

TO THE CONCEPT OF OPTIMAL INDEBTEDNESS IN COMPONENTS OF INTELLIGENT TRANSPORT SYSTEMS

Інтелектуальні транспортні системи засновані на трьох ключових принципах: інформація, зв'язок та інтеграція. Функціональні можливості повинні бути забезпечені усіма рівнями: адмініструванням транспортними операторами і транспортними користувачами. Це є обов'язковою умовою для досягнення економічного ефекту.

Интеллектуальные транспортные системы основаны на трех ключевых принципах: информация, связь и интеграция. Функциональные возможности должны быть обеспечены всеми уровнями: администрированием, транспортными операторами и транспортными пользователями. Это является неперенным условием для достижения экономического эффекта.

ITS are based on three key principles: information, communication and integration. The functionality of ITS must be provided by all levels: by administration, transport operators and transport users. It seems to be sine qua non for the positive synergy and expected economical effects.

Introduction

If we abstract from the variety of problems connected with the financing of transport enterprises with respect to their law form and organizational structure, realization of services in public interest, problems with cross-financing inside transport colossus, government subsidies to traffic route, guaranty of bank loans etc., the centre of their financial balance seems to be in the first place the way how they organize and direct their financial activity.

Optimal debt

A wide spectrum of financial management problems has its key places and neuralgic points. One of them is indebtedness. Effective debt management consists in establishment of such financial structure which seems to be the best in regard to the business goals, specific conditions of the enterprise, its economical surroundings and actual situation, in optimization of financial structure. Optimization of financial structure belongs to the most difficult problems of financial economy, especially in terms of absence of universal know-how. Therefore it is advisable to solve optimizing problem close with specific conditions of concrete enterprise and its macro- and microeconomic surroundings. Theoretical approaches represent only an orientation theoretic-methodological basis on which is developed «tailor.made» conception proposed for concrete transport enterprise and its financial structure.

Terminology of optimization

Major components in the solving of the optimizing task are following:

1. philosophy of optimization: know-how of concrete application area, i. e. financial management. It includes identification of critical factors of indebtedness and selection of optimization criteria, **2. instruments** of optimization (mathematical formulas). Criteria selection is subjected primarily to the goals of financial policy of the firm. Other requirements represent multidimensionality of evaluation (alternative criteria) and in connection with them compatibility of applied methods and work definitions.

Synergy in components of ITS

Effects of transport telematics are based on synergistic action of all interested branches and subjects. It results from the fact that ITS are based on three key principles: information, communication and integration. With respect to the conception of ITS the system can be divided into its technical and institutional component. The functionality of ITS must be provided by all levels: by administration, transport operators and transport users. It seems to be sine qua non for the positive synergy and expected economical effects.

From the above mentioned follows: intelligent transport cannot be realized without participation of transport corporations; economic balance and financial stability of these telematic components belong to the basic prerequisites of transport telematics implementation.

Financial stability of transport enterprises depends to a great extent on their financial structure. Optimal way of financing and resultant optimal financial structure are decisive for financial balance and welfare of the firm. Simultaneously, optimization of financial processes comes under to the big fields of ITS activities waiting for their efficient solving. Moreover, challenging investment decisions connected with ITS implementation cannot be made without finance.

Levels of solution

Solution of optimizing task in conditions of transport corporation can be solved in following phases: 1. theoretic-methodological phase: analysis of theoretical approaches to the capital structure and their application problems in practice, comparison, selection of suitable approaches with respect to the multidimensionality of evaluation and specific micro- and macroconditions, 2. suggestions of solving phase: proposal of «tailor-made» methodology for concrete transport corporation, 3. practical phase: application, results, 4. feed-back phase: conclusions and recommendations for practice.

The most important parts of solving is connected with following problems:

- identification of critical factors of financial structure,
- selection of optimization criteria,
- in regard to above mentioned levels work definitions of optimal debt and other needed economic parameters,
- formulation of mathematical functions.

Identification of relevant factors: in this step we consider relevant factors effecting on financial structure from the outside of the enterprise as well as from the inside. According to their character we can separate them into three categories: 1. factors of universal character effecting on the financial structure of each enterprise without exception (e.g. types and structure of assets, cost of capital, taxes etc.), 2. factors which affect in the conditions of concrete national economy (economic reform, recession, indebtedness of economy, development of financial market etc.), 3. specific determinants presenting specific conditions of analysing corporation.

Conclusion

It is evident that establishment of financial structure is affected by great many factors. Moreover, the situation is involved by the fact that these factors affect in combination and synergy.

To the selection of optimizing criteria: it is not easy to select appropriate criteria for optimization in practice. In general we can say following: optimal financial structure is in the main based:

- on the trade-off between taxes and costs,
- on balancing of two decisive factors - return to capital and financial risk.

In specific conditions of the transport firm we can proceed according to answers to following questions:

1. What is the goal of optimization?
2. Is it conformal with the integral goal of business activities?
3. Is it conformal with the financial strategy of the firm?
4. What are the partial financial goals?
5. Is the owner's view in solving of optimizing problem preferred? What view is dominant?
6. Is the evaluation of financial structure multidimensional? What are alternative criteria?

Are they compatible?

In conclusion we must admit with the nestors of capital structure theory: no exact formula is available for evaluating the optimal debt-equity-ratio. Because of this, we often turn to evidence, experiences and guidance from the real world. It's the task for managers, not for theory.

Often is forgotten that intelligent transport requires intelligent solving problems in all parts and components of transport chain; the functionality of ITS must be provided by all levels: administration, transport operators and transport users. Financial stability of transport enterprises promoted by optimal financial structure is a needful state of each transport corporation, of each component of effective system.

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