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# To the capital structure choice: Miller and Modigliani model

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**Abstract**

Over the last 50 years several theories of capital structure have been formulated, their authors are mainly economists from Anglo-Saxon countries. Theories were extended to the whole world from these countries, where they were further elaborated, tested, simplified and adapted to correspondent with the particular context of national economies, industries and specific companies. The main problem associated with their practical application is that the validity of the various theories is not universal. These theories and their outcomes are valid only under certain conditions and with certain limitations. The conflict arises also between the outcomes and recommendations of the various theories that are often mutually exclusive. In this work we analyse the most famous theoretical model of the capital structure, the model of M.H. Miller and F. Modigliani.

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*Keywords:* MM model; capital structure; market value of company; return on capital.

## 1. Introduction

Financial theory in the recent decades has gradually developed more complex theories of the capital structure optimization, which are necessary theoretical and methodological basis for the management of liabilities. In the literature, these theories are known as conditional theories of the company capital structure. The word "conditional" indicates the main issue, which is linked to their practical application. The reason is that the validity of the outcomes of the various theories is not universal. These outcomes are valid only under certain conditions and with certain limitations. The conflict arises also between the outcomes and recommendations of the various theories that are often mutually exclusive. Therefore, the emphasis should be given to the deep empirical research on individual

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theories. To assess the most appropriate alternatives in the context of the given requirements and criteria, simple and also more complex mathematical and statistical methods should be used. If we move to different economic systems, in economies with different degrees of the capital market development, with different traditions and ways of financing, it is difficult to find a universal model. In Anglo-Saxon countries the empirical verification of the various theories of the capital structure has been searched for several decades (e.g. Giner, Reverte, Rock), but in the Eastern European countries the empirical verification is on the very beginning.

However, we have to point out that the "cradle" of these theories is mostly the USA, where the optimization of the capital structure is a topic on which there is considerable theoretical debate, for instance on the pages of financial magazines[1]. The results of American research and publications are taken to the Europe. Slovak literature lags in the field of the management of liabilities and is usually associated only with the publication of the foreign publications outcomes, and very often only partially and superficially. Thus, the fact is that the domestic literature still lacks a summary of the theories of the company capital structure. The biggest problem in the management of liabilities is that the outcomes taken from the foreign publications and research have not been tested and verified in terms of transition economies[2] and so the usefulness of these outcomes is minimal in our conditions.

The conditional theoretical approaches can be divided into two groups. The first group, so called *static theories*, is primarily based on a search of an optimal capital structure using the general knowledge of economic theory. They are supported by the empirical studies of the actual behaviour of the companies. This group includes the MM model of *Franco Modigliani* and *Merton Miller*, the traditional approach represented by the work of *H. DeAngelo, L. Dodd, D. Durand, R.W. Masulis, B. Graham* and other classics of the capital structure. This group includes also the compromise theory (the trade-off model), represented by *J.B. Warner, H. DeAngelo* and the others. Despite the fact that the findings of these theories differ, their goal is the same. They are trying to find the answer to the question if there is any objective balanced state of the company (therefore static theory) considering the relation between the market value and the chosen capital structure, and if so, how to achieve it by specific financial decisions.

The second group, *dynamic theories,* is represented by Stewart Myers and his pecking order theory, based on the empirical research of *Gordon Donaldson*. It is based on the idea that every business is a unique organism active in specific circumstances of their inner and outer environment, and therefore any generalization of the optimization efforts and their transfer to another company can be misleading.

We decided to analyse the most famous theoretical model of the capital structure, the model developed by M.H. Miller and F. Modigliani.

### *1.1. Theory of the capital structure by M. H. Miller and F. Modigliani*

It is the best known and most widely discussed model of the Nobel Prize receivers in Economics - Franco Modigliani and Merton Howard Miller, also known as MM model[3]. The basic thesis is the ***argument I***: under certain assumptions the total costs of the company capital, and therefore the market value of the company, are independent of capital structure. They depend only on the return on total capital (as considering the perfectly functioning market, all combinations of securities are equally good and investments have the same earnings). The argument can be redefined in a way that the composition of the capital structure of the company has no influence on the value of the company, and it does not make any sense to consider the volume of internal and external sources of the company[4].

[1] American Economic Review, Journal of Finance, Journal of Financial Economics, etc.

[2] The term transition economies understands the economy changing the central planning to the market economy. They are mostly economies of the former socialist bloc, including Slovakia. The term "transition economies" started to be used at the turn of the 80s and 90s of the last century, when all these countries decided to leave the path of building socialism. The transitive phase begun - the transition of these countries from state-run to the market economy. The list transition economies includes Albania, Latvia, Armenia, Mongolia, Belarus, Lithuania, Azerbaijan, Russia, Bosnia and Herzegovina, Macedonia, Tajikistan, Bulgaria, Poland, Georgia, Turkmenistan, Croatia, Romania, Kazakhstan, Ukraine, Czech Republic, Slovakia, Kyrgyz Republic, Uzbekistan, Estonia, Slovenia, Moldova, Hungary, Serbia and Montenegro.

[3] Firstly published in: F. Modigliani, - K. H. Miller: The Cost of Capital, Corporation Finance and the Theory of Investment. American Economic Review, June 1958, pp. 251 – 297. Outcomes of this article were anticipated in1938 by J. B. Williams and to some extend by D. Durand in 1952.

[4] In the work of Miller and Modigliani the internal sources are represented by the issued stocks, so called common stock and external ones by issued bonds.