

# Chapter 55

## How the Greek Crisis Determined Firm Profitability and Optimal Debt Ratio

**Ioannis Katsampoxakis**  
*University of Athens, Greece*

**Haralampos Basdekis**  
*Ministry of Finance, Greece & University of Athens, Greece*

**Konstantinos Anathreptakis**  
*Alpha Bank, Greece*

### ABSTRACT

*The goal of this chapter is to assess the influence of specific corporate and market features on Greek firms' profitability and the determination of the optimal debt ratio before and during the Greek crisis. The empirical results exhibit an average profitability of 6.97%, which varies significantly both between firms and during the time period examined. Another finding of this study is the verification of the theoretical relationship between the independent variables and Greek firms' profitability between 2005 and 2016. Related to the determination of the optimal debt ratio of Greek firms, the authors found that during the first sub-period examined (before the Greek economic crisis – 2005-2009), the results extracted are not consistent with the MM theory in contrary to the second sub-period (the period of the deep recession 2010-2016). During this period, the optimal debt ratio is estimated to be 40.9% and the turning point decreased considerably compared to the whole period sample (52.6%) 2005-2016.*

### 1. INTRODUCTION

The estimation of the factors that affect the future course of firms' profits contributes to the acquisition of important information for the optimal financial management and profit maximization. Managers should follow an active policy in order to manage and offset potential risks. Therefore, the knowledge of the

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determinant factors' impact on firms' profitability will contribute to a better financial management and reduction of potential risk.

There are many important factors that affect firms' profitability, and they usually vary depending on the country and time period. The main factors significantly affecting the future profitability of firms are firms' size, financial leverage, accruals and volatility of profitability. Moreover, there are numerous macroeconomic factors that can affect the outlook of firms' profits.

Our research is twofold. On one side, it focuses on how the above factors affect Greek firms' profitability and on the other side it determines the optimal level of firms' leverage to achieve high profitability. Before starting to analyze the way and extent that, firm and market characteristics influence firm's profitability, it is very important to note that the situation of the Greek economy affects Greek firms' profitability in a serious and deterministic way. More specifically, Greece's economy after 2009 has shrunk and its GDP has decreased by approximately 25%. This chronic shrinking of Greek GDP and the recession of the Greek economy have led to the increase of the Greek government's borrowing cost, which, in turn, has affected the banking sector, loan provisions and the borrowing costs of Greek firms.

Prior empirical studies have examined the impact of such determinant factors on firms' profitability. The results of these studies either agree or contradict with financial theory or fail to confirm the expected impact on net income. Nevertheless, in the frame of this study, the empirical findings of the relationship between the variables used and firms' profitability show that the maximization of firms' profitability is closely connected with better financial management and the favorable distribution of available resources.

Introducing to the second goal of the present study, it is necessary to clarify, that capital structure is a vital issue not only to companies that try to maximize their market value, but it acquires special sense and substance during economic recession. The theory that forms the ground behind capital structure is that of Modigliani – Miller (MM). According to MM (1958 & 1963), the value of the firm increases with debt financing, due to the advantage that the debt serves to shield earnings from taxes which decreases the average cost of capital. But, in none case, that means that all firms have to be totally levered, as the existence of cost of financial distress directly affects the advantages of tax deduction and therefore firm's value and increases the level of bankruptcy risk. So there is an upper level of debt, firms can bear in order to maximize their value. Consequently, the optimal leverage level, meaning the proportion of debt and equity which is better to use in order to avoid default risk and to achieve high profitability is the central idea of the present paper, which focuses on the case of Greek listed companies for the period before and during the economic crisis.

The article is developed as follows: Section 2 presents a brief literature review, section 3 presents the theoretical background of the variables affecting firms' profitability, section 4 describes the data and variables used, while section 5 and section 6 present the methodology and the empirical results, respectively. Finally, at the end of the paper, important conclusions are discussed.

## **2. LITERATURE REVIEW**

The study of the course of profitability consists a scientific timeless phenomenon and is very important for the strategy companies will follow in the long-run. Recent literature examines firm's profitability as independent variable, using for its computation financial indicators as net operating profitability (NOP) (Raheman et al., 2010), (Dong and Su, 2010), return on total assets (ROTA) (Deloof, 2003), (Padachi, 2006), return on invested capital (ROIC), return on assets (ROA) (Narware, 2010).

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