

The Sectoral Influence on the Financial Structure of Sharia-Compliant Institutions: A Case Study of Malaysia (2010-2022)

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Summary: Institutions employ a combination of owned and borrowed funds to finance diverse aspects of their operations, and the composition of financing sources varies according to several factors and theories interpreting financial structure. Traditional literature indicates that the nature of the activity conducted by the institution is one of the factors that can influence its reliance on borrowing to finance its activities.

Sharia-compliant institutions, differing from traditional ones, adhere to distinctive characteristics guiding their financial decisions, notably avoiding interest-based loans and opting for alternative financing mechanisms.

This study examines how the sectoral context influences the financing choices of Sharia-compliant institutions, using a sample of Malaysian entities listed on the stock exchange during 2010-2022. Results reveal varying debt reliance across sectors, with Utilities, Healthcare, and Telecommunications displaying relatively higher levels. Despite sectoral disparities, overall stability in borrowing levels was observed throughout the study period, suggesting these institutions maintain borrowing dependence amidst activity changes.

Keywords: Sectoral Impact; Sharia-Compliant Institutions; Financial Structure.

JEL Classification Codes: L25; G35; G32.

I-Introduction:

Traditional financial literature extensively delves into the factors influencing financial decision-making in conventional institutions, leading to the development of several interpretative theories. Notable among these are the pecking order theory, signaling theory, agency theory, and hedging theory. Alongside discussions on various factors shaping financial decisions, studies have highlighted how the nature of business activity and sector affiliation influence the amalgamation of financing sources.

In contrast, Sharia-compliant institutions exhibit distinctive traits that set them apart from conventional counterparts. These institutions refrain from utilizing interest-based financing sources and instead adhere to Sharia-compliant formats, which encompass principles of profit and loss sharing such as *Mudarabah*, *Musharakah*, *Ijara*, among others (Gunn & Shackman, 2014). The divergence in adopted formats between traditional and Sharia-compliant institutions prompts inquiry into the influence of the sector to which the latter belong on the composition of their funding sources for financing diverse activities.

Therefore, the main question addressed in this paper is:

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Does the sector affiliation of Sharia-compliant institutions impact the composition of their funding sources?

I.1. Characteristics and Regulations of Sharia-Compliant Institutions :

Sharia-compliant institutions are distinguished from conventional ones by their adherence to a set of regulations and principles summarized in the following elements:

I.1.1. The Funded Activity Must Be Halal :

Islamic law requires the entity receiving funds to engage in permissible activities (Dusuki et al., 2007). This entails utilizing funds to finance lawful investment projects and avoiding prohibited activities. For instance, investing these funds in the production of alcohol contradicts Islamic law, which prohibits the consumption, production, and profiting from alcohol (Muhammad Khalid & Hana Jalloul, 2022). Good money should only be spent on good things, in accordance with the Quranic verse in Surah Al-A'raf (7:157): "... *He commands them to do good and forbids them from evil, permits for them what is lawful and forbids to them what is impure...*".

I.2.1- Absence of Riba (Interest) in Funding Sources :

Riba, linguistically, refers to "increase on principal without reciprocal exchange." (Ibn Manzur, 1988, p. 1098)

In Islamic terminology, it refers to any increase on the principal amount of a loan that is not offset by a real benefit corresponding to the passage of time. i.e., it refers to any conditional increase in the principal of a loan or a debt in return for deferred payment (M. A. Khan, 2024). The juristic consensus permits the possibility of increasing the item's price for deferred payment in the case of sale contract. However, the Islamic perception of the role of time differs from sale contract to loan or debt contract. This dual perception of time in financial transactions governed by Islamic law seems contrary to the uniform treatment of time in conventional finance that considers an instalment sale as a dual operation of sale-cum-loan. (Bellalah & Masood, 2013, p. 67)

Riba is divided into two types: riba al-fadl (surplus) and riba al-nasi'ah (delayed).

-Riba al-fadl: This refers to the surplus obtained by one of the parties in a transaction involving exchange of commodities of the same kind but differing in quality (Ali, 2007). For example, exchanging a quantity of gold for a different quantity, even if their qualities vary, is not permissible. This is in accordance with the hadith of the Prophet Muhammad (peace be upon him): "Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, salt for salt, like for like, equal for equal, hand to hand. If these classes differ, then sell as you wish if payment is made hand to hand." This type of riba is known as riba al-buyu' (surplus).

-Riba al-nasi'ah: This refers to the increase granted in return for a deferment of payment, also known as interest on loans. It encompasses all forms of loans offered by conventional banks, whether they are consumer loans or production loans, regardless of the amount of interest paid.

- **Harms of Riba:** Numerous studies conducted by economists have highlighted the negative effects and harms resulting from engaging in riba transactions. They contribute to inefficient **resource** allocation and inflationary effects, as well as unfair distribution of benefits by fixing the lender's share without considering the nature of the results achieved from deploying these funds (Selim, 2021).

I.3.1- Application of the legal maxim “*Al-Ghunm Bil Ghurm*” & “*Al-Khiraj bil-Daman*”:

The legal maxim “*Al-Ghunm Bil Ghurm*” states that what a person or entity obtains should be proportional to the potential risks and hardships or burdens they bear or encounter. This principle establishes a strong and direct link between the profit (*Ghunm*) earned and the loss (*Ghurum*) incurred from engaging in any investment operation. (Wan Ahmad Ikram, 2018)

On the other hand, the legal maxim “*Al-Khiraj bil-Daman*” translates to “Gain accompanies liability for loss.” means that both the sale and the benefit are realized only by bearing a certain level of risk resulting from potential losses in the investment operation, whether the loss is in work, effort, or even capital. This principle implies that whoever guarantees the principle of a thing has the right to benefit from its yield or profit generated by its investment, while, in return, they must bear any losses incurred. (Khan, 2019)

These two principles represent a new basis for banking operations. Under the traditional system, capital owners are granted full protection from any losses, and their funds are not exposed to any risks as they receive a fixed return calculated based on the interest rate. Similarly, banks lend to projects and investors to obtain the loan principal and the accrued interest, regardless of the project's outcome and bankruptcy. Consequently, the investor ultimately bears all the risks of the project and the associated costs.

I.4.1- Ownership Requirement and Financing Linked to the Material Aspect of the Economy

The obligation of ownership means that wealth should benefit from its confirmed increase in value, whether this increase occurs due to natural factors, the efforts and diligence of the owner, or market supply and demand factors. Therefore, in financing, the financed asset - whether money or goods - must belong to the individual or be under their agency on behalf of the original owner. Financing with others' funds without proper authorization is not permissible. (Iqbal & Mirakhor, 2013)

Link to real assets: To avoid money earning more money, all Islamic financial transactions are linked to a real asset and there is an exchange of goods and services, making them less risky. (Jabeen & Khan, 2008).

As for the connection of financing to the material aspect of the economy, all Islamic financial transactions are linked to a real asset and there is an exchange of goods and services, making them less risky. (Habib, 2018, p. 4). This means that financing is granted based on a specific investment project that has been thoroughly studied from all aspects. This includes the beneficiary's personality, the nature of the project, the purpose of financing, the repayment method, and other feasibility study-related matters. This differs from traditional financing, which often relies on the beneficiary's creditworthiness and their ability to fulfill obligations towards the bank.

The following table summarizes the difference between conventional and Islamic economics

I.2- Factors Influencing the Nature of Financing Sources Used :

Several factors determine the financing options for institutions, which can be summarized as follows:

I.2.1 Economic Returns: Also known as Return on Assets (ROA) or Return on Invested Capital (ROIC), economic returns are given by the relationship:

Economic Returns = Operating Income / Total Assets, where Operating Income represents earnings before interest and taxes (EBIT).

Increasing economic returns encourage institutions to borrow more and rely more on loans in their financial structure.

I.2.2 .Activity Volatility .Refers to the degree of fluctuations in a company's activity. An increase in activity volatility indicates higher risk for the company, hence the debt ratio in the financial structure tends to be low.

I.2.3 .Sales Growth Rate: The sales growth rate is a measure of the potential revenue increase per share resulting from the development of activity levels.

I.2.4 .Institution Size :An increase in the company's size positively affects the increase in reliance on debt in the financial structure to provide assets as sufficient collateral for further borrowing.

I.2.5 .Asset Structure : The asset structure influences financing sources in various ways. Institutions with long-lived fixed assets heavily utilize long-term loans, unlike companies with majority of assets in receivables and inventory, relying less on long-term loans.

I.2.6 .Debt Costs: Financial costs are among the important determinants of the appropriate financing mix. The higher these costs, the greater the institutions' obligations, increasing the risk of default. Therefore, institutions prioritize this factor significantly when formulating their financial policies. This factor is primarily linked to the institution's ability to generate profits that secure it from these risks.

I.3- The Impact of Islamic Finance Specificity on the Degree of Reliance on Borrowing:

Financial leverage is used in traditional literature as one of the important means to maximize profits by relying on debt in exchange for paying interest on it. The latter is known to be prohibited in Islamic economics. Does this mean the impossibility of benefiting from this phenomenon within the framework of Islamic financing formulas?

Many researchers emphasize that Islamic economics is based on real economy, which means avoiding excessive borrowing, and the necessity for debts to be fully covered by assets(Ahmed, 2007, pp.22-25). Some have also focused on highlighting the advantages of financing through equity, considering it the best for the capital structure of institutions, not only because it complies with Islamic law, but also because it stimulates economic growth, production, and resource mobilization for the benefit of society. They focus on the ethical aspect of financing through equity, as it serves society as a whole, not just the funded class, ensuring the stability of capital markets and protecting them from the violent shocks caused by excessive borrowing. (Obaidullah & Khan, 2010)

Therefore, it can be said that Islamic economics theoretically tends to prefer partnerships and investments over debt-based formulas due to the sharing of benefits in exchange for bearing a range of risks or penalties. But does the reality of relying on Islamic financing formulas align with this theoretical analysis?

I.4 - The Reality of Reliance on Islamic Financing Forms:

Various studies on institutions' reliance on Islamic financing forms have shown that most prefer known-margin formats, while reliance on profit-sharing and Murabaha formats is lower. This implies a preference for formats that do not lead to loss of control over the institution, but also for some advantages provided by these formats. Their stable costs make them generators of

financial leverage phenomenon, thereby leading to increased variability in returns for stakeholders (Iqbal & Mirakhor, 2011, p. 406).

Moreover, we should not overlook the fact that Islamic banks tend to refrain from relying on participation and speculative formats due to their higher risk level. This means that these formats are less available to institutions seeking to finance their activities.

I.5- Analysis of the Impact of Sectoral Affiliation on the Nature of Financing Sources Used :

Building upon the previous element, it becomes evident that the nature of the sector to which the institution belongs endows it with a set of distinctive characteristics that govern the specific elements of the financing mix. Institutions vary from one sector to another in terms of achieved profitability, asset size, nature of activity and its volatility, sales growth rate, asset structure, and debt costs, among others.

Thus, this study assumes that Sharia-compliant institutions exhibit similarities in terms of the values of indicators determining the factors influencing the financing mix within the same sector, while they may differ across sectors. This is what the study seeks to prove or refute.

II - Methodology and Tools:

A sample of Malaysian companies listed on the stock exchange was prepared for the period from 2010 to 2021, relying on the Data Stream database. Initially, all Malaysian companies listed on the stock exchange included in the database were downloaded, along with an additional column indicating whether the institution is Shariah-compliant (Shariah Compliant Flag). The latter will be relied upon to exclude non-Shariah-compliant institutions.

II.1- Data Filtering and Sample Selection :

The steps for filtering and selecting the study sample can be summarized as follows:

- 1 .The primary sample included all Malaysian institutions listed on the stock exchange, totaling 981 institutions.
- 2 .By relying on the column indicating Shariah-compliant institutions (Shariah Compliant Flag), non-Shariah-compliant institutions were excluded, reducing the sample to 553 institutions.
- 3 .Additionally, some institutions did not have information about the sector to which they belong, necessitating their removal from the sample. Financial institutions (banks and insurance companies) were also excluded due to the different nature of their activities, resulting in a sample of 445 institutions.

The subsequent table illustrates the study sample according to each sector.

II.2- Study Variables :

Several ratios are used to express the financial structure of institutions. In this study, we will rely on four indicators for measurement, which are explained below:

- 1 .**Total Debt to Total Assets (Lev1 = TD/TA):** This includes the total debt (TD), which encompasses all interest-bearing debts and the obligations drawn from capitalized lease agreements. Therefore, the calculation includes both long-term and short-term debts.
- 2 .**Total Debt to Total Capital (Lev2 = TD/TC):** This ratio is calculated by dividing long-term debts (the sum of long-term debts, short-term debts, and the current portion of long-term debts) by

the total capital (the sum of capital, long-term debts, short-term debts, and the current portion of long-term debts).

3 .Long-Term Debt to Total Assets (Lev3 = LTD/TA): In the numerator, this ratio includes total long-term debts, covering all long-term financial obligations except for the current portion due within a year (current liabilities), and net of any premiums or discounts. The denominator (Total Assets with the code 02999) includes all assets, both long-term and short-term.

4 .Long-Term Debt to Total Capital (Lev4 = LTD/TC): This ratio, listed under the code (08216) in WordScope data, includes total long-term debts as per the previous definition in the numerator, while the denominator comprises total capital using the same definition as before (total capital, short-term debts, and the current portion of long-term debts).

Finally, it is worth to mention that the total capital, as defined above, differs from total assets in that total capital excludes commercial obligations to suppliers.

III- Results and Discussion:

After inputting the aforementioned data into the STATA software and calculating the ratios for Sharia-compliant institutions, the following results were obtained:

III.1- Analysis of General Disparities :

Initially, the average values of the four ratios for the study years were calculated, and the results were as follows:

By comparing the results, it is evident that all ratios expressing financial leverage for Sharia-compliant institutions were low. This is because Sharia-compliant institutions tend to rely on equity-based formats while minimizing debt ratios, as most available debts are based on interest-based transactions, which these institutions avoid. On the other hand, it is evident that the highest measure was Lev2, followed by Lev1, then Lev4, with Lev3 being the lowest.

III.2- Analysis of General Disparities :

The following table summarizes the average values of leverage measures grouped by sector:

Through this table, we notice disparities in the degree of reliance on debt from one sector to another. Looking at the average ratio of total debt to total assets, we find that the highest ratio was recorded in the healthcare sector (22.94), followed by the telecommunications sector, while the technology sector recorded the lowest ratio (13.56%). This can be attributed to the healthcare sector requiring significant investments and equipment, necessitating borrowing to cover these needs, while the technology sector is characterized by high returns rates, contributing to self-financing, thus reducing the need for loans.

As for the average of the second ratio, it is observed to be higher compared to the first ratio. This is because the denominator of the second ratio represents total capital excluding short-term loans, meaning that the denominator of this ratio is lower than the previous ratio, leading to an increase in the average of this ratio.

It is also worth noting that the increasing difference between the two ratios indirectly indicates the degree of institutions' reliance on short-term financing. The telecommunications sector, for instance, has taken the lead, indicating its greater reliance on short-term loans.

The third ratio is limited to long-term debt to total assets. Here, we observe variations from one sector to another, with the services and healthcare sectors topping the list with 14.87 and 14.67, respectively, compared to the lowest ratio in the technology sector at 6.13. The table also shows that half of the sectors (5) had ratios of long-term debt reliance above 10% (Utilities, Healthcare, Telecommunications Services, Financials, Industrials), while the remaining sectors recorded levels

below 10% (Energy, Non-Cyclical Consumer Goods & Services, Basic Materials, Cyclical Consumer Goods & Services, Technology).

In comparison with the fourth ratio, similar results can be noted with slight differences in the ranking, along with improvements in each sector's ratios under study.

III.3- Evolution of Average Lev1 Ratios by Sector:

To track changes in the degree of reliance on debt sectorally, the average ratio was calculated for each sector over the study period, and the results are summarized in the following table:

This table illustrates a relatively consistent pattern of debt reliance across sectors, although notable differences emerge when comparing between sectors. This can be highlighted further through the following graphical depiction:

From this figure, the following observations can be made:

- There appears to be a relative stability in the leverage ratio within the financial structure throughout the study period and across almost all sectors, with very minimal growth rates. However, there were extremely slight growth rates observed during the years 2019 and 2020, which then returned to their previous levels in 2021.
- It is also evident that there is variation in the degree of reliance on debt between sectors. The services and telecommunications sectors lead in terms of debt reliance, while the cyclical and non- cyclical consumer goods & services sectors rank at the bottom"

III.4- Evolution of Average Lev2 Ratios by Sector:

Leverage ratio 2 (LEV2) differs from leverage ratio 1 (LEV1) in terms of the denominator, where total debt is used instead of total assets. The following table summarizes the results obtained regarding the development of this ratio by sector during the study period.

The table above presents several observations summarized as follows:

- There has been an increase in the values of this table compared to the previous one, across all sectors studied, with an average increase of 3 percentage points.
- This table maintains the same order of sectors as the previous table in terms of the degree of reliance on debt in the financial structure of institutions studied in each sector.

These observations can be better highlighted through the following figure

This figure confirms the previous results, and in addition, we note the following observations:

- Contrary to the relative stability in the degree of reliance on debt across all sectors studied, a noticeable decrease in the ratios was observed in 2019, followed by a significant improvement in 2020, returning to their usual levels in 2021.
- The services sector recorded a sharp decline in 2011, returning to its usual levels in 2012 and beyond

III.5- Evolution of Average Lev3 and Lev 4 Ratios by Sector:

Many researchers prefer to use long-term financing sources only when studying the financing mix of institutions due to the fluctuations that characterize short-term financing sources. Therefore, we will use long-term debt when calculating lev3 and lev4, noting the difference in the denominator of the two ratios, where we use total assets in the calculation of lev3, while we use total debt in the calculation of lev4.

The results for lev3 can be highlighted through the following figure:

The following observations can be noted from this figure:

- The previous results regarding the ranking of sectors in terms of debt reliance and its evolution during the study period have been confirmed.
- There was a decline in these ratios compared to lev1, which is logical considering the exclusion of short-term debt in lev3. However, what is noteworthy is the sectoral variation recorded in the evolution of the degree of reliance on short-term debt from one sector to another, as highlighted in the following table:

The table shows that the energy sector recorded a progressively increasing decline in the lev3 ratio compared to lev1, indicating an increasing reliance on short-term debt in the financial structure of institutions over time. Meanwhile, other sectors exhibited varying degrees of fluctuation, where the predominant trend was a reduction in reliance on short-term debt in favor of long-term debt.

Returning to the lev4 ratio, the results obtained can be translated through the following graph:

The above figure highlights the following observations:

Despite the alignment of the trends in lev2 with lev4 regarding the overall trend of the ratios, as well as the sharp decline observed in 2019 followed by the subsequent improvement in 2020 and 2021, there is an increase in the degree of fluctuation occurring in the previous ratios over time. This indicates that institutions have maintained stable levels of debt ratios but with different compositions of long-term and short-term debts over time.

IV-Conclusion:

The research demonstrates that Sharia-compliant institutions, like others, seek to benefit from financial leverage to maximize returns for their stakeholders. However, they adhere to a set of Sharia principles that discourage excessive borrowing, reflected in the decrease in debt ratios within their financial structures.

On the other hand, the sectoral nature of their activities influences their borrowing levels. We found variations from one sector to another, with relatively higher debt reliance observed in Utilities, Healthcare, and Telecommunications, compared to lower debt levels in other sectors.

Furthermore, there is a relative stability in borrowing levels across the studied sectors during the research period, indicating that Sharia-compliant institutions work to maintain their borrowing dependence despite changes in their activities over the relatively long study period (2010-2022).

- Appendices:

Table (1): Differences between conventional and Islamic economics

Factors	Conventional Economics	Islamic Economics
Ownership of wealth and property	In capitalism individuals can be the absolute owners, while in socialism society collectively is the owner.	Absolute ownership is with God, man is only the trustee.
Wants and resources	Wants are unlimited while resources are limited, creating the scarcity problem.	Wants should be limited and sufficient resources have been provided by the Creator. Scarcity is created by improper distribution of resources, overconsumption, luxury and wastage.
Accumulation of wealth	Any amount of wealth can be accumulated, and the owner can use or waste it as they please.	Individuals can accumulate wealth if this is done in a Shariah-compliant manner, though the owner needs to share this wealth with the less privileged in society through the compulsory Zakat and voluntary Sadaqah. Islam says produce more than is needed and consume only what is needed.

Market economy	The market economy is the main determinant in capitalism, while in socialism demand and supply are not linked to prices, since supply is decided centrally.	The market economy applies, demand and supply determine prices, although all this needs to be done within a framework of social wellbeing.
Role of the state	In capitalism, markets play a more dominant role than the State, while in socialism, the State Plays a dominant role.	The State ensures ethical activities, protects individuals' and society's interest and ensures efficient allocation of resources.
Law of inheritance	Individuals can pass on their wealth and property to anyone they please.	Islam has specific inheritance laws and does not allow giving away more than one-third of one's assets to anyone besides the legitimate heirs, thus ensuring fairness in the process of transfer of wealth and property.
Economic cycles	Economic cycles show significant ups and downs.	These ups and downs are reduced in Islamic economics through the moderation of consumption and the avoidance of luxury, wastage and unnecessary debts.
Reward for capital	Interest is accepted as the reward for capital.	Interest is completely forbidden, and an alternative profit and loss-sharing mechanism is applied as the reward for capital.
Social welfare	In capitalism, this is achieved by the free market and self- interest, while in socialism, the State achieves this by centralized production and distribution.	Islam encourages productivity at the individual level but through the moral requirements of sharing one's wealth aims to create social welfare.

Source: Habib, S. F. (2018). *Fundamentals of Islamic finance and banking.*, Wiley Finance Series, p. 10.

Table (1): Sectoral Distribution of the Study Sample

Sector Code	Sector Name	Number
50	Energy	34
51	Basic Materials	63
52	Industrials	104
53	Cyclical Consumer Goods & Services	75
54	Non-Cyclical Consumer Goods & Services	45
55	Financials	76
56	Healthcare	6
57	Technology	19
58	Telecommunications Services	12
59	Utilities	11
Total		445

Source: Compiled by the author based on data from the Thomson Reuters database.

Table (2): Summary statistics of the Study Sample

Variable	Obs	Mean	Std. dev.	Min	Max
lev1	4,982	18.25154	14.77282	0	97.53
lev2	4,974	21.54724	112.8245	-7752.04	536.14
lev3	4,982	8.978469	10.80518	0	63.929
lev4	4,974	13.02817	22.39081	-748.75	778.64

Source: Compiled by the author based on Stata dataset.

Table (3): Sectoral Distribution of the Study Sample

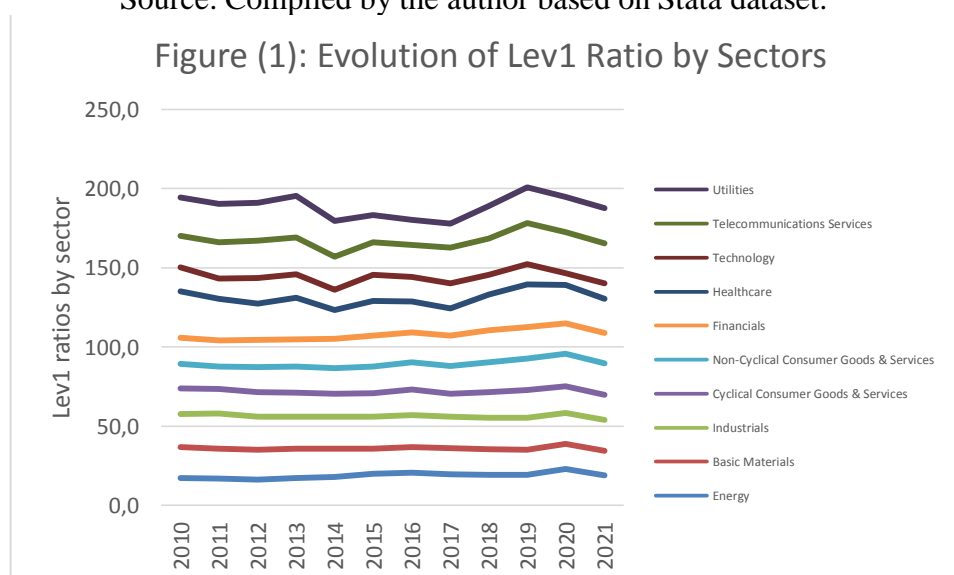
	<i>Sector</i>	<i>Sector Id</i>	<i>avg_lev1</i>	<i>avg_lev2</i>	<i>avg_lev3</i>	<i>avg_lev4</i>
	<i>Energy</i>	50	18,98	4,67	9,36	12,24
<i>Basic Materials</i>		51	17,17	21,15	6,26	9,22
<i>Industrials</i>		52	20,31	26,81	10,25	15,35
<i>Cyclical Consumer Goods & Services</i>		53	15,76	19,72	6,22	9,48
<i>Non-Cyclical Consumer Goods & Services</i>		54	17,41	21,55	9,33	13,23
<i>Financials</i>		55	18,50	22,97	10,25	14,28
<i>Healthcare</i>		56	22,94	26,92	14,69	19,36
<i>Technology</i>		57	13,56	18,42	6,13	9,49
<i>Telecommunications Services</i>		58	22,81	31,24	13,96	21,71
<i>Utilities</i>		59	21,34	22,44	14,87	21,43

Source: Compiled by the author based on Stata dataset.

Table (4): Evolution of Lev1 Ratio by Sectors

Sector	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Energy	17,3	17,0	16,3	17,1	17,9	19,8	20,7	19,6	19,3	19,3	22,9	19,0
Basic Materials	19,4	18,9	18,8	18,6	18,0	16,1	16,1	16,5	16,3	15,9	15,8	15,6
Industrials	21,0	22,1	21,1	20,4	20,0	20,1	20,2	19,8	19,8	20,2	19,7	19,3
Cyclical Consumer Goods & Services	16,2	15,4	15,3	15,1	14,6	14,7	16,3	14,5	16,1	17,4	16,8	15,8
Non-Cyclical Consumer Goods & Services	15,5	14,2	15,7	16,5	16,0	17,1	17,2	17,6	19,0	19,8	20,6	20,0
Financials	16,5	16,5	17,4	17,2	18,7	19,5	18,7	19,1	20,3	19,9	19,1	19,0
Healthcare	29,3	26,2	22,9	26,3	18,2	21,6	19,5	17,2	22,5	26,9	24,1	21,7
Technology	15,0	13,0	16,2	14,8	12,9	16,7	15,6	16,0	12,5	12,8	7,4	9,8
Telecommunications Services	20,0	22,7	23,5	23,3	20,7	20,4	20,2	22,5	22,8	26,0	26,2	25,1
Utilities	24,1	24,2	23,7	26,2	22,7	17,2	15,7	15,1	20,8	22,5	22,0	22,2
Total	19,4	19,0	19,1	19,5	18,0	18,3	18,0	17,8	18,9	20,1	19,5	18,8

Source: Compiled by the author based on Stata dataset.

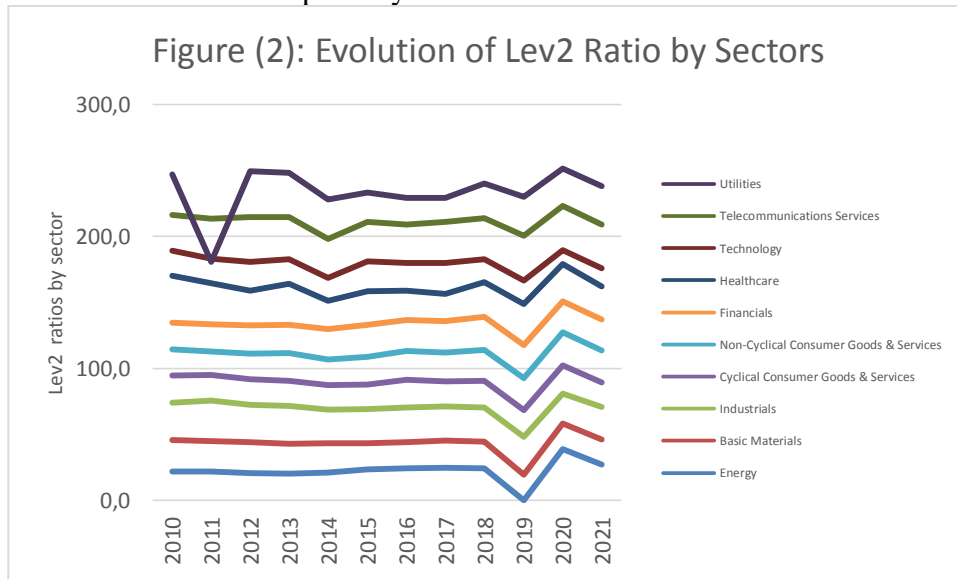


Source: Compiled by the author based on Stata dataset.

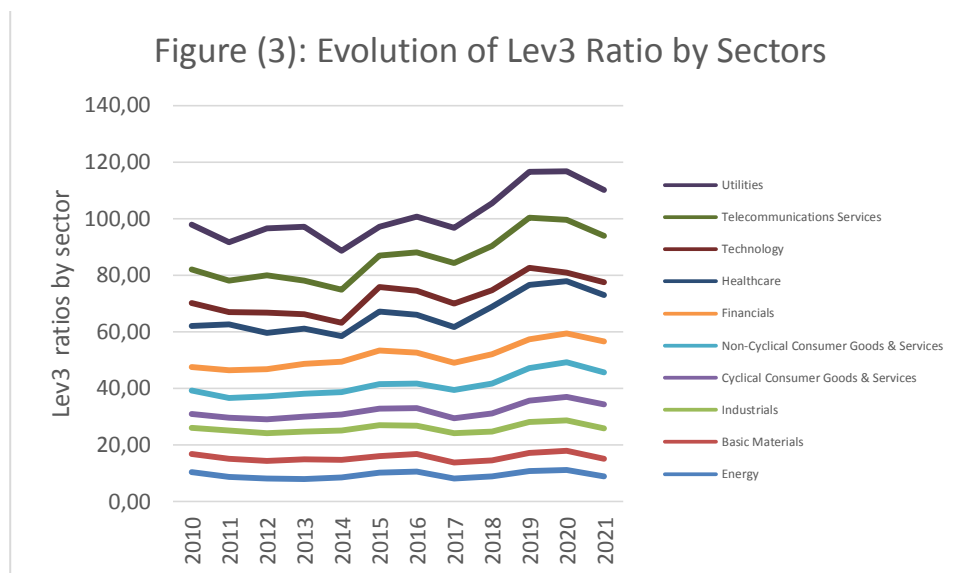
Table (5): Evolution of Lev2 Ratio by Sectors

Sector	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Energy	22,0	21,8	20,9	20,4	21,2	23,5	24,2	24,6	24,4	24,7	38,7	27,1
Basic Materials	23,5	23,3	23,4	22,5	22,0	19,7	20,1	20,8	20,1	19,5	19,6	19,2
Industrials	28,5	30,6	28,2	28,7	25,5	26,2	26,4	25,9	25,8	28,6	22,7	24,6
Cyclical Consumer Goods & Services	20,6	19,5	19,3	19,1	18,6	18,6	20,8	18,9	20,3	20,5	21,3	18,3
Non-Cyclical Consumer Goods & Services	19,8	17,8	19,4	21,0	19,2	20,7	21,9	22,0	23,7	24,2	25,0	24,4
Financials	20,4	20,6	21,4	21,4	23,3	24,4	23,2	23,7	25,0	25,0	23,6	23,4
Healthcare	35,3	31,0	26,4	31,1	21,5	25,3	22,4	20,7	26,2	31,2	28,0	25,1
Technology	19,3	18,5	21,5	18,6	17,3	22,9	20,9	23,1	17,3	17,5	10,7	13,9
Telecommunications Services	26,8	30,4	34,0	32,0	29,4	29,8	29,3	31,1	31,5	33,9	33,4	32,9
Utilities	30,8	-32,7	34,7	33,4	29,8	22,4	20,1	18,5	26,2	29,5	28,3	29,0
Total	24,7	18,1	24,9	24,8	22,8	23,3	22,9	22,9	24,0	25,5	25,1	23,8

Source: Compiled by the author based on Stata dataset.



Source: Compiled by the author based on Stata dataset.

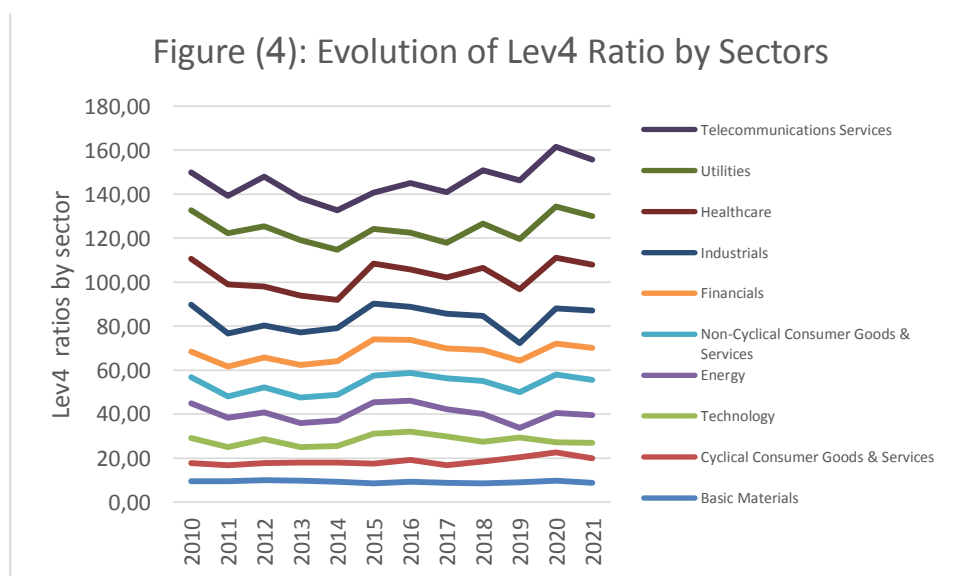


Source: Compiled by the author based on Stata dataset.

Table (5): Magnitude of the decline in the lev3 ratio compared to lev1.

Sector	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Energy	-6,8	-8,3	-8,1	-9,1	-9,4	-9,6	-10,1	-11,5	-10,4	-8,4	-11,6	-10,0
Basic Materials	-13,0	-12,4	-12,5	-11,6	-11,8	-10,2	-9,9	-10,9	-10,5	-9,6	-9,1	-9,4
Industrials	-11,8	-12,0	-11,4	-10,6	-9,6	-9,3	-10,2	-9,3	-9,6	-9,2	-9,0	-8,6
Cyclical Consumer Goods & Services	-11,2	-11,0	-10,4	-9,9	-9,0	-8,8	-9,9	-9,3	-9,7	-9,8	-8,4	-7,3
Non-Cyclical Consumer Goods & Services	-7,3	-7,2	-7,6	-8,4	-8,0	-8,4	-8,6	-7,6	-8,3	-8,4	-8,3	-8,7
Financials	-8,2	-6,7	-7,7	-6,6	-7,9	-7,6	-7,7	-9,4	-10,0	-9,7	-9,1	-8,1
Healthcare	-14,7	-9,9	-10,1	-13,8	-9,0	-7,9	-6,2	-4,6	-5,6	-7,6	-5,6	-5,2
Technology	-6,9	-8,8	-9,1	-9,8	-8,2	-8,1	-7,0	-7,8	-6,6	-6,7	-4,5	-5,3
Telecommunications Services	-8,1	-11,7	-10,3	-11,3	-9,0	-9,2	-6,6	-8,1	-7,3	-8,3	-7,5	-8,7
Utilities	-8,3	-10,7	-7,1	-7,2	-9,0	-7,0	-3,2	-2,6	-5,7	-6,3	-4,7	-6,0
Total	-9,6	-9,9	-9,4	-9,8	-9,1	-8,6	-7,9	-8,1	-8,4	-8,4	-7,8	-7,7

Source: Compiled by the author based on Stata dataset.



Source: Compiled by the author based on Stata dataset.

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- The Thomson Reuters (TRBC) sectoral classification was used. For more information about sectoral classification, see:
- <http://financial.thomsonreuters.com/en/products/data-analytics/market-data/indices/trbc-indices.html>

- <https://bizlib247.wordpress.com/2012/07/17/industrysector-codes-in-datastream/>

Seen on: 29/11/2017 at: 19:47.

WorldScope Database, Data Definitions Guide Manual (ISSUE 14.3), Thomson Reuters, 2015, p 656.

Total Debt % Total Capital = (Long Term Debt + Short Term Debt & Current Portion of Long-Term Debt) / (Total Capital + Short Term Debt & Current Portion of Long-Term Debt) * 100. (See: Worldscope Database, Data Definitions Guide Manual, Op. Cit., p 657.)

LONG TERM DEBT represents all interest-bearing financial obligations, excluding amounts due within one year. It is shown net of premium or discount. (Ibid., p 537.)

TOTAL ASSETS represent the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets. (Ibid., p 653).