

# Determinants of Capital Structure of Italian Selected Listed Companies

**Annalisa Baldissera**  
**University of Brescia**

*The study aims to identify the main determinants of the capital structure of Italian listed companies and is based on the assumption that profitability is the fundamental variable. For this purpose, a sample was selected consisting of all the companies that had published their 2021 financial statements at the date of the research. A linear regression model was used for the analysis of the relationships, in which the operating income to total assets and the financial result to total assets were considered as independent variables, while the equity ratio and the debt ratio were used as dependent variables. The results obtained show that financial profitability contributes more than the operating one to the equilibrium of the capital structure.*

*Keywords: Italian listed companies, operating income, financial results, debt ratio, equity ratio*

## INTRODUCTION

This study aims to identify the main determinants of the financial structure of Italian listed companies. Understanding these determinants is relevant since the financial structure is one of the main tools that define the solidity of the company, understood as an adequate ratio between equity and debt. The solidity in turn contributes to increasing the resistance of the firm (Harris & Raviv, 1988) to internal and external unexpected phenomena, since it allows to meet extraordinary needs with adequate financial resources. This profile is now a highly significant factor, especially in light of the powerful impact produced by the COVID-19 pandemic which caused a sudden drop in the profitability of companies, affecting those financially less robust, i.e. those characterized by greater debt (Huang & Ye, 2021).

The study is based on the assumption that the financial structure of the company is mainly determined by its profitability. This assumption is in turn based on one of the fundamental principles of classical Italian business theory, and in particular on the thought of Gino Zappa, according to which income determines the growth of capital. In the absence of income, capital is unable to strengthen and is eroded by losses. It follows that since costs are not reintegrated from revenues, the firm destroys capital rather than creating it.

In order to identify the determinants of the capital structure, the study selected a sample made up of 61 Italian listed companies which, at the date of this research, had published the 2021 financial statements. Through a regression analysis, the study has reconstructed the relationship between profitability and capital structure. Profitability was analyzed considering operational management separately from financial management and using respectively the operating income to total assets and the financial result to total assets. For the analysis of the financial structure, the study used the equity ratio and the debt ratio, which constitute two particularly representative indices of the composition of the sources of capital.

The study highlighted two significant findings. First of all, Italian listed companies have a substantially robust financial structure, as evidenced by the trend of the variables in the period prior to the crisis (2017-2019), concomitant (2020) and subsequent (2021). Secondly, financial management seems to have supported the capital structure with greater force than operational management, whose efficiency still has room for improvement.

This study can assist research in both theoretical and practical terms. From a theoretical point of view, the study contributes to the literature dedicated to Italian companies, also thanks to the use of a set of data updated to the latest financial statements published by listed companies. From a practical point of view, the study can be useful to indicate the areas of management on which companies should focus their efforts more, in order to achieve an adequate balance between operational and financial management.

## LITERATURE REVIEW

The relationships between economic and financial variables take on a basic meaning for understanding the performance of companies. Among these variables, profitability and financial structure not only play a role of considerable importance but also have very deep relationships, in which income, as a source of self-financing, generally supports equity and helps reduce debt.

The above relationships, which are the subject of this research, represent a fundamental principle in classical Italian literature, and in particular in the thought of Gino Zappa (1920-1929), founder of the Italian Business Economics science (1927). Zappa's theory contributed to overturning the patrimonial logic – dominant in Italy until the end of the nineteenth century (Besta, 1891-1910) – which saw in capital the fundamental determinant of the firm's economy and its control (Coronella and Santaniello, 2018). On the contrary, in the Italian Business Economics theory, it is the income that, through management, determines the growth of capital (Azzali, 2015) and not vice versa. This fundamental principle does not imply that capital has a secondary position with respect to income, but it means that there are deep relationships between the two quantities that help to explain the performance of the company.

In the context of international literature, the relationships between profitability and capital structure are analyzed from different perspectives and with the adoption of different starting points. In particular, the studies can be divided into two main lines: the researches that focus on capital as the central element on which the profitability of the company depends and the researches that adopt the opposite assumption, according to which it is the profitability that determines the capital structure.

Velnampy and Niresh (2012) belong to the first line of studies, since they believe that the profitability of the company directly depends on the decisions inherent to the capital structure, and in particular on the correct use and appropriate selection of capital. Their study, conducted on listed Srilankan banks, identifies a negative relationship between capital structure and profitability, except for the presence of a positive relationship between debt to equity and return to equity.

Similarly, Shubita and Alsawalhah (2012), who study industrial Jordanian companies, conclude that debt negatively affects profitability. This result is also confirmed by Chang *et al.* (2019), according to which there is a significantly negative relationship between leverage and profitability. The same conclusion is reached by Hung *et al.* (2002), according to which the capital gearing is positively related with asset but negatively with profit margins.

Otherwise, according to Abor (2005) there exists a significantly positive relation between the ratio of short-term debt to total assets and ROE, while the relationship between the ratio of long-term debt to total assets and ROE is negative. Furthermore, there is a significantly positive association between the ratio of total debt to total assets and return on equity. This result is also confirmed by Gill *et al.* (2011) who find positive relationships between short-term debt to total assets and profitability and between total debt to total assets and profitability in the American firms listed on New York Stock Exchange.

A significant consideration, partially different from those mentioned above, is carried out by Yapa Abeywardhana (2015), who, analyzing SMEs in the UK, finds that they make little use of equity due to the need not to lose control, and by this behavior results that the long-term debt to total assets ratio is negatively related with the profitability. The latter result is also confirmed by the study conducted by de Mesquita and

Lara (2003) on Brazilian companies, which reveals that the return rates present a positive correlation with short-term debt and equity, and an inverse correlation with long-term debt.

The studies of the second line adopt a different perspective from those mentioned above and in particular assume that the capital structure is not the determinant of profitability but, on the contrary, it is profitability that determines the capital structure.

In this line of studies it is possible to include the interpretation of Chang *et al.* (2009), which, in the ranking of the determinants of capital, place profitability in second position, immediately after growth, while collateral value, volatility, non-debt tax shields, and uniqueness are in a lower position.

Saarani and Shahadan (2013), who study the 50 best SMEs in Malaysia, also find that asset tangibility, liquidity and profitability are the main capital structure determinants. These conclusions are also confirmed by Voulgaris *et al.* (2002) for the Greek large-sized companies, in which it is possible to find that gross and net profitability have a significant effect on the capital structure. The same results are also obtained by Shun-Yu and Li-Ju (2011), for the companies listed on the Taiwan Stock Exchange and by Acaravci (2015), for the Turkish manufacturing sector. Similarly, Serghiescu and Văidean (2014) found that in the Romanian listed companies profitability is the variable which exercises the highest impact on the capital structure and this relationship is also confirmed by Chadha and Sharma (2015) for Indian manufacturing sector companies.

With particular regard to Italian companies, Cappa *et al.* (2020) have shown that profitability exerts a significant influence on the capital structure, as demonstrated by the fact that the profitable firms tend to prefer internal financing rather than external funds. The same result is also obtained by Gottardo and Moisello (2014) who recognized the influence of profitability on the capital structure decisions of medium-large unlisted Italian firms.

The research of the determinants of the capital structure is carried out by Panno (2003) through a comparison between UK and Italian companies, from which it emerges that, in general, profitability exerts a positive effect on the financial leverage, while for Italian companies, compared to UK companies, an optimal debt level does not seem to be a major concern. Also according to the study by D'Amato (2020), which considers the capital structure of Italian SMEs before and after the 2008 financial crisis, profitability affects the capital structure since the more profitable firms reduced their leverage more during the crisis than during the pre-crisis period. The influence exerted by profitability on firm's leverage is also found by Bartoloni (2013) who observes how the Italian firms analyzed are less indebted when operating profitability increases.

As can be seen from the studies mentioned above, the Italian literature, compared to the foreign one, tends to consider profitability as a cause and not as an effect of the capital structure, often finding that debt and equity take on different trends depending on whether the company is more or less profitable. The present research is more in line with the studies of this second line, which are closer to the principles developed by Gino Zappa, applied by his pupils and still used today by the studies based on his thought.

## **METHODOLOGY**

In order to identify the main determinants of the financial structure of Italian listed companies, the study was based on the distinction between operational management and financial management. This distinction is useful since it allows us to understand which area of management predominantly affects the financial structure of the companies analyzed. To this end, the study formulated the following two research questions:

**RQ1.** *Does the profitability of operational management positively affect the capital structure of Italian listed companies?*

**RQ2.** *Does the profitability of financial management positively affect the capital structure of Italian listed companies?*

The methodology used to answer the research questions is described in the following sections.

### Sample

The study considered a sample made up of 61 Italian companies listed on the Milan stock exchange (Italy). The selection was made by taking into consideration all the companies that had published their 2021 financial statements at the date of the research. In fact, it is appropriate to consider that, at that date, the deadlines for the publication of the financial statements were still in progress in Italy, so for the financial year 2021 not all financial statements were available. The selection made has therefore made it possible to use data that are as up-to-date as possible. This choice was also particularly useful because it allowed not only to have a broader information base, but also to include in the analysis the year 2021 which represents the first year after the crisis caused by the COVID-19 pandemic. In this way, the survey was able to count on the availability of at least two years (2020 and 2021) affected by the crisis.

The observation covers the five-year period 2017-2021 which is particularly significant due to the profound change that after 2019 took place in the conditions under which companies have operated. Precisely because of the chosen observation period, the analysis made it possible to understand if, and to what extent, the crisis has affected the relationships examined by this study. In this regard, it is important to consider that this research has evaluated the main determinants of the financial structure through two profitability ratios, i.e. according to the same variables that the crisis hit hardest (Rababah *et al.*, 2020; Shen *et al.*, 2020).

The data used for the analysis were obtained, for all years, from the published financial statements of the companies in the sample, through the use of the AIDA (Computerized Analysis of Italian Companies) Bureau van Dijk database.

### Variables

To answer the research questions, the study starts from the assumption that profitability represents the primary source of the company's performance and general economic structure. For this reason, both operational management and financial management have been considered in terms of income produced, analyzing, as in the literature (Ding *et al.*, 2007; Kuo & Chi-Haw, 2003), respectively the operating income to total assets (OI) and the financial result to total assets (FR), calculated as in Table 1.

**TABLE 1**  
**OPERATING AND FINANCIAL PROFITABILITY VARIABLES**

Variable	Formula
Operating income to total assets (OI)	$(\text{production value} - \text{production costs}) / \text{total assets}$
Financial result to total assets (FR)	$(\text{financial income} - \text{financial expenses}) / \text{total assets}$

Source: compiled by the author

The variables OI and FR were considered as independent variables. Specifically, OI expresses the ability of the company's operational management to generate income through invested capital, while the variable FR expresses the profitability of non-operational management, and in particular of the financial one. In this regard, taxes have not been considered since they are common to both managements and are not likely to be split, on the basis of objective criteria, between the portion referable to the operational area and the portion relating to the financial area.

Regarding the capitale structure, the study examined two variables used in the literature (Canakcioglu, 2019; Margaritis & Psillaki, 2007) – the equity ratio (ER) and the debt ratio (DR) – calculated as in Table 2.

**TABLE 2**  
**CAPITAL STRUCTURE VARIABLES**

Variable	Formula
Equity ratio (ER)	equity to total assets
Debt ratio (DR)	debt to equity

Source: compiled by author

The ER and DR variables were considered as dependent variables. In particular, the ER variable represents the extent to which the company's total investments (total assets) are financed with shareholders' equity, so high values of the ER express the company's ability to finance itself without resorting to debt. The variable DR expresses the weight of debt with respect to shareholders' equity.

The liquidity ratio (LR), i.e. the ratio of current assets to current liabilities, was used as the control variable. The choice of this variable is significant because the literature has come to non-unanimous conclusions about its relationships with independent variables. According to Larrey *et al.* (2013) the relationship between liquidity and profitability is very weak, while the Ehiedu study (2014) shows the existence of a significant positive correlation between the two variables. The solution is instead intermediate in the conclusions of Saleem and Rehman (2011), according to whom the relationship is positive up to certain liquidity levels, after which it becomes negative.

### Empirical Model

The sample data were processed with Microsoft Excel and the statistical analysis was conducted through the use of dedicated software. A linear regression model and t-statistics were used to identify the relationships specified in the research questions.

Given that the dependent variables are the ER and the DR and the independent ones are the OI and the FR, the capital structure can be explained as follows:

$$\text{capitale structure} = f(\text{operating income}, \text{financial result}). \quad (1)$$

The applied research models are represented by the following equations (2) and (3).

$$ER_{it} = \beta_0 + \beta_1 OI_{it} + \beta_2 FR_{it} + \epsilon_{it} \quad (2)$$

$$DR_{it} = \beta_0 + \beta_1 OI_{it} + \beta_2 FR_{it} + \epsilon_{it} \quad (3)$$

where,

ER<sub>it</sub> = equity ratio of company i at time t

DR<sub>it</sub> = debt ratio of company i at time t

β<sub>0</sub> = intercept

OI<sub>it</sub> = operating income of company i at time t

FR<sub>it</sub> = financial result of company i at time t.

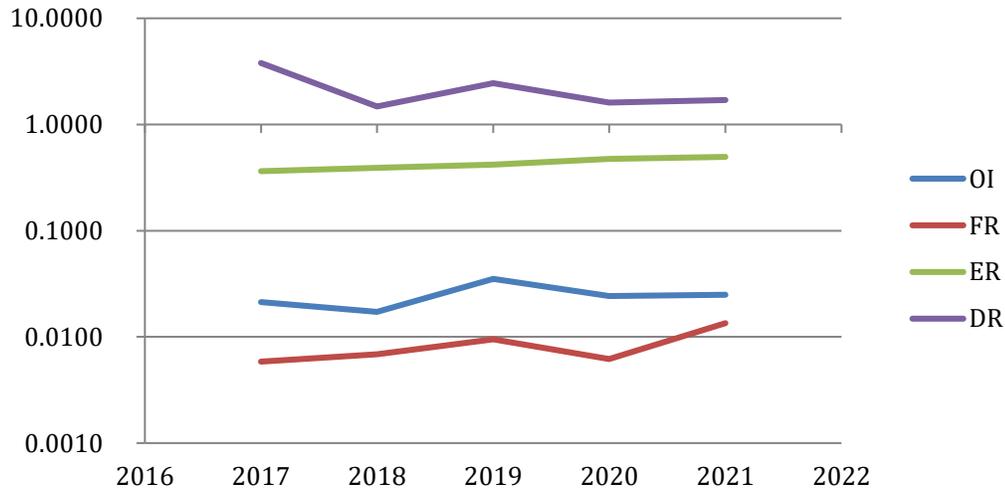
To test the model, the analysis subjected the data to normality tests (Shapiro-Wilk, Kolmogorov-Smirnov, Jarque-Bera), multicollinearity and heteroscedasticity (White).

### FINDINGS

Considering that the observed period includes the extraordinary event of the COVID-19 pandemic, it is useful to preliminarily examine the average trend of the variables in the five-year period 2017-2021, in order to highlight the effect caused by the crisis. The preliminary consideration of this trend is in fact fundamental to correctly interpret the results of the analysis, by comparing the performances before the

crisis (2017-2019), in the year of maximum impact of the crisis (2020) and in the first year following it. The results are presented in Figure 1 (for viewing convenience a base-10 logarithmic scale is used).

**FIGURE 1**  
**VARIABLES AVERAGE TREND**



Source: compiled by the author

As Figure 1 shows, the fall that occurred in 2020 in OI and FR is very evident and fully reflects the exceptional nature of the negative impact of the pandemic on business profitability. In particular, the independent variables – OI and FR – showed a very similar trend, almost coincident. For both, in fact, after the decline that occurred in 2018, the recovery of 2019 was almost totally canceled by the crisis caused by the pandemic, while 2021 seems to reveal a significant improvement in the profitability of financial management. On the other hand, the recovery in operating profit is much weaker.

As for the dependent variables, in the years from 2017 to 2021 the equity ratio showed a rather flat trend, but still tending to rise, while the debt ratio showed a trend highly similar to that of the independent variables. After 2019, in fact, the ratio between debt and equity decreased, confirming the financial resistance of the companies observed. However, the growth that occurred in 2021 seems to attest to an increase in debt, probably due to the aftermath of the crisis, which does not seem destined to be resolved quickly.

### Descriptive Statistics

Table 3 presents the descriptive statistics relating to independent and dependent variables considered by this study.

**TABLE 3**  
**DESCRIPTIVE STATISTICS**

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
OI	305	0.0246	0.0223	0.1199	-1.1207	0.3068
FR	305	0.0084	-0.0005	0.0326	-0.0526	0.2615
ER	305	0.4279	0.4079	0.2650	-1.0263	1.0000
DR	305	2.2052	1.1589	5.0593	-22.4248	55.4470
LR	305	1.6971	1.4200	1.2213	0.0000	8.2300

Source: compiled by the author

In relation to the independent variables, both OI and FR have a rather low average, showing a substantially contained return on invested capital. These results, however, if on the one hand reveal the need to improve the management of both the operational and financial areas, on the other hand they were heavily influenced by the crisis which caused a profound fall in the performance of the companies.

As for the dependent variables, the ER has a satisfactory average which indicates that just under half of the invested capital is financed with shareholders' equity. Furthermore, the ratio reaches the maximum value of 1, showing that in some companies in the sample the entire invested capital is financed with shareholders' equity. Conversely, although the level of debt is less satisfactory, Figure 1 highlights a positive signal, given by the fact that the companies have shown financial resistance to the crisis. In fact, it is necessary to consider that generally the increase in debt resulting from the loss of profitability does not show up immediately, but more significantly in subsequent years. Although 2021 is the only post-COVID-19 year currently observable, debt growth has remained substantially contained, confirming the financial resistance shown so far by the companies in the sample.

### Correlation Analysis

The correlations between the variables are presented in the matrix of Table 4.

**TABLE 4**  
**CORRELATION ANALYSIS**

	<b>OI</b>	<b>FR</b>	<b>ER</b>	<b>DR</b>	<b>LR</b>
<b>OI</b>	1				
<b>FR</b>	-0.0572	1			
<b>ER</b>	0.1286	0.3658	1		
<b>DR</b>	-0.0203	-0.1668	-0.3435	1	
<b>LR</b>	0.1104	0.0412	0.4725	-0.1680	1

Source: compiled by the author

### Robustness Test

To verify the robustness of the analysis, the variables were first subjected to the tests of normality, from which no problems emerged, as shown in Table 5, in which p-value  $H_0$  is set at 5%.

In relation to multicollinearity, although Table 4 indicates a non-insignificant correlation between the independent variables, only one independent variable was used in each regression, in order to avoid uncertainty about the results of the analysis.

As for heteroscedasticity, White's test was used, performing the regression separately for each of the two independent variables. By fixing  $H_0$  5%, the p-value results are very low and not higher than 0.046. The only critical situation with p-value 0.7964, which was considered acceptable, concerns the independent variable FR (dependent ER).

**TABLE 5**  
**NORMALITY TEST**

	<b>OI</b>		<b>FR</b>		<b>ER</b>		<b>DR</b>	
	test	p-value	test	p-value	test	p-value	test	p-value
Shapiro-Wilk	0.6967	0.0000	0.7101	0.0000	0.9592	1.5537E-7	0.4512	0.0000
Kolmogorov-Smirnov	0.3446	0.0000	0.3860	0.0000	0.0960	0.0240	0.5555	0.0000
Jarque-Bera	14,194.8091	0.0000	2,998.9314	0.0000	54.7971	1.2617E-12	31,405.1447	0.0000

Source: compiled by the author

## Answers to Research Questions

Table 6 presents the main results of the regression, obtained using the independent variables separately and considering the LR as the control variable. For each combination of dependent and independent variables, Ordinary Least Squares (OLS) results and t-statistics (in parentheses) are presented.

**TABLE 6**  
**REGRESSION RESULTS**

	<b>MODEL 1</b> <b>OI</b>	<b>MODEL 2</b> <b>FR</b>
ER	0.1286 (2.2567)**	0.3658 (6.8427)***
DR	-0.0203 (-0.3541) <sup>n.s.</sup>	-0.1668 (-2.9451)***
LR	0.1104 (1.9334)*	0.0412 (0.7184) <sup>n.s.</sup>
***, **, * Significant at 1%, 5% and 10% levels respectively		

Source: compiled by the author

As regards the relationship between operational management performance and capital structure in Italian listed companies (RQ1), the results of Table 6 show that OI has a positive relationship with the equity ratio and negative with the debt ratio. From these results it emerges that the direction of the correlations is optimal and thus that the operational management contributes to improving the capital structure of the Italian listed companies belonging to the sample. In fact, the positive relationship with the equity ratio confirms that as operating income increases, the ability to finance investments with shareholders' equity increases, that is, in other words, financial independence from third parties increases. This relationship also implies that non-operational management, corresponding to the financial area and taxation are also efficient, as they are capable of not reducing operating income. More specifically, considering that taxation is not a variable under the direct control of management and that generally negatively affects profitability, from the relationship between OI and ER it is possible to infer that financial management is also optimal. In fact, if this were not the case, the operating income would be eroded by financial charges and could not contribute to improving the ER.

The above is also confirmed by the presence of a negative relationship between OI and debt ratio, since it implies that operational management is able to reduce the ratio of debts to shareholders' equity.

With regard to the relationship between financial management performance and capital structure (RQ2), it can be noted first of all that the financial area (FR) contributes to increasing the equity ratio more than operational management. While this relationship, on the one hand, is an index of the financial strength of the companies considered, on the other it implies the need to improve operational management, which, in optimal conditions, should represent the primary source of profitability. This finding is in line with the study of Indian trading companies conducted by Taqi *et al.* (2016), who recommend that the analyzed companies also focus on the core business to increase their operating revenues. Similarly to this research, from that study it emerged that in the companies observed most of the revenues derive from non-operating activities that strengthen the net profit as compared to gross profit.

As for the relationship between FR and DR, the model shows that it is negative and therefore also optimal, since as the profitability of financial management increases, the ratio of debts to shareholders' equity decreases. Furthermore, as observed for the equity ratio, financial management contributes to improving the DR with a greater strength than that of operating profitability, confirming its superior effectiveness in determining the capital structure of the companies observed.

As regards the control variable, the correlations with the dependent variables are presented in Table 4 and show a generally optimal situation in which liquidity strengthens the capital structure, through a positive relation with the equity ratio and negative with the debt ratio.

## CONCLUSION

The analysis showed that operational and financial profitability positively affect the overall capital structure of the companies considered. In addition, some particular situations have emerged, from whose examination it is possible to draw useful considerations to better understand the ways in which this positive influence is achieved.

Specifically, the study highlighted that the profitability of financial management contributes to the improvement of the capital structure more than the operating profitability. On the one hand, this result shows that in the Italian listed companies included in the sample financial management is in equilibrium, given that the financial income exceeds the financial expense. On the other hand, it highlights unsatisfactory, or less satisfactory, operational management, which therefore has room for improvement.

The above results are able to explain the behavior of the dependent and independent variables following the COVID-19 pandemic. The robustness of financial management emerges, in fact, not only from the greater strength of the financial result compared to the operating income in determining the capital structure of the companies, but also from a series of further circumstances that occurred during and after the crisis, visible through Figure 1.

A first circumstance is given by the resistance of the FR which, despite having dropped in 2020, started to increase again in 2021 more vigorously than the operating income. This circumstance in turn confirms two other significant profiles. On the one hand, in fact, the debt ratio decreased and on the other the equity ratio did not suffer significant consequences, remaining almost unchanged and even growing slightly.

In this sense, the study makes it possible to deduce that the companies in the sample are characterized by an adequate financial performance and by a significant robustness of the capital structure, which together acted as tools for resisting the devastating effects of the crisis.

At the same time, the research can offer useful insights into the entrepreneurial policies of Italian companies. In fact, the presence of less effective operational management than the financial one may suggest adopting more focused actions on the core business, which, in optimal conditions, must always be the main source of income.

## REFERENCES

- Abor, J. (2005). The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. *The Journal of Risk Finance Incorporating Balance Sheet*, 6(5), 438–445. DOI:10.1108/15265940510633505
- Acaravci, S.K. (2015). The determinants of capital structure: Evidence from the Turkish manufacturing sector. *International Journal of Economics and Financial Issues*, 5(1), 158–171. Retrieved from <https://dergipark.org.tr/en/pub/ijefi/issue/31967/352115>
- Azzali, S. (Ed.). (2015). *Financial reporting and accounting standards*. Torino: Giappichelli.
- Bartoloni, E. (2013). Capital structure and innovation: Causality and determinants. *Empirica*, 40(1), 111–151. DOI: 10.1007/s10663-011-9179-y
- Besta, F. (1891). *Ragioneria Generale. Vol. 1. Parte 1 di Corso di ragioneria professato alla classe di magistero nella R. Scuola Superiore di Commercio in Venezia*. Venezia: Coi tipi dei Fratelli Visentini.
- Besta, F. (1909). *Ragioneria generale. Vol. 1. Parte 1 di La ragioneria. Seconda edizione riveduta e ampliata col concorso dei professori Vittorio Alfieri, Carlo Ghidiglia, Pietro Rigobon*. Milano: Vallardi.

- Besta, F. (1910). *Ragioneria generale. Vol. 2. Parte 1 di La ragioneria. Seconda edizione riveduta e ampliata col concorso dei professori Vittorio Alfieri, Carlo Ghidiglia, Pietro Rigobon*. Milano: Vallardi.
- Canakcioglu, M. (2019). Evaluation of banking performance of the Balkan countries with an integrated MCDM approach consist of Entropy and OCRA techniques. *Economy & Business Journal*, 13(1), 341–366. Retrieved from <https://www.scientificpublications.net/get/1000037/1570291719696909.pdf>
- Cappa, F., Cetrini, G., & Oriani, R. (2020). The impact of corporate strategy on capital structure: Evidence from Italian listed firms. *The Quarterly Review of Economics and Finance*, 76, 379–385. DOI: 10.1016/j.qref.2019.09.005
- Chadha, S., & Sharma, A.K. (2015). Determinants of capital structure: An empirical evaluation from India. *Journal of Advances in Management Research*, 12(1), 3–14. DOI: 10.1108/JAMR-08-2014-0051
- Chang, C., Lee, A.C., & Lee, C.F. (2009). Determinants of capital structure choice: A structural equation modeling approach. *The Quarterly Review of Economics and Finance*, 49(2), 197–213. DOI:10.1016/j.qref.2008.03.004
- Chang, C.C., Batmunkh, M.U., Wong, W.K., & Jargalsaikhan, M. (2019). Relationship between capital structure and profitability: Evidence from Four Asian Tigers. *Journal of Management Information and Decision Sciences*, 22(2), 54–65. DOI: 10.2139/ssrn.3411977
- Coronella, S., & Santaniello, L. (2018). Gino Zappa: il fondatore dell’Economia aziendale. In M. Billio, S. Coronella, C. Mio, & U. Sostero (Eds.), *Le discipline economiche e aziendali nei 150 anni di storia di Cà’ Foscari* (pp. 161–18). Venezia: Edizioni Ca’ Foscari.
- D’Amato, A. (2020). Capital structure, debt maturity, and financial crisis: Empirical evidence from SMEs. *Small Business Economics*, 55(4), 919–941. DOI: 10.1007/s11187-019-00165-6
- de Mesquita, J.M.C., & Lara, J.E. (2003, July). Capital structure and profitability: the Brazilian case. In *Academy of Business and Administrative Science Conference* (pp. 11–13). Vancouver, Canada.
- Ding, Y., Zhang, H., & Zhang, J. (2007). Private vs state ownership and earnings management: Evidence from Chinese listed companies. *Corporate Governance: An International Review*, 15(2), 223–238. DOI: 10.1111/j.1467-8683.2007.00556.x
- Ehiedu, V.C. (2014). The impact of liquidity on profitability of some selected companies: The financial statement analysis (FSA) approach. *Research Journal of Finance and Accounting*, 5(5), 81–90. Retrieved from <https://core.ac.uk/download/pdf/234629826.pdf>
- Gill, A., Biger, N., & Mathur, N. (2011). The effect of capital structure on profitability: Evidence from the United States. *International Journal of Management*, 28(4), 3–15.
- Gottardo, P., & Moisello, A.M. (2014). The capital structure choices of family firms: Evidence from Italian medium-large unlisted firms. *Managerial Finance*, 40(3), 254–275. DOI: 10.1108/MF-03-2013-0065
- Harris, M., & Raviv, A. (1988). Corporate control contests and capital structure. *Journal of Financial Economics*, 20, 55–86. DOI: 10.1016/0304-405X(88)90040-2
- Huang, H., & Ye, Y. (2021). Rethinking capital structure decision and corporate social responsibility in response to COVID-19. *Accounting & Finance*, 61(3), 4757–4788. DOI: 10.1111/acfi.12740
- Hung, C.Y., Albert, C.P.C., & Eddie, H.C.M. (2002). Capital structure and profitability of the property and construction sectors in Hong Kong. *Journal of Property Investment & Finance*, 20(6), 434–453. DOI: 10.1108/14635780210446469.
- Kuo, H.C., & Chi-Haw, L. (2003). The determinants of the capital structure of commercial banks in Taiwan. *International Journal of Management*, 20(4), 515.
- Lartey, V.C., Antwi, S., & Boadi, E.K. (2013). The Relationship between Liquidity and Profitability of Listed Banks in Ghana. *International Journal of Business and Social Science*, 4(3), 48–56.
- Margaritis, D., & Psillaki, M. (2007). Capital structure and firm efficiency. *Journal of Business Finance & Accounting*, 34(9–10), 1447–1469. DOI: 10.1111/j.1468-5957.2007.02056.x

- Panno, A. (2003). An empirical investigation on the determinants of capital structure: The UK and Italian experience. *Applied Financial Economics*, 13(2), 97–112. DOI: 10.1080/09603100210100882
- Rababah, A., Al-Haddad, L., Sial, M.S., Chunmei, Z., & Cherian, J. (2020). Analyzing the effects of COVID-19 pandemic on the financial performance of Chinese listed companies. *Journal of Public Affairs*, 20(4), e2440, 1–6. DOI: 10.1002/pa.2440
- Saarani, A.N., & Shahadan, F. (2013). The determinant of capital structure of SMEs in Malaysia: Evidence from enterprise 50 (E50) SMEs. *Asian Social Science*, 9(6), 64–73. DOI:10.5539/ass.v9n6p64
- Saleem, Q., & Rehman, R.U. (2011). Impacts of liquidity ratios on profitability. *Interdisciplinary Journal of Research in Business*, 1(7), 95–98. Retrieved from <https://www.academia.edu/download/42820999/idjrb7n9.pdf>
- Serghiescu, L., & Văidean, V.L. (2014). Determinant factors of the capital structure of a firm-an empirical analysis. *Procedia Economics and Finance*, 15, 1447–1457. DOI: 10.1016/S2212-5671(14)00610-8
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The impact of the COVID-19 pandemic on firm performance. *Emerging Markets Finance and Trade*, 56(10), 2213–2230. DOI:10.1080/1540496X.2020.1785863
- Shubita, M.F., & Alsawalhah, J.M. (2012). The relationship between capital structure and profitability. *International Journal of Business and Social Science*, 3(16), 104–112.
- Shun-Yu, C., & Li-Ju, C. (2011). Capital structure determinants: An empirical study in Taiwan. *African Journal of Business Management*, 5(27), 10974–10983. DOI: 10.5897/AJBM10.1334
- Taqi, M., Ajmal, M., & Pervez, A. (2016). Impact of Capital Structure on Profitability of selected trading companies of India. *Oman Chapter of Arabian Journal of Business and Management Review*, 34(3956), 1–16.
- Velnampy, T., & Niresh, J.A. (2012). The relationship between capital structure and profitability. *Global Journal of Management and Business Research*, 12(13), 66–74.
- Voulgaris, F., Asteriou, D., & Agiomirgianakis, G. (2002). Capital structure, asset utilization, profitability and growth in the Greek manufacturing sector. *Applied Economics*, 34(11), 1379–1388. DOI:10.1080/00036840110096822
- Yapa Abeywardhana, D. (2015). Capital structure and profitability: An empirical analysis of SMEs in the UK. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, 4(2), 1661–1675. Retrieved from <https://ssrn.com/abstract=2816487>
- Zappa, G. (1920–29). *La determinazione del reddito nelle imprese commerciali. I valori di conto in relazione alla formazione dei bilanci*. Roma: Anonima Libreria Italiana.
- Zappa, G. (1927). *Tendenze nuove negli studi di ragioneria. Discorso inaugurale dell'Anno Accademico 1926-27 nel R. Istituto Superiore di Scienze economiche e Commerciali di Venezia*. Milano: S.A. Istituto Editoriale Scientifico.