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ORGANIZATIONAL AND METHODICAL SUPPORT FOR FINANCIAL MANAGEMENT AT MACHINE-BUILDING ENTERPRISES

The article provides further improvement of organizational and methodical support for financial management of machine-building enterprises, grounding the efficiency of applying the financial leverage methods in enterprises' activities. The optimal models of financial resources distribution are determined and practical recommendations on their application are given.

Keywords: *financial leverage; financial management; financial resources; machine-building enterprises.*

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ОРГАНІЗАЦІЙНО-МЕТОДИЧНЕ ЗАБЕЗПЕЧЕННЯ ФІНАНСОВОГО УПРАВЛІННЯ МАШИНОБУДІВНИМИ ПІДПРИЄМСТВАМИ

У статті удосконалено організаційно-методичне забезпечення фінансового управління машинобудівними підприємствами, обґрунтовано ефективність застосування методів фінансового левериджу в діяльності підприємств. Визначено оптимальні моделі розподілу фінансових ресурсів та надано практичні рекомендації щодо подальшого їх застосування.

Ключові слова: *фінансовий левередж; фінансове управління; фінансові ресурси; машинобудівне підприємство.*

Рис. 2. Табл. 2. Літ. 10.

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ОРГАНИЗАЦИОННО-МЕТОДИЧЕСКОЕ ОБЕСПЕЧЕНИЕ ФИНАНСОВОГО УПРАВЛЕНИЯ МАШИНОСТРОИТЕЛЬНЫМИ ПРЕДПРИЯТИЯМИ

В статье усовершенствовано организационно-методическое обеспечение финансового управления машиностроительными предприятиями, обоснована эффективность применения методов финансового левериджа в деятельности предприятий. Определены оптимальные модели распределения финансовых ресурсов и даны практические рекомендации по дальнейшему их применению.

Ключевые слова: *финансовый левередж; финансовое управление; финансовые ресурсы; машиностроительное предприятие.*

Problem statement. To increase the efficiency of financial management machine-building enterprises use various methods. At this, the key criteria for efficiency is capital optimization at enterprises which is determined by means of financial leverage. Using this tool, enterprises' management makes strategic decisions about the "ideal balance" of own and borrowed capital, and in the future, both near and more distant, this would enable financial resources provision.

Recent research and publications analysis. Nowadays researchers dedicate more and more attention to studying organizational and methodological issues of financial provision for enterprises' activities. Among such researchers we should note the works

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of V. Gerasumchuk (1995), A.Klimova (2008), I. Chunytska (2007), K. Cameron and R. Quinn (2011), R. Yusnytska (2005), A. Pilipenko and O. Duda (2012) and others. Despite the availability of quite a wide range of studies on this issue, theoretical, methodological and applied (practical) aspects of this problem remain insufficiently explored and thus require further investigation.

Unresolved issues. What in particular remains not sufficiently studied, both theoretically and practically, is quite a range of tasks related to the efficiency of applying organizational and methodological toolkit in financial management, including the methods of financial leverage during transformational changes; searching for new priority directions in financial efficiency functioning of machine-building enterprises.

The research aim is grounding the expediency of further improvements in organizational and methodological provision of financial management. In the practical part of this research special emphasis is made on financial management at machine-building enterprises.

Key research findings. Management methods applied at machine-building enterprises determine the influence of various incoming factors on financial management. This impact on various enterprises can be different, mostly depending on property structure. The key goal of financial management at any enterprise is to overcome the following shortcomings and drawbacks: too high spending on keeping the production capacities operating; inconsistency between credit-financial system and the market economy demands; unequal and unfair conditions for enterprises of different forms of ownership, especially when it comes to crediting; the significant share of cash being in circulation between enterprises instead of banking operations; absence of financial responsibilities assigned to particular departments for their performance outcomes. So, the choice of a particular method (way) of financial management depends on the strategically important factors which are significant but at the same time are points of instability in external and internal environment thus requiring more attention and focus (Figure 1).

Financial management efficiency depends greatly on the right choice of organizational and methodological provision for it, and the key method in it often can be financial leverage, the efficiency of the implementation of which is focused on the same factors, as in long-term swops and reconciliation agreements (Figure 2).

Selecting the most efficient method of financial management – financial leverage – we can state that on its grounds we can determine the borderline between debt and own capital at machine-building enterprises.

To calculate the effect of financial leverage for machine-building enterprises we use the data from the reports in order to (Chunytska, 2007):

- determine the differential of financial leverage;
- calculate the tax corrector;
- define the financial leverage arm;
- estimate the effect of financial leverage.

Calculating the effect of financial leverage for machine-building enterprises (the data source on these enterprises – the site www.smida.gov.ua) we thus get an opportunity to see the real efficiency of enterprises' borrowed capital, taking into account that there is always a fee for such borrowing (Table 1).

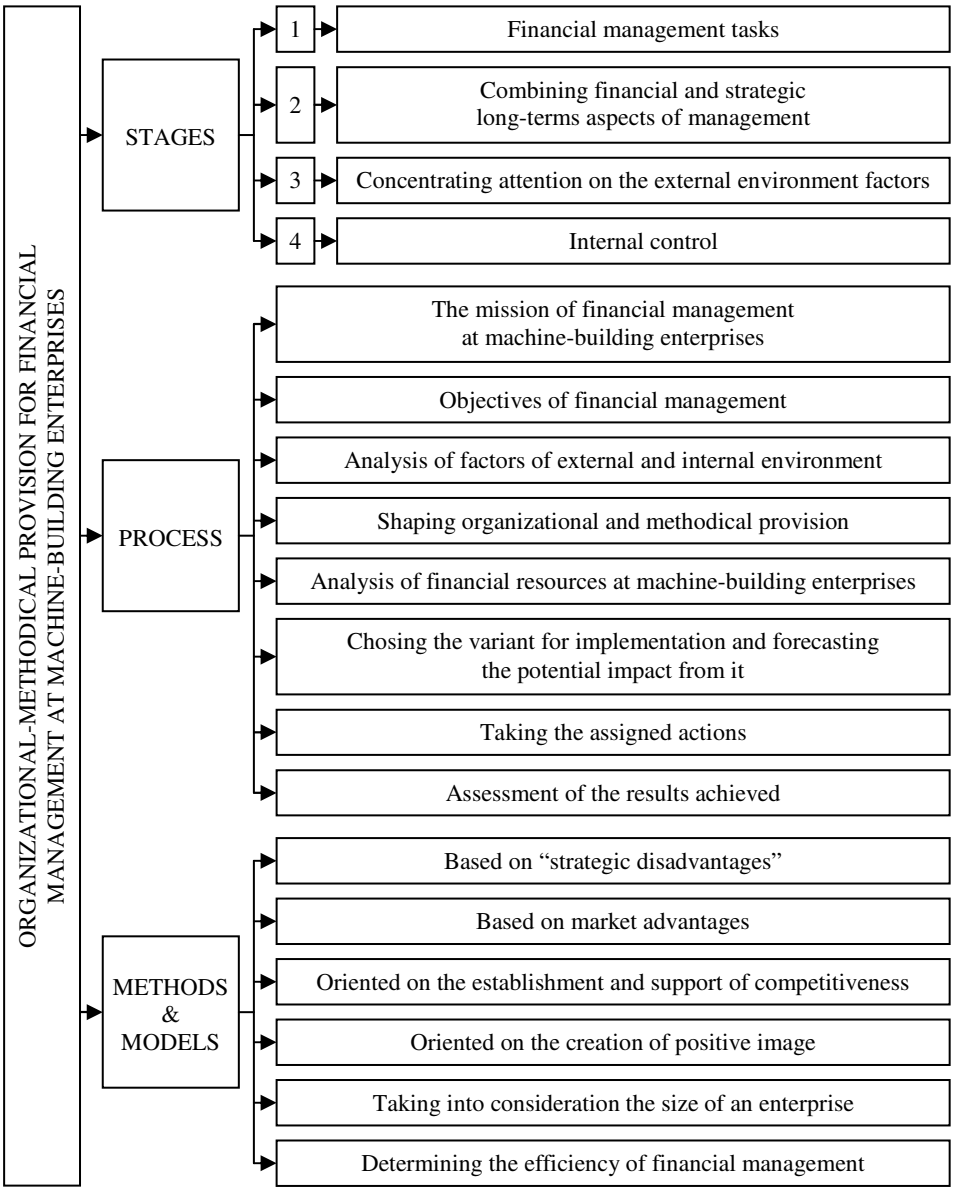

Figure. 1. **Organizational and methodical provision for financial management at machine-building enterprises,** *authors' construction*

The size of financial leverage differential is the key precondition for the formation of a multiplier effect from this financial leverage. The data in Table 1 clearly demonstrate that, for example, "Gaivoronskyi locomotive repair plant" during 2013–2014 had this indicator negative. This was caused by the fact that during these two years the gross profit of this enterprise was insignificant; and the attracted borrowings instead of generating additional income, generated mostly expenditures, thus also decreasing the profitability of own capital. The same situation is observed also for

"Dnipropetrovsk locomotive repair plant" and "Dnipropetrovsk plant for repair and construction of passenger cars".

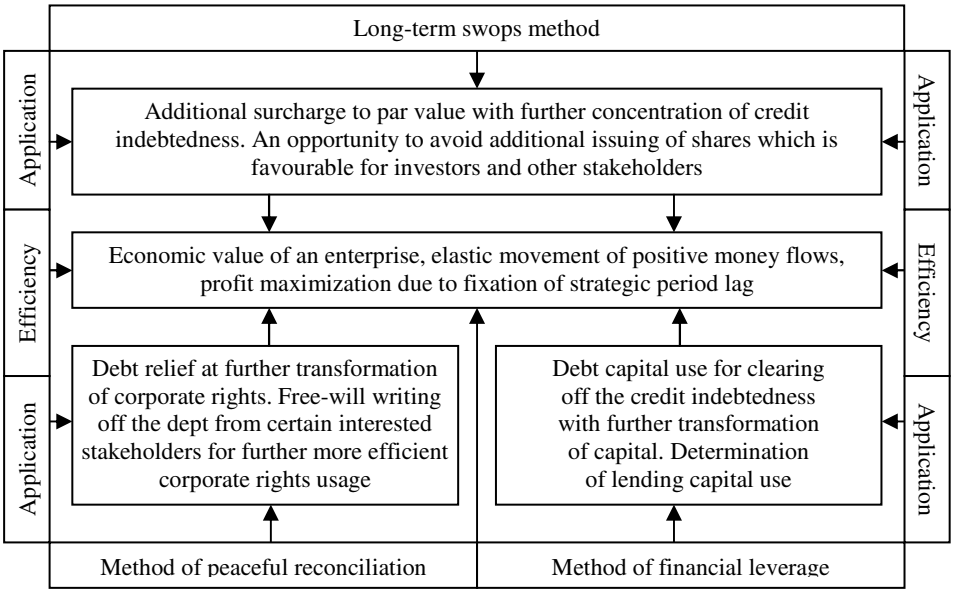

Figure 2. **Efficient application of key methods of financial management at machine-building enterprises,** *authors' development*

Therefore, these three plants mentioned above need to take measures for increasing their gross assets profitability by means of increasing gross profit.

Let us build 7 optimization models for machine-building enterprises (Table 2).

The presented calculations show that the most efficient optimization model for Gaivronoskyi plant is the 3rd model, for Dnipropetrovsk locomotive repair and passenger car plans – the 7th model, since in these cases the enterprises' funds are mostly formed out of own funds. In the 3rd model the majority of funds are owned, only insignificant part is borrowed, the effect of financial leverage is 0.99%, while the net profitability of own capital makes up to 19.2%. This indicator is the same for models 3 and 4, however, in this case the 3rd model is more expedient because of the leading role of owned funds.

Therefore, the differentials of financial leverage for "Locomotive repair plant", "Zaporizhzhya mechanical engineering plant" and "Dnipropetrovsk rail switch plant" are getting smaller, thus enabling these enterprises timely pay for their credits. This makes the enterprises more independent, reducing their dependence from creditors and investors. Also, this helps maintain profitability of own capital, at least at the mid level. That is, by means of better profitability these enterprises are able to cover the interest for credit and still there will be left some extra profit for further use in their activities.

The first model for "Locomotive repair plant" is characterized by the absence of borrowed capital as such, that means the enterprise uses only its own capital, which amounts to 160.43 mln UAH. The planned return on assets is 20%, and the rate on credit taking into account the risk is 17%. The gross profit is 32.09 mln UAH. The net

margin ration is 15.80% (for "Zaporizhzhya mechanical engineering plant" – 18.24%; for "Dnipropetrovsk rail switch plant" – 20.95%), and the financial leverage effect for all these enterprises under study is 0.

Table 1. **Calculating the effect from financial leverage for machine-building enterprises, 2012–2017,** *authors'*

#	Indicators	2012	2013	2014	2015 (forecast)	2016 (forecast)	2017 (forecast)
"Gaivoronskyi locomotive repair plant"							
1	Financial leverage differential	0.17	0.11	0.07	0.04	0.05	0.07
2	Tax corrector	0.75	0.75	0.77	0.79	0.81	0.84
3	Financial lever arm	0.89	0.94	0.80	0.98	1.01	1.02
4	Financial leverage effect	0.05	-0.06	-0.02	0.03	0.04	0.06
"Dnipropetrovsk locomotive repair plant"							
1	Financial leverage differential	0.03	0.08	0.08	0.06	0.11	0.09
2	Tax corrector	0.31	0.44	0.49	0.40	0.40	0.35
3	Financial lever arm	0.48	0.42	0.13	0.15	0.37	0.74
4	Financial leverage effect	0.46	0.61	0.52	0.45	0.38	0.49
"Dnipropetrovsk plant for repair and construction of passenger cars"							
1	Financial leverage differential	0.06	0.05	0.09	0.15	0.10	0.11
2	Tax corrector	0.53	0.37	0.44	0.53	0.34	0.42
3	Financial lever arm	0.18	0.23	0.18	0.64	0.68	0.58
4	Financial leverage effect	0.47	0.22	0.38	0.52	0.67	0.57
"Locomotive repair plant"							
1	Financial leverage differential	0.10	0.06	0.04	0.08	0.11	0.03
2	Tax corrector	0.54	0.75	0.20	0.55	0.62	0.41
3	Financial lever arm	0.69	0.65	0.74	0.73	0.94	0.76
4	Financial leverage effect	0.57	0.54	0.76	0.88	0.85	0.63
"Zaporizhzhya mechanical engineering plant"							
1	Financial leverage differential	0.08	0.08	0.09	0.10	0.03	0.04
2	Tax corrector	0.82	0.65	0.96	0.29	0.28	0.46
3	Financial lever arm	0.68	0.58	0.59	0.70	0.36	0.54
4	Financial leverage effect	0.68	0.82	0.70	0.28	0.31	0.34
"Dnipropetrovsk rail switch plant"							
1	Financial leverage differential	0.08	0.07	0.03	0.07	0.10	0.06
2	Tax corrector	0.77	0.77	0.76	0.23	0.35	0.35
3	Financial lever arm	0.72	0.73	0.49	0.48	0.41	0.32
4	Financial leverage effect	0.52	0.47	0.44	0.23	0.11	0.31

In the second model, the financial leverage ratio for "Locomotive repair plant", "Zaporizhzhya mechanical engineering plant" and "Dnipropetrovsk rail switch plant" makes 0.33. And in the fourth model, for which the financial leverage ratio is 0.67, the gross profit, excluding the credit interests (18%, or 11.59 mln UAH) would be 20.50 mln UAH.

In the fifth model the financial leverage ratio is equal 1, and this means that the volume of owned capital is equal to the volume of borrowed capital. The profitability ratio of owned capital is reaching its maximum for "Locomotive repair plant", and the financial leverage effect is 1.19% (for "Zaporizhzhya mechanical engineering plant" it would be 2.27%; for "Dnipropetrovsk rail switch plant" – 0.54%). In this model for each 1 UAH of owned capital goes 1 UAH of borrowed capital. In the sixth model we

can see that the structure of capital is dominated by borrowed capital. In the seventh model for 1 UAH of owned capital we have 2 UAH of borrowed capital, and this is the demonstration that this very model is not applicable for real use by enterprises.

Table 2. **Determining the optimal structure of financial resources at machine-building enterprises at various levels of financial leverage in 2015**

#	Indicators	Models (2015)						
		1	2	3	4	5	6	7
"Gaivoronskyi locomotive repair plant"								
1	Financial leverage ratio	0	0.33	0.5	0.67	1	1.5	2
2	The ratio of net margin for own capital, %	18.2	19.0	19.2	19.2	19.4	19.4	19.0
3	Financial leverage effect, %	0	0.78	0.99	1.06	1.19	1.19	0.79
"Dnipropetrovsk locomotive repair plant"								
1	Financial leverage ratio	0	0.33	0.5	0.67	1	1.5	2
2	The ratio of net margin for own capital, %	15.58	18.87	12.32	7.38	7.23	11.69	10.34
3	Financial leverage effect, %	0	1.34	1.62	1.06	0.63	0.62	1.00
"Dnipropetrovsk plant for repair and construction of passenger cars"								
1	Financial leverage ratio	0	0.33	0.5	0.67	1	1.5	2
2	The ratio of net margin for own capital, %	14.48	16.03	16.16	17.89	9.23	13.92	2.28
3	Financial leverage effect, %	0	1.53	1.39	0.69	0.62	0.67	0.76
"Locomotive repair plant"								
1	Financial leverage ratio	0.00	0.33	0.50	0.67	1.00	1.50	2.00
2	The ratio of net margin for own capital, %	15.80	16.5	16.7	16.8	16.9	16.99	16.5
3	Financial leverage effect, %	0.00	0.78	0.99	1.06	1.19	1.19	0.79
"Zaporizhzhya mechanical engineering plant"								
1	Financial leverage ratio	0	0.33	0.5	0.67	1	1.5	2
2	The ratio of net margin for own capital, %	18.24	16.2	11.3	12.2	10.4	8.10	7.43
3	Financial leverage effect, %	0	1.52	1.43	1.62	2.27	1.46	1.02
"Dnipropetrovsk rail switch plant"								
1	Financial leverage ratio	0	0.33	0.5	0.67	1	1.5	2
2	The ratio of net margin for own capital, %	20.95	16.7	24.6	25.6	19.5	8.13	8.73
3	Financial leverage effect, %	0	1.24	1.18	1.66	0.54	0.79	0.66

Therefore, the optimal structure of financial resources: for "Locomotive repair plant" – under the third model; for "Zaporizhzhya mechanical engineering plant" – under the seventh model; for "Dnipropetrovsk rail switch plant" – under the sixth one.

Conclusions. The most efficient structures of financial resources in machine-building management is demonstrated by the models in which the balance of owned and borrowed capital is 50:50. This is obviously the optimal model since it does not damage the financial stability and firmness of an enterprise, which is not the case for a model, for example, under which 1 UAH of owned capital is covered by 1.50 UAH (or even more) of borrowed capital. Such situation in the future can lead to the loss

of paying capacity, profitability and business activity in general, thus significantly worsening the general financial results of an enterprise. We need to note here that there is a certain edge in funds attraction, and the more funds are attracted from outside, the less efficient financial management becomes. And this is why top management at enterprises needs to develop and take actions which would help enterprises reach the desired financial results. During the restructuring of financial management at machine-building enterprises we often detect the cases of wrong decision-making and also unnecessary financial flows. In such cases decisions to be taken would concern elimination of these unnecessary monetary flows or at least their limitation. In some cases limitations of certain top management functions would also be helpful (however, this often leads to internal opposition to such changes). Sometimes the only big problem an enterprise has is that it simply does not have a competent manager to create a truly efficient financial (and business) plan. In this case consulting outsourcing and attraction of additional specialists would be helpful. Financial resources use at enterprises can be considered efficient when: even brief analysis shows the exact level of economic resources use; factors of impact on financial management are being taken care of on both tactical and strategical levels.

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