

CAPITAL ALLOCATION ACROSS INDUSTRIES - THE CASE OF HOTEL AND RESTAURANTS SECTOR AND ENERGY SECTOR

Elżbieta Wrońska-Bukalska
Maria Curie-Skłodowska University, Poland

Kamil Mazurkiewicz
Maria Curie-Skłodowska University, Poland
kamil.mazurkiewicz@poczta.umcs.lublin.pl

Abstract:

We focus on capital allocation. The capital structure theories cannot explain how the capital is allocated. There are a quite big number of research showing that industry factors are important while trying to understand the financial decisions.

We hypothesize that capital structure differ across industries, while financing fixed asset is similar in analyzed sectors.

We compare the energy (production) sector (11 companies) and restaurants and hotels (service) sector (7 companies). We collected financial data for 2005-2015 period. Our analysis covers more 180 observation on financial data. The method applied is method of comparative analysis of the basic descriptive statistics (capital and asset structure, and the way the fixed assets are financed). We also applied significance U Mann Whitney test to identify any differences between analysed sectors.

Our study does not confirms that capital structure differ across industries. Our study does not confirm that asset structure differ across industries, either. But financing fixed asset is not similar in analyzed sectors. They differ at the statistically significant level. The originality of our research is that we go far beyond the capital structure decisions to find out how the capital is allocated with regard to industry the company belongs to.

Keywords: economics, business analysis, capital allocation, capital structure, assets structure, hotel and restaurant sector, energy sector

1. INTRODUCTION

Corporate management includes decisions on resources allocation. One of the resources is capital. Decisions on capital allocation in the company should be taken to make the capital more profitable than capital allocated in other investment (bank deposit, investing in bonds or shares etc.). That is why not only the investors are to take decision how to invest their capital but also companies are to take decision how to get the capital and how to allocate the capital to satisfy the investors' expectations. There are well known theories referring to capital pool and capital structure. The capital structure theories refer to the combination of debt and equity that enable to enhance the profitability and the company value. The most common capital structure theories are:

- MM (without any taxes, with corporate taxes and with individual taxes) – Modigliani and Miller (Modigliani & Miller, 1958, pp. 261–297; Modigliani & Miller, 1963, pp. 433–443). Initially, they assumed that the decisions on capital structure do not matter for the company has the same value regardless the equity-debt relation. Later on they realized that using debt allows to gain tax advantages.
- Trade off theory (substitution capital structure theory) – with cost of financial distress and agency costs – Kraus and Litzenberger (Kraus & Litzenberger, 1973, pp. 911–922). Kraus and Litzenberger found that bigger debt leads to bigger financial distress and bigger agency costs.
- Pecking order theory – with information asymmetry and signaling hypotheses – Myers and Majluf (Myers & Majluf, 1984, pp.187–221). Myers and Majluf proved that profitable companies try to use internal funds as the first source of financing, if they are not sufficient companies seek debt financing, and at the end companies issue equity.
- Market timing theory – Baker and Wurgler (Baker and Wurgler, 2002, pp, 1 – 32). They found that companies issue debt or equity depending on the situation on the stock market.

At the same time there are also a lot of research providing evidence that capital structure decisions are still puzzle consisting with a lot of pieces that seem not to match (Baker & Martin, 2011, p. 12). Most of the existing literature found no evidence of a dominant theory in explaining the firms' capital structure. It seems that existing theories cannot explain why companies issue debt or equity and, the existing theories cannot account for the reasons of issuing debt or equity (Myers, 1983, pp.187 – 221).

That is why there were quite a big number of attempts investigating the determinants of capital structure. Among the factors affecting capital structure there are identified as follows: firm size, firm risk, firm growth rate, firm profitability and asset tangibility, business risk are the main drivers of capital structure (Al-Najjar & Hussainey, 2011, pp.329 – 338; Rajan & Zingales, 1995 pp. 1421 – 1460). Most of the identified factors affecting capital structure strongly depend on the industry the company belongs to. Because the companies operate in the same market condition, they face similar entry barriers, they offer similar products to similar clients, and they are exposed to the same factors (Leary & Robert, 2014, pp. 139-178.). Research studies have shown that capital structure differ across industries. Phillips and MacKay, confirm that the leverage ratio is higher and less variable in industries with a higher concentration and stronger mutual strategic relationships concerning debt issues. Their results also indicate that the capital structure are determined by an industry (Phillips & MacKay, 2005, pp. 1433–1466).

Extensive evidence show the debt ratio changes across industries, for instance Harris and Raviv show that leverage changes across industries because of difference in tangibility of assets (Harris & Raviv 1999, pp. 297-355.) Manufacturing companies maintain high debt ratio compared to high technological firms. Studies show the positive relation between leverage and tangibility of assets, because creditors tend to lend capital to companies with collateral assets. Also Talberg, Winge proved that debt ratio is positively related to asset structure (Talberg & Winge, 2008, pp. 181-200). And Akhtar thinks that collateral value of assets is a significant determinant of leverage (Akhtar, 2005, pp. 321-341). This conclusion is supported by research of Koralun-Bereźnicka, who proved that the argument related to the assets tangibility seems to be one of the most probable explanations of the observed regularities in the area of financing strategies and the industrial classification (Koralun-Bereźnicka, 2014, pp.107-128).

It seems that the most specific factor connected with industry is the level of fixed assets the company is equipped. It makes necessary to widen the scope of analysis and investigate not only capital structure but also the financial strategy: how much fixed assets the company have and how they are financed. It involves not only examining the capital structure (equity to total assets, debt to total assets) but also what is the structure of assets (fixed assets to total assets, current assets to total assets) and how the fixed and current assets are financed (equity to fixed assets, long term debt and equity to fixed assets). Taking into account assets structure and capital structure we expect to find differences in capital structure due to the different level of fixed assets needed to run business and needs to finance these

fixed assets. We expect also to find similarities in the way the fixed assets are financed inter industries. So the hypotheses are as follows:

H1: there are statistically significant inter-industry differences in capital structure (the ratio of equity to total assets)

H2: there are not statistically significant inter-industry difference in the way the fixed assets are financed (ratio of equity to fixed assets and long term debt and equity to fixed assets).

Although the issue of capital structure was widely discussed, we think that there is still lack of consensus regarding the theory and determinants of capital structure. Our research contribute to capital structure literature by attempting to find any regularities for Polish companies and sectors. We use not only capital structure measure but also look at the specific characteristics of the industry.

2. METHODOLOGY AND RESEARCH FINDINGS

We analyze the asset and capital structure to find out whether there are any inter-industry differences. We compare two industries: service industry (hotels and restaurants – 7 companies) and production industry (energy – 11 companies). Our research covers the 2005-2015 period. The financial data (the value of fixed assets, total assets, equity, liabilities, long-term liabilities) were collected from financial statements of each company. From hotels and restaurants (service) industry we examined corporate financial statements as follows: AmRest Holdings SE, Interferie SA, Mex Polska SA, Olympic Entertainment Group AS, Orbis SA, Rainbow Tours SA, Sfinks SA. From energy (production) industry we examined corporate financial statements as follows: Enea SA, Energa SA, Polish Energy Group SA, Tauron SA, ZE PAK Group SA, Elektrociepłownia Będzin SA, Polenergia SA, Kogeneracja SA, Inter Rao Lietuva AB, Ideon SA, CEZ a.s. These were companies listed at Warsaw Stock Exchange. We collected 185 observations altogether.

We calculated some ratios: 1) for capital structure ratio – the relation of equity to total assets, 2) for assets structure ratio – relation of fixed assets to total assets, 3) for financing strategy ratio I – the relation of equity to fixed assets and 4) for financing strategy ratio II – the relation of equity and long term debt to fixed assets.

We compare these ratios between analyzed industries in order to find differences or similarities in their level. We expect to find differences in capital structure and assets structure. We expect also to find similarities in the way the fixed assets are financed in two analyzed industries. The service sector (hotels and restaurants) needs lower amount of fixed assets and need lower amount of equity and long term debt to finance these fixed assets than the production sector (energy). Thus we expect to find the lower ratio of capital and assets for hotels and restaurants sector. The descriptive statistics (mean, median, relative standard deviation) are included in the table 1.

To identify differences or similarities the U Mann-Whitney test was applied. The null hypothesis was that the mean is similar in both industries. The statistics of U Mann-Whitney test are included in the table 1.

Capital structure ratio is lower in energy sector. It means that the companies from energy sector use less equity (but still more than 50%) and more debt (but still less than 50%) than companies from restaurants and hotels sector. The higher usage of equity is common among the energy companies for the relative standard deviation (the standard deviation in relation to the mean) is lower than among companies from restaurants and hotels sector. But the differences in capital structure between sectors are not statistically significant – p value is high so there is no reason to reject the null hypothesis assuming that the mean is similar in both industries.

Asset structure ratio is lower in restaurants and hotels sector. It means that the companies from restaurants and hotels sector use less fixed assets than companies from energy sector. But the differences in asset ratio are very small which is quite surprising for we expected to find much lower fixed assets in hotels and restaurants (service) sector than in energy (production) sector. The companies from restaurants and hotels sector differ in these decisions (asset structure) for there is higher relative standard deviation. But the differences in asset structure between sectors are not statistically significant – p value is high so there is no reason to reject the null hypothesis assuming that the mean is similar in both industries.

Table 1: The assets and capital structure in hotels and restaurants sector and in energy sector

Capital structure ratio	Hotels and restaurants	Energy
Mean	58.4%	52.9%
Median	54.4%	53.7%
Relative Standard Deviation	0.42	0.27
U Mann-Whitney Statistics	-1.434 p-value =0.152	
Assets structure ratio	Hotels and restaurants	Energy
Mean	70.5%	72.6%
Median	79.9%	77.8%
Relative Standard Deviation	0.36	0.22
U Mann-Whitney Statistics	-1.556 p-value = 0.120	
Financing strategy ratio I	Hotels and restaurants	Energy
Mean	102.0%	87.6%
Median	85.3%	69.5%
Relative Standard Deviation	0.85	1.12
U Mann-Whitney Statistics	-2.264 p-value = 0.024	
Financing strategy ratio II	Hotels and restaurants	Energy
Mean	122.7%	125.0%
Median	99.5%	108.0%
Relative Standard Deviation	0.66	0.75
U Mann-Whitney Statistics	-1.801 p-value = 0.072	

Source: authors' own calculations based on financial statements of selected hotels and restaurant and energy companies.

Financing strategy ratio I is higher in restaurants and hotels sector (higher than 100%). It is the result of higher capital structure and lower asset structure. The level of financing strategy ratio I means that the equity value for companies from restaurants and hotels is higher than the value of fixed assets. The companies from restaurants and hotels sector do not differ in these decisions (financing strategy ratio I) for there is lower relative standard deviation. But the differences in financing strategy between sectors are statistically significant – p value is low so the null hypothesis assuming that the mean is similar in both industries should be rejected.

Financing strategy ratio II is again higher in restaurants and hotels sector but is higher than 100% for both sectors. The level of financing strategy ratio II means that the equity and long term debt value for companies from restaurants and hotels is higher than the value of fixed assets. The companies from restaurants and hotels sector do not differ in these decisions (financing strategy ratio II) for there is lower relative standard deviation. But the differences in financing strategy between sectors are statistically significant – p value is quite low (close to the value of 0.05) so we are prone to think that the null hypothesis assuming that the mean is similar in both industries should be rejected.

3. CONCLUSIONS

The aim of this paper was to identify the differences in capital structure and financing strategies between energy (production) and hotels and restaurants (service) sectors. We expected to find different capital structure but similar financing strategy across sectors. We assumed that capital structure depend strongly on the level of fixed assets. And fixed assets is specific feature of the sector – service sector does not require high level of fixed assets, while production sector need high level of fixed assets.

Our research findings show that both sectors have similar capital structure, as well as similar asset structure. We found also differences in financial strategies. The findings are contradictory to our expectations. Our findings are also contradictory to most of the existing research. Talberg, Winge, Frydenberg, Westgaard and Rajan and Zingales found that the capital structure, asset structure and financing strategy differ across industries (Talberg & Winge & Frydenberg & Westgaard, 2008, pp. 181-200; Rajan & Zingales, 1995, pp. 1421–1460). But our findings are similar to those of Hatfield, Cheng

and Davidson, who found that there is no relationship between a firm's leverage ratio and the industry's leverage ratio (Hatfield & Cheng & Davidson, 1994, pp. 1-14). The research findings give grounds for further thorough research into the determinants of capital structure across industries.

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