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ON PECULIAR FEATURES OF INVESTMENT SOURCES ATTRACTION TO AN ENTERPRISE

ОСОБЛИВОСТІ ЗАЛУЧЕННЯ ДЖЕРЕЛ ІНВЕСТИЦІЙ ДЛЯ ПІДПРИЄМСТВА

ANNOTATION

The issues of investment sources attraction to an enterprise are explored. It is shown that the technics being used to estimate the cost of investment sources have their own peculiar features. To solve the problem of calculating the cost of capital when budgeting new projects, a new calculation model is created. It is noted that attraction of debt financing and internal funds as well could result in saving of corporate tax due to certain expenses reducing the taxable base. A new definition "capital attraction performance indicator" is set forth to signify a quantitatively estimated result of the influence of the process of formation of the capital structure on the efficiency of the investment project due to internal factors of the enterprise, including tax shield.

Key words: investment, sources, attraction, finance, cash flow, rate, present value

АНОТАЦІЯ

Виконано аналіз сучасних іноземних публікацій з питання інвестиційних альтернатив та рівня їх ризику. Відокремленні питання оцінки вартості інвестиційних ресурсів, які вивчені недостатньо. Для вирішення проблеми оцінки вартості інвестиційних ресурсів запропоновано власний підхід з урахуванням особливостей різночасності надходження джерел фінансування в контексті ефекту «податкового захисту». Сформульовано рекомендації щодо прагнення підприємств до формування структури капіталу. Визначена необхідність дотримання додатного значення величину ефекту від фінансування за рахунок додаткової економії від певних джерел інвестиційних ресурсів.

Ключові слова: інвестиції, джерела, залучення, фінанси, грошовий потік, ставка, поточна вартість.

АННОТАЦИЯ

Выполнен анализ современных иностранных публикаций по вопросу инвестиционных альтернатив и уровня их риска. Выделены недостаточно изученные составляющие механизма оценки стоимости инвестиционных ресурсов. Для решения проблемы оценки стоимости инвестиционных ресурсов предложен собственный подход с учетом особенностей разновременности поступления источников финансирования в контексте эффекта «налоговой защиты». Сформулированы рекомендации для предприятий по формированию структуры капитала. Определена необходимость соблюдения положительного значения величины эффекта от финансирования за счет дополнительной экономии от определенных источников инвестиционных ресурсов.

Ключевые слова: инвестиции, источники, привлечение, финансы, денежный поток, ставка, текущая стоимость.

Formulation of the problem. Since the objective evaluation of investment capital units' values is one of the key factors affecting the definition of the effectiveness of investment projects, the issue is widely explored in the writings of representatives of various economic schools.

In Ukraine, in the context of a worsening economic situation, the problems of increasing the effectiveness of limited investment sources become especially urgent. Effective solutions to such problems contribute to the growth of the national economy and increase in its investment attractiveness as well.

In the conditions of resetting of market relations, when the stock market and its infrastructure are underway to develop, there is no sufficient statistical database covering investment alternatives and their risk levels due to the informational closeness of many enterprises. So, the issues of estimating the cost of investment sources have their own peculiar features.

Analysis of recent research and publications. The most widespread approach to estimating the cost of financial resources attracted from various sources of financing usually comes down to a ratio of the average annual amount of costs associated with raising funds to the total amount of funds raised. This ratio allows us to get the relative value of funds borrowed from a particular source.

While exploring the composition of fundraising costs, some authors usually take into consideration time value of money [1; 2; 3; 4; 6], and some ignore it [5]. Taxation is accounted for [1; 3; 6] but sometimes the taxation influence is dropped as well [1; 5; 6; 7].

One of the most common approaches to assessing the cost of capital, shared by the authors of this article, is its finding as a discount rate that ensures the equality of discounted incoming and outgoing cash flows to give their present values. As is noted in [4, p. 336], "The cost of capital is also a key factor in choosing the firm's mixture of debt and equity and in decisions to leave rather than buy assets. The cost of capital is a critical element in many business decisions."

The inflow of funds to the enterprise is considered to be classified as incoming cash flows in this case, while all amounts of payments due to funding classified as outgoing cash flow.

As far as financial attractiveness is concerned, it might be noticed that "When calculating NPV,

recognize investment expenditures when they occur, not later when they show up as depreciation. Projects are financially attractive because of the cash they generate, either for distribution to shareholders or for reinvestment in the firm. Therefore, the focus of capital budgeting must be on cash flow, not profits" [3, p. 380].

Widely employed in economic theory is the view that as far as loan financing is concerned, its value must also account for the profit tax savings due to the effect of tax shield on interest [1, 2, 3, 4, 5, 6].

Highlighting the previously unsettled issues and the formulation of the problem. The approaches considered in many cases allow us to determine the real value of different elements of capital structure to solve the tasks assigned to the authors. However, these approaches do not fully account for the specifics of the cash flows formation associated with the enterprise financing, which tends to be a peculiar feature of countries developing transitional market economies.

The authors consider that it is urgent to work out a toolkit to estimate quantitatively results of the influence of the process of forming the capital structure on the investment project efficiency due to internal factors of the enterprise. These factors should be taken into consideration more thoroughly regarding the financial projects stretched in time.

To reaffirm the validity of our goal, we quote [2]: "Financial planning involves the proper timing of investments in order to avoid overexpansion and inefficient use of resources. Optimal use of available funds means exploring different options and selecting those that provide the greatest overall value."

Formulating the goals of the article (task statement). To solve correctly the problem of calculating the cost of capital when budgeting new projects, a new calculation model is created on the basis of the approach presented in the work of the French economist Bernard Colasse [6].

To determine the cost of funding sources, the following formulas are proposed in the book [6]:

excluding taxation:

$$R = \sum_{i=1}^{n} S_p \left(1 + k\right)^{-p} \quad (1)$$

including taxation:

$$V = \sum_{i=1}^{n} \left(a_p - tV_{p-1}T\right)\left(1 + k_e^{'}\right)^{-p} \quad (2)$$

where R – the amount of funds received in the "0" year;

S_6 – the amount paid in years 1, 2, ..., p, ..., n;

k – a rate corresponding to the real value of the source of financing under examination;

V_{p-1} – the cost of the indivisible loan attracted by the enterprise;

a_6 – annual payment to the lender at the pth period, calculated as:

$$ap = tV_{p-1} + mp, \quad (3)$$

where tV_{p-1} – interest payment to the creditor;

m_6 – repayment of the principal part of the debt in the pth period;

t – contractual interest rate;

T – corporate tax rate;

$k_e^{'}$ – tax-exempt loan value.

In this case, the real cost of capital is based on a ratio of non-recurrent cash receipts to the amount of non-simultaneous outflows discounted to the present moment.

However, in our opinion, the inflow of funds to the enterprise from the source of financing could be also represented as a sum of different cash flows. This is typical for long-range investment, i.e. financial projects stretched in time. At the same time, the flow of finances into the enterprise could be carried out in certain portions in accordance with investment needs.

It also should be noted that not only the attraction of debt financing but also of internal funds, could result in saving of corporate tax due to certain expenses reducing the taxable base. Such expenses may include commissions, insurance payments, issuance and audit costs, development of designing estimates and standard technical documentation.

All of the above fully applies to borrowed funds since their attraction may cause additional costs, which, in addition to those listed above, may include costs of maintaining a pledge, discharging obligations under warranty etc.

Thus, taking into account taxation, the general formula for estimating the real costs of an enterprise for attracting financial resources S_{att} could be denoted as follows:

$$S_{att} = \sum_{t=1}^{T} \frac{S_{ot} \times g\left(1 - dN\right)}{\left(1 - r_{ma}\right)^{t}} \quad (4)$$

where S_{ot} – the expenses caused by a source of financing, in the tth period of time (payments directly related to the compensation required by an investor who financed the project, as well as the costs borne by the enterprise to cover procurement of financial resources (commission, insurance, etc.) could be quoted as an example).

r_{ma} – average market returns;

t – duration of the cost of borrowing susceptible period;

T – service life of a source of financing;

d – the percentage of costs that reduce the tax base in the total costs of the tth period;

N – corporate tax rate applied to the enterprise.

In addition to the servicing costs of investment source, a loan financing outgoing cash flow also comprises the principal amount of the debt.

In view of the foregoing, in order to determine the real cost of financing, the following equation is applied:

$$\sum_{k=1}^{K} \frac{P_k}{\left(1 + r_p\right)^{k}} = \sum_{t=1}^{T} \frac{S_{ot}\left(1 - dN\right)}{\left(1 + r_p\right)^{t}} + \sum_{t=1}^{T} \frac{Sb_t}{\left(1 + r_p\right)^{t}} \quad (5)$$

Where r_6 – the real cost of funds or a particular source of finance;

P_k – cash inflows to the enterprise during the kth period;

K – duration of the money receipt period;

k – an interval of receipt of funds for the enterprise;

Sb_t – the return of the principal amount of funds in the tth period.

In accordance with the essence of the cost of the source of financing, calculated on the basis of formulas 1, 2, 5, the effect of utilization of a certain source of investment (NPV of the financing project) is equal to zero.

This conclusion concerns not only transactions with securities but, in our opinion, can be extended to other sources of financing for the enterprise.

However, the current financing conditions prevailing in Ukraine does not meet the strict regulations of an efficient western capital's market. As is well known, the process of formation of market relations in Ukraine has its own peculiar features and is characterized by a high degree of information asymmetry as to the capital market. It can induce a distorted value of capital far from being fair.

At the same time, while acknowledging the validity of Brealey-Myers concepts in conditions of an efficient capital market, we cannot fail to note that their theory does not account for a number of circumstances that are also characteristic of countries with economy in transition:

1. The "zero" present discounted value of a financing decision assumes the equality of discounted outgoing and incoming cash flows between the enterprise and the investor. This situation is possible when disregarding additional effects of financing (both costs and benefits), which arise directly at the enterprise and have nothing to do with the investor. Once the agreed-upon cash flows are taken into consideration, this leads to an inequality of the present value of financing in regard to the investor and the enterprise;

2. This overlooks the fact that different types of special-purpose funding, mainly state funding, can provide significant benefits, deferrals, and subsidies, thus influencing upon the investment policy of enterprise.

3. It is undeniable that some of the additional effects either might be missed in the formation of the cost of financing or arise afterwards as well (when the cost of capital has been agreed upon).

In view of the above, the utilization of various investment sources to finance a project can be associated with a certain additional effect from financing, which should be estimated as follows:

$$E_f = \sum_{k=0}^{K} \frac{P_k}{(1+r)^k} - \sum_{k=M}^{0} \frac{S_{ot}(1-d_k N)}{(1+r)^k} - \\ -\sum_{k=1}^{K} \frac{S_{ot}(1-d_k N) + V_k N + Sb_k - U_k(1-b_k N)}{(1+r)^k} \quad (6)$$

The authors consider that it is appropriate to define the value of E_f as a "capital attraction performance indicator" since it tends to be a quantitatively estimated result of the influence of the process of formation of the capital structure on the investment project efficiency due to internal factors of the enterprise, including the tax shield.

The most successful financing decisions for the enterprise will have a positive value of E_f.

Final Statements. The proposed formulas can be used to determine the cost of funding sources. Unlike a number of technics explored above, the approach of the authors of this article set forth accounts for non-recurrent financing considering the effect of tax shield as well.

Moreover, it is justified that a number of circumstances in the capital market might also result in the formation of non-zero present capital value. So, enterprises developing investment projects must commit themselves to forming a capital structure with a positive value of the effect of financing.

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The paper studies the issue of investment sources attraction to an industrial enterprise. The problems of increasing the effectiveness of limited investment sources have become especially urgent. It is shown that technics being used to estimate the cost of investment sources have their own peculiar features. Sometimes these toolkits tend to be superficial to tackle the problem.

It is shown that the most widespread approach to estimating the cost of financial resources attracted from various sources of financing usually comes down to a ratio of the average annual amount of costs associated with raising funds to the total amount of funds raised.

One of the most common approaches to assessing the cost of capital has to do with the calculation of a discount rate that ensures the equality of discounted incoming and outgoing cash flows to give their present values.

The profit tax savings due to the effect of tax shield on interest are not taken into account properly.

To solve correctly the problem of calculating the cost of capital when budgeting new projects, a new calculation model is created applying the concepts of Bernard Colasse.

The real cost of capital calculations is based on a ratio of non-recurrent cash receipts to the amount of non-simultaneous outflows discounted to the present moment.

It is noted that not only the attraction of debt financing but also of internal funds could result in saving of corporate tax due to certain expenses reducing the taxable base.

A new definition of "capital attraction performance indicator" is set forth to signify a quantitatively estimated result of the influence of the process of formation of the capital structure on the efficiency of the investment project due to internal factors of the enterprise, including tax shield.