

PRINCIPAL-AGENT THEORY IN THE PROCESS OF THE COMPANY'S COSTS OF CAPITAL QUANTIFICATION

KAMIL ADAMÍK – PETER MARKOVIČ

Abstract: *Principal-Agent Theory belongs to the field of the New Institutional Economics which is basically focused on the economic issues of limited resources and their effective use. In the financial management it is reflected in the direct interactions among the market participants acquiring and allocating capital. When judging the agency relationship, the informational asymmetry has to be taken into consideration. This asymmetry gradually shifts towards the agent, which leads to the belief that the agent doesn't have to optimize the capital structure for the benefits of the owner. The aim of this article is to provide scientific knowledge of the Principal-Agent Theory – with consequent quantification of its actual impact on the cost of company's capital – while emphasizing the reality of Slovak business environment.*

Keywords: *Agency costs, Cost of Capital, Finance Decision-Making, Principal-Agent Theory, Sustainability.*

JEL Classification: *G17, G31, G32*

1. INTRODUCTION

Looking for an optimal ratio of debt and equity in financing of business' needs is one of the elementary questions of financial theory. Businesses try to solve the problem of financing in all the ways available. Small and medium sized enterprises (SMEs) rarely get satisfactory results, which can be excused by their weaker performance, smaller property or the personality of entrepreneur (owner). The situation of bigger companies looks better and optimization can progress on the side of equity and debt as well, depending on the level of financial market development. [5] A newly arising problem in this situation is caused by the distribution of decision-making and managerial powers among business' owners and hired managers. Concerning this issue, management and financial theory describes two kinds of relations - principal-agent relation (Principal-Agent-Theory) and stewardship relation (Stewardship Theory). [13] Next, we will examine practical implications of Principal-Agent Theory for the quantification of businesses' capital costs.

2. RESEARCH PURPOSE: PROFIT MAXIMIZATION VERSUS SUSTAINABILITY OF BUSINESS

The current level of globalization violates the basic market relations, which, in financial management manifests through disaffection of financial managers, business owners, investors and creditors. An obvious orientation on the maximal profit would be justifiable providing that the ethical behaviour, law abiding and focus on sustainable development of business activities would be preserved. The absence of mentioned aspects increases the number and intensity of market failures and implies that the world of finance has created its own rules and conditions, which have to be respected by the representatives of the real economy. [3, 11] The manifestation of this can be seen while observing the effort of the central banks in increasing of the monetary supply in the hope of a revival in the credit market but the real results of this are retaining of the sources and their riskless investment. So long as the

financial institutions are using money from central banks for the purchase of treasury bills, we cannot predict strong growth prospects of the individual economies. [6]

Another aspect of legislator's change of attitude towards responsible business is represented by the pursuit of employing new business models, which would prevent the occurrence of global malfunctions and subsequent crises at national and international rates. The national aspect is withering out and that can lead to intensification of regional and continental disparities and establishing of quantitatively new world bipolarity. [13] Regulation of financial markets and bank sector is a nice example of creating of at least two poles – Anglo-American system of dominating financial markets organized through stock-exchanges with relatively high level of independence versus Continental or European system, based on bank financing with a high level of government interventions. If we base our thoughts on the fundamentals of market mechanism, we can assume that this behaviour of continents will lead to the transfer of capital to "free countries". [2] Even for the prize of lower initial valuation and subsequent speculative movements of capital in order to create short-term gains in the form of bank interests. The development on financial markets in last three months, along with modifications of quantitative monetary easing, proves the validity of this claim.

The striving for profit, in any shape, leads to deformation of corporate financial management to the situation where short-term decisions are preferred to the longer horizon decisions. [12, 14] Financial manager is pushed to practice where he looks for cheap capital to finance the operation and new investment. The process of capital structure optimization is reduced to managing of capital costs and achieving of immediate results, with no concerns about perspective and sustainability. Owners (shareholders) get a raw deal because they can be pushed out of the business through high indebtedness and potential profitability of their investment can be estimated only through the level of generated net profits in combination with the approved dividend policy.

Principal-Agent Theory in the Process of the Company's Costs of Capital Quantification

Specific problem of the principal – agent relation is caused by the informational asymmetry [10] arising in the process of capital structure optimization. Specific manifestations and impact on agency relation could be outlined as follows:

- Rising indebtedness of business complicates the owner's access to profits, which lowers the rate of achieved return on a unit of invested capital. This impact is realised by the owner only later, ex post. (Usually on the balance sheet day). [8, 9]
- Information policy of financial manager in relation to the financial market will determine the stock (share) price – the owner is able to monitor his profits through changes in capital yields, thanks to the quantified volatility of market stock (share) price, but he is not able to make the value of his share stable.
- The impacts of financial trouble cost and interest tax shield on equity costs are not directly proportional because individualized perception of investment risk has got different course than e.g. credit risk. Risk premium estimation is a prediction that cannot be executed by owner because of his lack of relevant information about the future states. He needs cooperation with financial manager.

Proceeding from mutual dependence of owner and financial manager we can assume that achieving of satisfactory capital costs will be a result of a compromise between required rate of return for owner, rate of indebtedness set by the owner and the level of achieved interest rates.

3. METHODOLOGY AND FINDINGS: IS THERE A COMPROMISE BETWEEN CAPITAL COSTS AND AGENCY SUSTAINABILITY?

The conflict between short-term profits and effort to retain business lies in the principal-agent relation, where owner represents the tendency to use the advantages of short-term gains and financial manager fights for the business' perspective. If we leave the cash flow levels out of account and we assume a homogeneity in owners' expectations, we can model the practical implications of

principal-agent relation in three alternatives: I) Financial manager prevails; II) Owner prevails; III) Residual dividend policy is applied.

Let the initial situation consist of investment needs with capital expenditure of 100 000 €, while we assume that company has got certain capital structure, which enables it to choose the form of financing (control over business is ensured). The dividend policy plan lists an owners' requirement on the dividend level of 60% of net profit which can be understood as a resource cost driver of equity. The price of debt, with the current level of debt ratio, is on 15% p.a., while we abstract from its change under the influence of getting further into debt. The level of equity (50 000 €) and the level of debt (60 000 €) will be adjusted for the sum of capital expenditure. For the needs of the impact of agency relation on capital costs examination, we will consider these alternative scenarios:

- Scenario I. – full equity financing (increase in capital stock).
- Scenario II. – full equity financing (increase in capital stock and self-financing).
- Scenario III. – equity and debt financing in 50:50 ratio.
- Scenario IV. – financing from equity and debt (self-financing and new debt).
- Scenario V. – full debt financing.

Structure of debt and equity includes the initial state (before the intended investment) as well as quantification of the changes in capital caused by the new investment. The resulting level of dividends respects the implementation of the decision about the project in the 0th year, which transforms the sum of available net profit (after including the debt costs). This state shows the change in capital costs, which are caused in the beginning of project implementation, while the profitability of the project is considered and exogenous parameter and it won't affect the state of capital costs.

The evolution of company's capital costs has to be interpreted in the sense of isolated scenarios, because while modelling, more of the input data change simultaneously.

Table 1 Calculating of capital items

| Input data (v €) | Scenario | | | | |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|
| | I. | II. | III. | IV. | V. |
| Equity | 161 664 | 120 840 | 109 234 | 50 000 | 56 804 |
| - capital stock | 150 000 | 120 840 | 100 000 | 50 000 | 50 000 |
| Debt | 60 000 | 60 000 | 110 000 | 140 637 | 160 000 |
| - original debt | 60 000 | 60 000 | 60 000 | 60 000 | 60 000 |
| - new debt | 0 | 0 | 50 000 | 80 637 | 100 000 |
| EBIT | 45 000 | 45 000 | 45 000 | 45 000 | 45 000 |
| Debt costs (15 % p. a. of debt) | 9 000 | 9 000 | 16 500 | 21 096 | 24 000 |
| Dividends (60 % of net profit) | 17 496,00 | 17 496,00 | 13 851,00 | 11 617,53 | 10 206,00 |

Source: Authors

Table 2 Variant quantification of capital costs

| Parameter (% p. a.) | Scenario | | | | |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| | I. | II. | III. | IV. | V. |
| Equity costs | 10,82 | 14,48 | 12,68 | 23,24 | 17,97 |
| Debt costs | 15,00 | 15,00 | 15,00 | 15,00 | 15,00 |
| Capital costs | 11,95 | 14,65 | 13,84 | 17,16 | 15,78 |

Source: Authors

4. DISCUSSIONS

Financial manager prevails – strict capital costs monitoring

The lowest achievable capital costs are achieved through higher share of equity financing (Scenario I.), which is caused by its somewhat anomalous development, because the equity costs are lower than the price of initial (and new) debt. The theory tells us that company should prefer cheaper capital, meant in the short-term understanding of accepted decisions. After more thorough examination of investment decisions, the acceptance of debt financing cannot be recommended although it is cheaper, because it is a decision about the future profitability of the company. This will considerably influence the received profit share (dividend) and capital yield (thanks to the change in stock market price).

From the viewpoint of financial manager, this scenario is the most satisfactory, but it is oriented against the owners' interests of increasing the value of their investment or towards the need of acceptance of new owners. Adoption of such a proposal would lead to the assertion of financial manager at the expense of owners, because financial manager works with hidden information [1] which effects cannot be predicted by the owners. It is a typical example of the agency relation anomaly with a high risk of moral hazard as a consequence of unfavourable choice. [4, 7].

Owner prevails – receiving of required return

Financing of projects only through debt (Scenario V.), results in the second highest capital costs (while respecting *ceteris paribus*). That can be substantiated through a high share of more expensive capital, compared to the Scenario I., but through a simultaneous growth in equity costs caused by growing immediate profitability as well. Forasmuch as the company's dividend policy is set on fixed ratio, higher profits have to lead to a higher dividend payoff. From the viewpoint of financial manager, this situation is quite unpleasant, because he has to confirm the ability to pay the debt to creditors and to generate enough sources for high dividend payout.

In Scenario V., owner does not undergo a higher investment risk but his position in the relation to creditors is getting worse, because the rate of company's indebtedness rises from 54,54% to 73,80%. This is, by most of analytics, considered a possibly dangerous level of debt. Higher rate of dividends raises the possibilities of dividend yields for owner but only for the prize of capital losses (drop in the shares' market price).

Possible realization of Scenario V. can be considered an assertion of owner over financial manager.

Passive residual policy – let's give, what is needed

Passive residual policy has got its roots in dividend theories, where dividend payout is expected when there is no other better alternative for capital valuation through real or financial investment. This axiom can be translated into

the decision making process about project financing. It can be done through searching for such a financing alternative which leads to initial increase in capital costs but in the future it will help to achieve their gradual decrease, redistribution of costs from debt to equity. In this respect, table 2 offers three unused scenarios II., III. and IV. Scenario II. retains the disproportion in credit and investment risk (creditor gains more) and that is something that owners don't want to accept. For financial manager, this situation is acceptable and it could be his second best choice.

Scenario III. is, in its core, an atypical compromise, where regardless of the capital volumes, a synthetic ratio of equity and debt is set. Financial manager can accept this result, but it is harder to justify it – why exactly 50 : 50? Owner gains very little from this alignment and in comparison to creditor it can lead to a feeling of injustice. This scenario, because of its complicated substantiation will be supported by neither principal, nor agent.

Scenario IV. evolves unnaturally positively in the favour of owners and from all of the scenarios, it is probably the most interesting one. Not only because of the fact that the additional owners' investments will be used through self-financing, but also thanks to the engagement of debt which divides the project risk between two interest groups (creditors and owners). In order for this scenario to be accepted by financial manager, the dividend policy would have to be reconsidered (and payout ratio made lower). This would lead to a compromise in the sense of passive residual policy. Actual result of the Scenario IV. is not in line with the intentions of business to optimize the capital costs.

5. CONCLUSION

Quantification of capital costs is usually presented as a process of equity and debt cost quantification while authors concentrate on so-called hard factors which directly determine the level of the resulting sum of costs – costs of financial troubles, the impact of interest rate, tax savings etc. In reality, the search for an optimal debt to equity ratio, in link to the new investment, is a result of a complicated compromise between owners and financial manager, which can be documented by the principal-agent theory. [15] The level and stability of this compromise can naturally not be predicted, because the attitudes of engaged parties change under the influence of every impulse from the external environment. On the other hand, the tradition of cooperation can lead to building of mutual trust, which can result in stabilization of the shares' market price and subsequently to the stabilization of the capital yield for shareholders as well.

This article is the output of the solving of project no. 1/0008/14 „Key trends in managers' financial decision-making process under conditions of unstable financial markets“.

REFERENCES

- [1] BALÁŽ, V. 2009. *Riziko a neistota – úvod do behaviorálnej ekonómie a financií*. Bratislava: VEDA, vydavateľstvo Slovenskej akadémie vied, 2009. 451 s. ISBN 978-80-224-1082-3.
- [2] BÖSCH, M. 2013. *Finanzwirtschaft - Investition, Finanzierung, Finanzmärkte und Steuerung*. München: Verlag Franz Vahlen, 2013. 523 s. ISBN 978-3-8006-4662-3.

- [3] BOURGUIGNON, F. 2013. *Die Globalisierung der Ungleichheit*. Hamburg: Hamburger Edition, 2013. 128 s. ISBN 978-3-86854-263-9.
- [4] CASSIDY, J. 2012. *Jak selhávají trhy. Logika ekonomických kalamit*. Praha: Academia, 2012. 420 s. ISBN 978-80-200-2100-7.
- [5] EILENBERGER, G., ERNST, D., TOEBE, M. 2013. *Betriebliche Finanzwirtschaft - Einführung in Investition und Finanzierung, Finanzpolitik und Finanzmanagement von Unternehmung*. München: Oldenbourg Verlag, 2013. 436 s. ISBN 978-3-486-71329-9.
- [6] FRYDMAN, R. - GOLDBERG, M. D. 2012. *Jenseits rationaler Märkte*. Weinheim: WILEY-VCH Verlag, 2012. 282 s. ISBN 978-3-527-50665-1.
- [7] HEYD, R., BEYER, M. 2011. *Die Prinzipal-Agenten Theorie in der Finanzwirtschaft. Analysen und Anwendungsmöglichkeiten in der Praxis*. Berlin: Erich Schmidt Verlag, 2011. 268 s. ISBN 978-3-503-12991-1.
- [8] JUHÁSZOVÁ, Z. 2006. *Teoretické, metodologické a aplikačné aspekty účtovníctva po vstupe Slovenskej republiky do Európskej únie*. In *Rozvoj účtovnej teórie a jej aplikácia v praxi z interdisciplinárneho hľadiska* : zborník príspevkov z druhého vedeckého seminára k výsledkom vedecko-výskumnej činnosti Katedry účtovníctva. Bratislava: Vydavateľstvo EKONÓM, 2006. S. 24-25. ISBN 80-225-2169-8.
- [9] JUHÁSZOVÁ, Z. 2007. *Peňažné prostriedky v účtovníctve podnikateľov*. Bratislava: Iura Edition, 2007. 102 s. ISBN 978-80-8078-134-7.
- [10] KIRCHGÄSSNER, G. 2013. *Homo Oeconomicus*. Tübingen: Mohr Siebeck Verlag, 2013. 388 s. ISBN 978-3-16-152327-4.
- [11] KRALL, J., LAMPRECHT, F., LERNBASS, R., RAUCH, E., SPITZER, I., STADLER, E., ZERNATTO, CH. 2012. *Ethical Finance*. Frankfurt am Main: Peter Lang GmbH, 2012. 671 s. ISBN 978-3-631-63425-7.
- [12] MARKOVIČ, P. a kol. 2007. *Manažment finančných rizík podniku. Implementácia derivátových kontraktov*. Bratislava: Iura Edition, 2007. 383 s. ISBN 978-80-8078-132-3.
- [13] SHILLER, R. J. 2012. *Märkte für Menschen. So schaffen wir ein besseres Finanzsystem*. Frankfurt am Main: Campus Verlag, 2012. 376 s. ISBN 978-3-593-39726-9.
- [14] SZABO, Ľ. – JANKELOVÁ, N. 2013. *Podnikateľské rozhodovanie*. Bratislava: Vydavateľstvo EKONÓM, 2010. 167 s. ISBN 978-80-225-3677-6.
- [15] TUMPACH, M. 2006. *Medzinárodné štandardy na zostavenie účtovnej závierky IFRS/IAS*. Bratislava: Iura Edition, 2006. 473 s. ISBN 80-8078-072-2.

Kamil ADAMÍK, Ing.

Faculty of Business Management UE in Bratislava, Department of Corporate Finance
Dolnozemska cesta 1/b, 852 35 Bratislava 5, Slovakia
e-mail: kamil.adamik@yahoo.com

Peter MARKOVIČ, prof. Ing., PhD.

Faculty of Business Management UE in Bratislava, Department of Corporate Finance
Dolnozemska cesta 1/b, 852 35 Bratislava 5, Slovakia
e-mail: peter.markovic@euba.sk