adjustment model widely-used in the capital structure literature [5]. *Second*, we apply a multivariate regression framework and examine the relationship between VBM adoption and the speed of the NWC adjustment toward target using panel data methods that account for potential endogeneity.

Empirical results. Overall, our results suggest that VBM control systems have a positive effect on WC management. Consistent with the view that VBM improves decision-making and resource allocation [9], our exploratory descriptive findings indicate that VBM adopters hold on average lower and less volatile NWC on the balance sheet and, furthermore, the level of a VBM adopter's NWC lies in closer proximity to the firm-specific target. When we regress the speed of the NWC adjustment on the indicator for VBM implementation, we find that, *ceteris paribus*, firms managed based on value-based KPIs are also characterized by higher speed of the above-target NWC adjustment suggesting that VBM adopters are able to identify excessive cash tied-up in WC and faster release it for potentially more productive uses. This result remains robust throughout different econometric techniques that account for potential unobserved heterogeneity (Table 1).

Table 1: Speed of Excess NWC adjustment in VBM and non VBM firms

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Method	Fixed effects	Logit	Fixed effects	OLS	Panel Tobit		System	GMM
Dependent variable	NWC Decreasedummy		NWC Decrease					
VBMS _t	-0.024 (-0.113)	-0.189 (-0.661)	-0.000 (-0.040)	-0.005 (-1.435)	-0.001 (-0.435)	-0.006 (-1.443)	-0.005 (-1.200)	-0.013** (-2.295)
ExcessNWC _t	12.914*** (9.730)		0.202*** (9.960)		0.122*** (6.889)		0.128*** (4.187)	
VBMS _t x ExcessNWC _t	4.326** (2.291)		0.050** (2.242)		0.038 (1.457)		0.017 (0.645)	
Positive excessNWC _t		12.353*** (6.069)		0.211*** (6.209)		0.132*** (5.371)		0.116*** (2.927)
VBMS _t x Positive excessNWC _t		6.523** (2.057)		0.104*** (2.655)		0.097** (2.267)		0.107*** (2.591)
Negative excessNWC _t		13.624*** (6.163)		0.191*** (7.074)		0.100*** (3.112)		0.132*** (3.017)
VBMS _t x Negative excessNWC _t		1.741 (0.501)		-0.016 (-0.517)		-0.043 (-0.799)		-0.126** (-2.022)
NWC Decrease _{t-1}							-0.027 (-0.867)	-0.028 (-0.928)
Constant			0.020*** (7.470)	0.019*** (5.370)	0.012 (1.078)	0.008 (0.717)	0.000 (.)	0.019*** (4.944)
Controls	no	no	no	no	no	no	no	no
Fixed effects	F, Y	F, Y	F, Y	F, Y	I, Y	I, Y	Y	Y
Observations	1,664	1,664	1,676	1,676	1,676	1,676	1,403	1,403
Firms	158	158	162	162	162	162	146	146
R-squared			0.249	0.253				
Hansen							0.278	0.423
AR(2)							0.183	0.282

The table reports estimates from the firm fixed effects logistic regression, within estimator, panel Tobit and system GMM. Dependent variable is a decrease NWC dummy (specifications (1)-(2)) and one-year absolute negative change in NWC (specifications (3)-(4)). *Positive (negative) excess NWC* indicates positive (negative) difference NWC_{it-1} and NWC_{it}^* and zero, otherwise. NWC_{it}^* is the target NWC ratio estimated as fitted values from OLS regression. *VBMS* is an indicator equal one if a firm uses VBM in a corresponding year and zero, otherwise. Standard errors are robust to heteroscedasticity and clustered at the firm level. t-statistics are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level.

Contribution. Our empirical research contributes to the emerging literature on WC management [1; 2; 3; 7] in several ways. First, we extend the list of WC determinants by integrating the dimension of management control systems that, to the best of our knowledge, has been neglected in previous studies. Second, we add to the controversial debate on practical implications of VBM. Apart from its conceptual merits, VBM has been frequently criticized by practitioners for its narrow focus on profit maximization and shareholder interests instead of, in words of Marc Benioff, “improving the state of the world and driving stakeholder value” [6]. In contrast to common view on shareholder value orientation as a trigger of short-termism [10], our

research provides evidence for the significant effect of VBM on the efficiency of WC management decisions.

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Endogenous factors of the company`s value

The cost management concept based on value maximization principle is among the most effective concepts since it implies that virtually all information related to business operations has to be considered when changing the value of the company. Accordingly, when taking a decision, the company's management should correlate the value with the impact of its change on the company's activities. In consideration of several alternative solutions, the choice is made in favour of the one which gives a greater increase in the company's value with all else being equal [69, p. 42].

Value is a complex indicator characterizing both the internal state of the company and the influence of external factors on it. Therefore, definition of the market value of a company is a very complex process since it is formed under the influence of numerous factors (both financial and non-financial) and is very sensitive to their change. Internal (endogenous) and external (exogenous) factors of the company's value can be identified.

External factors include those occurring independently of the company's management: demand, business restrictions (for example, state-imposed price restrictions), the supply-demand ratio, as well as the level of financial, production, marketing and other risks as well as political factors, competition, etc.