ACCOUNTS RECEIVABLE LEVELS AS PART LIQUIDITY MANAGEMENT STRATEGY IN POLISH NONPROFIT ORGANIZATIONS[1]

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Abstract

The basic financial aim of nonprofit organization is the most financially effective realization of the mission that cause the donors support for the organization. It is close in many points to creating of for-profit firms value. The aim of paper is to discuss the liquidity management model in Polish nonprofit organizations influenced by changes in economics and management occurring throughout managerial processes in the context of globalisation. Financial literature contains information about numerous factors that influence organization financial efficiency. Among those contributing factors is the extent of the net working capital and the elements shaping it, such as the level of cash tied up in accounts receivable, inventories, the early settlement of accounts payable, and operational cash balances. The theoretical model of financial liquidity management in nonprofit organization is illustrated by empirical data from over 3000 Polish NPOs.

Keywords: nonprofit organizations, nonprofit management efficiency, accounts receivable.
JEL Classification: L31, L33, G32.

Introduction

The basic financial aim of nonprofit organization is the most financially effective realization of the mission that cause the donors support for the organization. It is close in many points to maximization of for-profit firms value. Financial literature contains information about numerous factors that influence organization financial efficiency and performance. Among those contributing factors is the extent of the net working capital and the elements shaping it, such as the level of cash tied up in accounts receivable, inventories, the early settlement of accounts payable, and operational cash balances. Not many nonprofit organizations has to do with all aspects of liquidity decisions or current assets management. Like for-profit organizations, part of them, from current assets use only cash, redistributing it from donors to beneficent. Other nonprofit organizations collect free of charge goods for resale, using incomes to realizing the mission. Many of nonprofit organizations are almost identical in operating processes with for-profit businesses, but are nonprofit because of their main mission. Nonprofit organizations like the other organizations targets whole energy of the organization managing team to meet the needs of their clients: the beneficiaries (Kanovska 2012). Using cost of capital perspective, is needed to remember that nonprofit organizations works in strong competition for possibility to better serve the beneficiaries (Petuskiene 2011) but also strong fight for money from their donors (Caslavova 2011), and their instability affect NPOs performance resulting from the way managing teams of NPO uses to fill the financial gap (Snieska 2011).

The decision whether to extend the trade credit terms, is a compromise between limiting the risk of allowing for the payment postponement from unreliable purchasers and gaining new customers by way of a more liberal organization trade credit policy. This decision shapes the level and quality of accounts receivable. Robichek (Robichek, 1965) discus risk involved to accounts receivable decisions, which must be accepted by financial institutions pledging of accounts receivable of the firm. Smith (Smith, 1973) predicts and Michalski (Michalski, 2008) shows that portfolio theory may be used to decrease accounts receivable risk. Friedland (Friedland, 1966) agree with, that current assets could be viewed in portfolio context. Pringle and Cohn (Pringle, 1974) even try to adapt the CAPM theory to working capital elements. Bierman and Hausman (Bierman, 1970) discuss the granting policy of an organization and shows that trade credit policy requires balancing the future sales gains against possible losses. Lewellen, Johnson and Edmister (Lewellen, 1972; Lewellen, 1973) explain how and why traditional devices used for monitoring accounts receivable should be changed by new and better ones. Freitas (Freitas, 1973) shows relation between liquidity and risk during accounts receivable management. The question discussed in this article concerns the making decisions by nonprofit organizations in accounts receivables area.

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2. Model of accounts receivable management in NPO

Value of organization liquid assets holdings is positive (Decamps 2011), and results on financial performance of the organization. If holding accounts receivable on a level defined by the organization provides greater advantages than negative influence, the nonprofit organization efficiency will grow. Changes in the level of accounts receivable affect the efficiency of the nonprofit organization. To measure the effects that these changes produce, in paper is used the following formula, which is based on the assumption that the nonprofit organization efficiency is the sum of the future free cash flows to the nonprofit organization (*FCNPO*), discounted by the rate of the cost of capital financing the realization of nonprofit organization mission:

$$\Delta V_{npo} = \sum_{t=1}^{n} \frac{\Delta FCNPO_t}{(1+k)^t}, \quad (1)$$

where ΔV_{npo} = nonprofit organization efficiency increase; $\Delta FCNPO_t$ = future free cash flow growth in period t; and k = discount rate equal to cost of capital rate.

To estimate changes in accounts receivable levels, could be accepted discount rate equal to the average weighted cost of capital (CC). Such changes and their results are strategic and long term in their character, although they refer to accounts receivable and short run area decisions, see: (Maness, Zietlow, 1998, pp. 62-63). The basic financial aim of the nonprofit organization is not the firm value creation but as close as possible realization of the mission of that organization (Zietlow, Hankin, Seidner, 2007, p. 6-7). But for assessment of financial decision nonprofit organizations, should be used analogous rules like for for-profit firms (Brigham 2006). That rules claim that the higher risk should be linked with the higher cost of capital rate used to evaluate the future results of current decision. Of course, that is also positively connected with the level of efficiency and effectiveness in realization of the nonprofit organization mission. Cost of capital financing nonprofit organizations is issued in strong competition for money context (Caslavova 2011, Zietlow 2010), and that affect accounts receivable management. Cost of financing accounts receivables policy is a result of the risk included to the organization strategy of financing and/or investment in accounts receivables.

During estimation of the free cash flows, the holding and increasing of accounts receivables ties up money used for financing accounts receivables. If accounts receivables level increases, the nonprofit organization must utilize and tie up more money, and this decreases free cash flows. Production level growth necessitates increased levels of cash, inventories, and accounts receivable. A part of this growth will be covered with current liabilities that automatically grow with the growth of production and sales. The remaining cash requirements (that are noted as net working capital requirements growth, *ΔNWC*) will require a different form of financing.

Accounts receivables policy decisions changing the terms of trade credit create a new accounts receivable level. Consequently, accounts receivable policy has an influence on nonprofit organization efficiency. This comes as a result of alternative costs of money tied in accounts receivable and general costs associated with managing accounts receivable. Both the first and the second involve modification of future free cash flows and as a consequence the nonprofit organization efficiency changes. Figure 1 shows the influence of accounts receivables policy changes on nonprofit organization efficiency. These decisions change: future free cash flows generated by nonprofit organization operations (*FCNPO*), time of the organization life (*t*) and rate of the cost of capital financing the nonprofit organization operations (*k*).

Changes to these three components influence the efficiency of nonprofit organization (Δ*Vnpo* = nonprofit organization efficiency increase).

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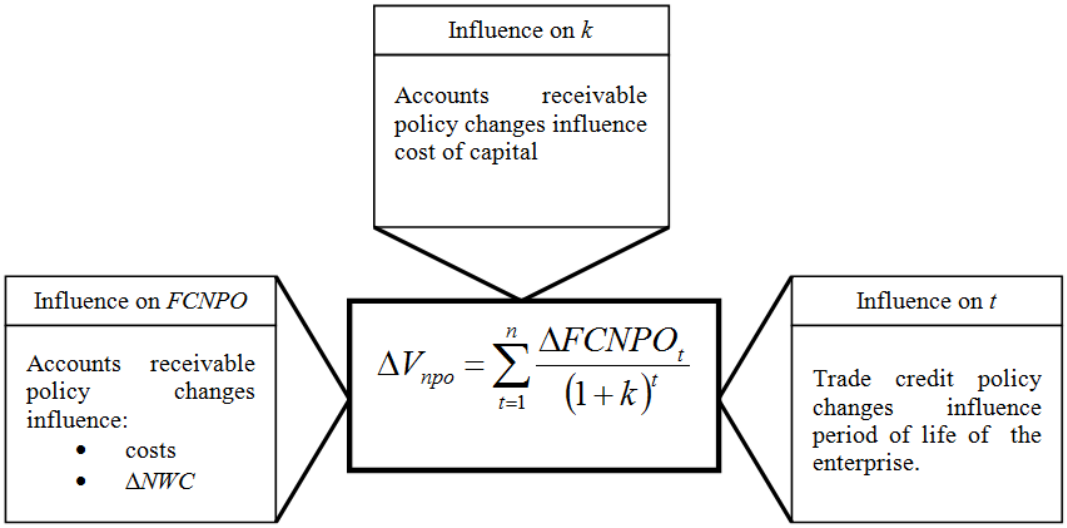

where *FCNPO* = free cash flows to nonprofit organization; Δ*NWC* = net working capital growth; *k* = cost of the capital financing the firm; and *t* = the lifetime of the firm and time to generate single *FCNPO*.

Figure 1. The model of accounts receivable policy influence on efficiency of NPO
Source: own study based on (Michalski, 2008).

Accounts receivable changes (resulting from changes in accounts receivable policy of the organization) affect the net working capital level and also the level of accounts receivable management operating costs in the nonprofit organization; these operating costs are a result of accounts receivable level monitoring and recovery charges).

Trade credit terms give evidence about an organization trade credit policy. They are the parameters of accounts receivable policy and include: the maximum delay in payment by purchasers (trade credit period); the time the purchaser has to pay with a cash discount; and the rate of the cash discount.

The length of the cash discount period and the maximum delay in payment by purchasers give information about the character of the nonprofit organization accounts receivable policy. These trade credit conditions use information about cash discount rate, cash discount period, and maximum payment delay period. The terms of a trade credit sale are the result of a nonprofit organization managing team decision made on the basis of information about factors such as: market competition, the kind of goods or services offered, seasonality and elasticity of demand, price, type of customer, and margin from sale. Nonprofit organizations can use smaller margin from sale policy than their for-profit equivalents.

It is important to match the length of the trade credit of the nonprofit organization to its beneficiaries capabilities. The organization giving the trade credit should take into account the purchasers (when it is adequate) inventory conversion cycle as well as its accounts receivable conversion cycle (Kraftova 2011) and other indicators showing the performance of the organization. These two elements make up the operating cycle of a purchaser. The shorter this cycle, the shorter the maximum payment delay period offered to a purchaser should be. The maximum payment delay period for purchaser is the maximum expected period of accounts receivable cycle for a payer.

3. Nonprofit organizations accounts receivable management

There are possible various ways of managing of accounts receivable. More restrictive policies with as small as possible levels of accounts receivables, more flexible policies with as liberal policy in accounts receivables as needed to activate the cash revenues collection and moderate accounts receivables policies.

Organizations even in one industry differ one from another (Pridotkiene 2011, Ciemleja 2011), and that influence the right choice of the accounts receivable strategy. Restrictive solutions are pretend to be cheaper thanks to smaller costs of managing accounts receivables but in fact they are also linked with higher level of operational risk. That risk results with higher cost of capital from financing and smaller efficiency from free cash flows generated by nonprofit organization operations. On the other side, more flexible

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solutions are linked with lower level of operational risk. That results with lower cost of capital from financing and higher efficiency from free cash flows generated by nonprofit organization operations.

Generally aimed on realization of the mission nonprofit organizations, should to choose more safe and more flexible accounts receivable policies. Figure 2. presents data collected for Polish nonprofit organizations, for years 2009 and 2010. We can observe the levels of accounts receivables for organizations which maintain inventories (minimum 100 PLN of inventories) and manage the account receivables (maintain minimum 500 PLN of accounts receivables level).

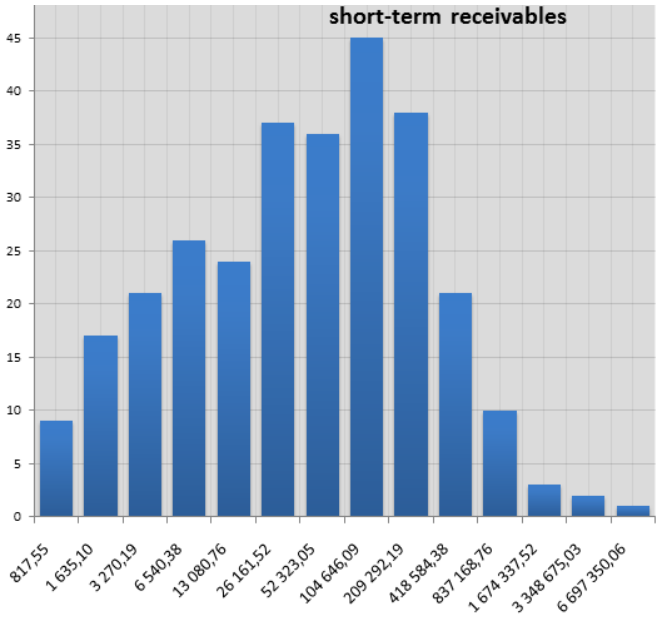

Figure 2. Short-term receivables in Polish nonprofit organizations in 2009. Logarithmic scale.
Source: own calculations based on (BOPP 2011)

Figure 2 and Table 1 presents accounts receivable levels in Polish nonprofit organizations for 2009 data. Winsorized mean is about 51000 PLN, the adequate level for for-profit Polish firms (table 5) is more than ten times higher: 6760000 PLN. That shows the tendency of nonprofit organizations to maintain small (restrictive like) levels of accounts receivables in comparison with for-profit firms.

Table 1. Short-term receivables and other short-term levels in Polish nonprofit organizations in 2009

-	Inventories	short-term receivables	long-term receivables	Cash	Equity
Size of population	291	291	291	291	291
Arithmetic mean	106 048	155 610	879 108	756 208	3 299 925
Standard deviation	536 494	563 989	3 099 531	2 788 115	25 841 594
median	12 253	34 204	112 929	102 379	283 549
winsorized mean	22 181	51 018	196 354	174 270	524 667
Truncated mean	99 215	195 526	933 907	800 548	2 304 970
skewness	13	8	7	9	16
Maximum	8 337 109	6 697 852	32 241 400	32 241 400	433 676 598
Minimum	141	501	-	-	- 846 571

Source: own calculations based on (BOPP 2011)

Cost of capital rate for for-profit organizations is usually higher than similar rate for nonprofit organizations. That, according to the model, can justify even higher nonprofit accounts receivables levels than in for-profit firms, so that results are probably the effect of too little, than should, risk aversion of managing teams in Polish nonprofit organizations.

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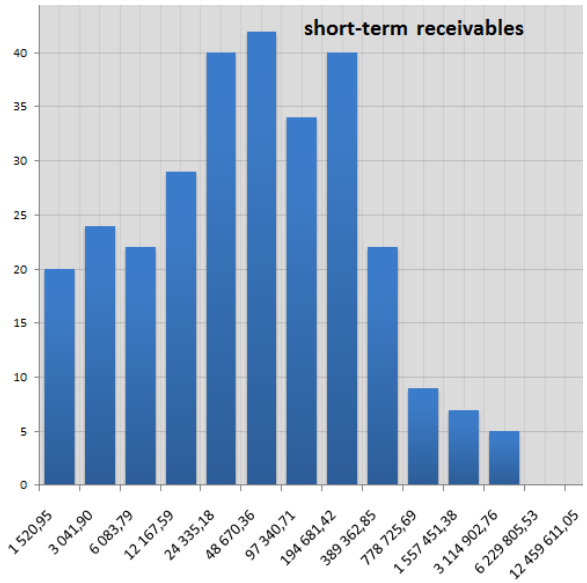

Figure 3. Short-term receivables in Polish nonprofit organizations in 2010. Logarithmic scale.
Source: own calculations based on (BOPP 2011)

Similar observation we can take from figure 3 and table 2, which present accounts receivable levels in Polish nonprofit organizations for 2010 data. Winsorized mean is similar: 50501 PLN, the adequate level for for-profit Polish firms is more than ten times higher: 67600000 PLN.

Table 2. Short-term receivables and other short-term levels in Polish nonprofit organizations in 2010

-	Inventories	short-term receivables	long-term receivables	Cash	Equity
Size of population	295	295	295	295	295
Arithmetic mean	88 561	179 889	766 195	719 420	3 089 211
Standard deviation	252 040	799 274	3 467 684	3 449 117	25 978 301
median	11 117	33 070	103 146	97 659	252 333
winsorized mean	21 867	50 501	207 727	181 162	495 101
Truncated mean	105 489	194 413	956 446	855 731	2 124 652
skewness	5	13	14	15	16
Maximum	2 032 295	12 460 263	56 495 424	56 495 424	435 681 106
Minimum	124	652	-	-	- 772 372

Source: own calculations based on (BOPP 2011)

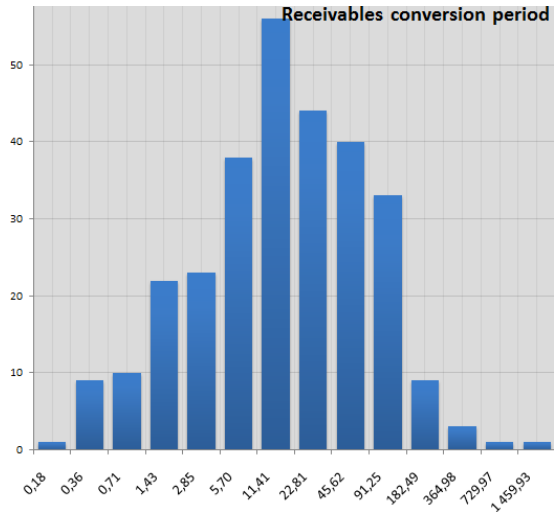

Figure 4. Receivables conversion period in Polish nonprofit organizations in 2009. Logarithmic scale
Source: own calculations based on (BOPP 2011)

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Figure 4 and Table 3 presents accounts receivable period in Polish nonprofit organizations for 2009 data. Winsorized mean is 13,81 days, the adequate level for for-profit Polish firms is longer and take 50,4 days (table 5).

Table 3. Receivables conversion period and other short-term characteristics in Polish nonprofit organizations in 2009

-	Receivables conversion period	Payables conversion period	Inventory conversion period	Operating cycle	Cash conversion cycle
Size of population	291,00	291,00	291,00	291,00	291,00
Arithmetic mean	652,42	2583,94	5933,51	6585,93	4001,99
Standard deviation	10653,87	37165,26	100672,97	111326,64	75036,80
median	9,75	16,52	4,08	20,29	1,98
winsorized mean	13,81	20,98	8,64	28,26	5,61
Truncated mean	50,92	69,90	44,49	96,05	48,78
skewness	17,06	16,35	17,06	17,06	16,85
Maximum	1460,00	1460,00	1460,00	1460,00	1460,00
Minimum	0,07	0,00	0,01	0,57	-111883,29

Source: own calculations based on (BOPP 2011)

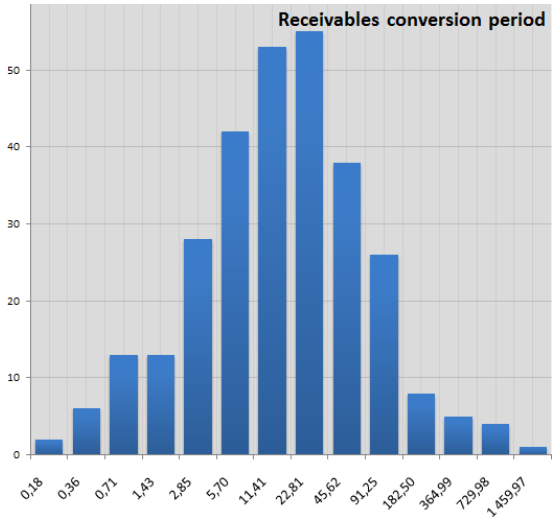

Figure 5. Receivables conversion period in Polish nonprofit organizations in 2010. Logarithmic scale.
Source: own calculations based on (BOPP 2011)

Figure 5 and table 4 presents accounts receivable period in Polish nonprofit organizations for 2010 data. Winsorized mean for that period is also 13,82 days, the adequate level for for-profit Polish firms is three times longer and take 50,4 days (table 5).

Table 4. Receivables conversion period and other short-term characteristics in Polish nonprofit organizations in 2010

-	Receivables conversion period	Payables conversion period	Inventory conversion period	Operating cycle	Cash conversion cycle
Size of population	295,00	295,00	295,00	295,00	295,00
Arithmetic mean	38,83	274,91	45,40	84,23	-190,68
Standard deviation	136,30	2923,92	205,55	283,19	2817,74
median	10,47	15,46	4,49	19,64	1,12
winsorized mean	13,82	21,22	9,16	29,10	4,02
Truncated mean	49,01	70,01	51,93	111,25	54,54
skewness	9,05	16,08	11,52	8,44	-16,09
Maximum	1460,00	1460,00	1460,00	1460,00	1460,00
Minimum	0,03	0,01	0,00	0,29	-47279,45

Source: own calculations based on (BOPP 2011)

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Table 5. Short-term receivables, other short-term levels, receivables conversion period and other short-term characteristics in Polish for-profit organizations in 2009-2010

-	Inventories	short-term receivables	Cash	Receivables conversion period	Payables conversion period	Inventory conversion period
Size of population	5512	5512	5512	5512,00	5512,00	5512,00
Arithmetic mean	6 954 595	10 202 712	5 100 853	59,82	152,73	58,02
Standard deviation	10 997 415	13 233 062	9 618 039	80,81	2182,70	658,87
median	3 080 309	5 512 347	1 765 015	48,47	61,04	26,10
winsorized mean	4 048 852	6 760 000	2 554 660	50,40	65,15	28,95
Truncated mean	14 032 881	20 786 559	9 563 853	113,75	151,56	82,71
skewness	3	3	4	13,17	37,60	67,94
Maximum	97 625 648	99 869 800	99 960 654	1460,00	1460,00	1460,00
Minimum	10 232	10 253	1 173	-81,26	-537,56	-77,10

Source: own calculations based on (MPB 2011)

4. Conclusions

Presented liquidity management model for nonprofit organization was assumed that organization liquid assets holdings has positive value, and results on financial performance of the organization (Decamps 2011). Polish nonprofit organization management of accounts receivable and decisions linked with it are very complex. When too much money is tied up in nonprofit organization accounts receivables, because of an extreme liberal policy of giving trade credit, this burdens the organization with higher costs of accounts receivable service with additional high alternative costs.

Additional costs are further generated by bad debts from risky customers. On the other hand, the more liberal accounts receivable policy could help enlarge inflows from cash revenues. Data used for the calculations comes from over 3000 Polish nonprofit organizations and over 6000 Polish nonprofit organizations financial statements collected for 2009 and 2010. Few of the NPOs use accounts receivables management at all, so it results with fact that it is in connection to real operational cycle with inventories. As is shown in tables, there are 295-291 statements included because not all nonprofits use accounts receivable management at all. For presented information are helpful median and winsorized mean, which show that accounts receivable period in Polish nonprofit organizations is shorter than adequate periods in for-profit Polish organizations.

Cost of capital rate for for-profit organizations is usually higher than similar rate for nonprofit organizations. That, according to the model, can justify even higher nonprofit accounts receivables levels than in for-profit firms, so that results are probably the effect of too little, than should, risk aversion of managing teams in Polish nonprofit organizations. That shows that they generally can use rather restrictive than flexible idea of accounts receivable management. It's more risky solution, but by current operational perspective is cheaper according to general theory but also it is specific for nonprofit sector to use that levels of accounts receivables.

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