

---

## Relationship of Company Age and Industry Sector with Financial Performance –An Indian Evidence

---

Deepti Sehrawat Verma<sup>1</sup>

Dr. Anand Sharma<sup>2</sup>

1. Ph. D. Research Scholar, Central University of Haryana
  2. Head, Department of Management Studies, Central University of Haryana
- 

### Abstract

The purpose of this paper is to analyze the relationship of the age of companies and the industry sector on financial performance variables for NIFTY 100 Index companies. The minimum age of a company in NIFTY 100 index was seven years and the maximum age is 114 years. Further, these companies have been divided into nine industry sectors. To analyze the relationship, sixteen financial performance variables have been taken for the financial year 2019.

It has been found that older companies have better performance in terms of return ratios, stakeholders-related ratios, leverage, replacement ratios. Younger companies have better operational efficiency and market valuation. It has also been observed that there is a significant difference in return ratios for Telecom and Utility, Financial, Industrial, Consumer staples, IT, Energy and Consumer Discretionary Sectors. The findings of this paper will enable investors in making prudent investment decisions and will enable them to understand how the age and industry of a company impact the financial performance of companies in India.

**Keywords:** Corporate governance, Age, Industry sector, financial performance

### I. Introduction

Businesses primary financial goal is achieving higher profitability as well as wealth maximization through all their operational activities. Apart from that sustainability, good corporate governance practices, and fulfilling their social responsibility are crucial to success for any business in present times. Readiness to change, innovation, and technological soundness also contribute to the long-term survival of a company. Further, in the context of financial performance, the going concern concept of accounting reflects that age and long life of business entities are important for sustainability.

Basti et al. (2011) analysed Turkish companies and found that age significantly impacts firm performance. It has generally been observed that older companies perform better than younger companies because of the learning curve effect. Ghafoorifard et al., 2014, confirms that older

companies have more experience, which makes them outperform newer firms. However, another set of finance literature suggests that younger firms are more innovative and flexible, so they perform better (Lwango et al., 2017). Legesse's (2018). Prajogo, (2006) adds that process and product innovations are crucial to improvement in financial performance.

However, literature also indicates that the performance of companies also varies based on industrial sectors, as some industries may perform better than others. Esteve-Pérez et al. (2018) hold that age has a relationship with the industry (sector) life cycle and impacts firms' survival. MacKay and Phillips (2005) found a significant relationship between the industry sector and financial decision making. Hande (2017) suggests no strong association between the industry sector and financial performance. In this study, an attempt has been made to analyze and examine the link between age, industry sector and firm performance.

This paper analyzes the relationship of age and industry with different financial performance variables for NIFTY 100 Index companies. For the purpose of the study, Nifty 100 sample companies were categorized into 4 age groups, where the minimum age of a company in NIFTY 100 index was 7 years and the maximum age 114 years. Further, companies are divided into 9 industry sectors. Sixteen financial variables have been studied for the financial year 2019.

## **II. Literature Review**

Since firms' performance is dependent on the operating efficiency as well as various other demographic characteristics like age, industry sector, ownership, business house association, stake of government, board characteristics, and other such variables, this study has analysed only two variables i.e. the age of the company and the industry sector.

The literature review here under highlights studies that focus on age and industry sector impact on firm performance in emerging economies. Legesse's (2018) study of the Ethiopian economy established no correlation between firm age and financial performance (sales). Akben-Selcuk (2016) examined the impact of age on the financial performance of 302 firms

and captured the convex relationship between age and firm performance. Capasso et al. (2015) justify the same by studying the Italian wine industry and revealed that the older wineries have better financial performance than the younger wineries. It also supports that financial performance is a significant determinant of the firm's going-concern assumption. Osunsan et al. (2015) found age to be a significant variable. Ghafoorifard et al. (2014) revealed that older firms have better performance by analysing 96 companies of Tehran. Bianco et al. (2013) analysed the impact of age and size on family-owned businesses' financial decisions. It was found that a business's financial performance declines with age, but in specific sectors, older companies perform better than younger companies. Kipesha (2013) analysed Tanzania and found a positive relationship between age and firm performance of microfinance institutions. Dogan (2013) revealed that age had a negatively significant result on firm performance. Coad et al. (2013) investigated the Spanish manufacturing sector and supported the argument that older companies have better productivity, sales, and profits. Basti et al. (2011) analysed Turkish companies and found that age significantly impacts firm performance. Gurbuz et al. (2010) could not find any significant relationship between age and firm performance. Loderer and Waelchli (2010) conclude that firm performance declines with age because of rigidity in operations in older companies and the high cost of corporate governance and top management compensation. Majumdar (1997) established that older Indian firms are less productive but have better profitability, and firm performance improves with age and leverage decreases.

Specific researchers have established statistically significant differences in performance based on the firm sector. Al-Slehat (2019) analysed the industrial sector and suggested that for long term survival companies must have an optimal mix of debt and equity. Zaborek and Mazur's (2019) analysed Polish companies and revealed significant differences in the services and manufacturing sector, and the service sector doing better than the manufacturing. Li et al. (2018) analysed age, business sector, ownership and leverage and found that manufacturing and services firms operate differently, so their performance also varies. Dutta et al. (2018) analyzed 6 industry sector companies of NSE and proved that there is an inverse relationship between financial leverage and the value of the firm. Lahiri and Purkayastha (2017) also revealed that the service sector performs better than the manufacturing sector in the Indian context. Likewise, Seo et al. (2016) investigated Korean firms and found different patterns between service and manufacturing companies. Reed and Storrud-Barnes (2009) revealed that manufacturing and service sector companies differ in financial performance.

### III. Research Methodology

The main objective of this study is to analyze the relationship between age, industry sector and financial performance of companies. For this analysis, a sample of Nifty 100 companies was categorized into 4 age groups and 9 industry sectors. Data for financial variables have been taken for sixteen variables for the year 2019, which has been compiled for NIFTY 100 Index companies from the CMIE Prowess database.

For analysis of financial performance sixteen variables include beta-measure of volatility, closing price, market capitalization, enterprise value, earnings per share (EPS), price to earnings ratio, tobin's Q, return on equity, earnings before interest and tax (EBIT), return on capital employed, return on assets ratio, return on sales, dividend yield, CSR spend, price to book ratio and total debt ratio

Age wise companies have been classified as 0-25 years, 25-50 years, 50-75 years and above 75 years. Industry sector affiliation of these companies comprises healthcare, information technology (IT), financials, consumer staples, energy, materials, consumer discretionary, industrials and utilities, and telecoms.

For analysis of data, the various statistical tools applied include descriptive statistics, ANOVA and Duncan's Post-Hoc Test

#### Hypotheses Framed

The following null hypotheses have been tested.

*H<sub>01</sub>: There is no significant difference in the age of companies and their financial performance variables*

*H<sub>02</sub>: There is no significant difference in the industry sector companies and their financial performance variables*

### IV. Analysis of Data

The analysis of financial variables based on age and industry sector has been carried out in Table 1 and 2 below.

#### i) Relationship of Companies' Age with Financial Performance

The age of companies has been categorized into four groups, i.e. 0-25 years, 25-50 years, 50-75 years and above 75 years and mean values of financial variables are given against each category.

**Table 1- Age-wise Descriptive Statistics of Financial Performance Variables of F.Y. 2019**

Financial Performance Variables	Mean Statistic			
	Age of Company Category			
	0-25 Years	25-50 Years	50- 75 Years	Above 75Years
Beta-Measure of volatility	1.336	1.3993	1.2465	1.7945
Closing Price	1487.84	1494.0383	4825.7390	1170.0545
Market Capitalization	664835.74	72559.4890	519529.2880	1412629.2259
Enterprise Value	788213.87	731281.5081	481274.1480	1311694.5800
Earnings Per share	0.4757	7.1069	180.0215	33.7755
Price to Earnings ratio	2.8800	4.9083	61.1775	37.5573
Price by book ratio	9.121	4.636	5.2870	12.1391
Total Debt ratio	36517.45	2212.3476	127714.8200	45686.8000
Tobin's Q	3.3367	1.9374	2.3765	5.6672
Return on Equity ratio	1.1256	1.1552	0.1433	0.2646
Earnings before interest and tax	25320.99	38.052	45708.760	70716.082
Return on Capital employed	1.1180	1.1754	0.1642	0.2880
Return on Assets ratio	0.0787	0.1074	0.0710	0.1397
Return on Sales ratio	0.2649	0.2254	0.1578	0.1909
Dividend Yield ratio	0.5164	3.7995	109.4843	30.6520
SR Spend	0.0181	0.0216	0.0300	0.0278

Table 1 depicts age-wise descriptive of financial performance variable for the financial year 2019. Beta, which is considered a measure of volatility, the value is the highest for companies under the age group of 50-75 years, reflecting that this age group has a high risk and high return. Companies above 75 years have more wealth than other age group companies, as market capitalization mean is the highest. The enterprise value reflecting the cost of purchasing a company is the highest for 25-50 years. 50-75 years of companies have the highest EPS mean, thus, these companies are relatively profitable based on per-share price. Price to earnings ratio shows that investors want to invest more in companies with a high price to earnings ratio as it leads to higher future growth or future return. Companies above 75 years are relatively more confident about their growth aspects as price to book is highest. However, a too high price to book ratio can reflect that the company is overvalued. 25-50 years of companies are at risk as their borrowing capacity reduces with a high total debt ratio, leading to financial inflexibility. High Tobin's Q ratio reflects that the company's market value is greater than the value of company recorded assets. The companies falling in age group for

above 75 years has the highest Tobin's Q ratio. Above 75 years of companies has the highest return on equity ratio, and these companies efficiently utilized equity capital to generate profits. For EBIT companies with the age of 25-50 years reflect that companies under age group 25-50 years have more earning ability that generates high revenues than other age groups. Return on capital employed values reveal that companies under the age group above 75 years have generated the highest return for their investors. Return on assets ratios mean score for above 75 years of companies is the highest and these companies generate the highest returns by utilizing their assets. Looking at return on sales ratios, 0-25 years of companies have the highest average score. High return on sales ratios reflects that the companies are efficiently converting their sales into profit. Similarly, if we look at the dividend yield ratio, the average score of 50-75 years of companies is relatively high. For CSR spending, as per the Companies Act, companies must spend 2 per cent of their average profit for the preceding three years. The companies under 50-75 years of age group spend relatively higher as compared to other age group companies.

ii) **Relationship of Industry Sector with Financial Performance**

This section analyses the relationship of the industry sector with financial performance. The industry has been classified under nine heads: healthcare, information technology, financials, consumer staples, energy, materials, consumer discretionary, industrials and utilities, and telecoms. Mean values of 16 financial performance variables of nine industries are analysed here.

**Table 2- Industry-wise Descriptive Statistics of Financial Performance Variables of F.Y. 2019**

Financial Performance Variables	Mean Values								
	Industry Classification								
	Healthcare	Information Technology	Financials	Consumer Staples	Energy	Materials	Consumer Discretionary	Industrials	Utilities and Telecom
Market Capitalization	150	17	881	50	370	1.2479	.9938	1.3556	.8233
Operating Income	4.20	1284.6217	1497.2225	2064.7700	333.7170	23.86	7257.8362	9.15	4.60
Market	06	595	507	965	535	864	657130	806	71977
Capitalization	04.7967	50.8400	40.4750	28.1330	94.2610	8.3079	.5038	8.3444	1.1867
Enterprise Value	394493.1133	2342613.7900	2251551.6188	1171823.5830	1972537.1810	681518.6079	367092	523238.0667	864580.7533
Earnings Per Share	27.70	59.845	41.186	27.625	26.148	47.75	362.14	12.23	2.883

are	67	0	3	0	0	21	15	00	3
Price to earnings ratio	43.2983	21.5017	55.2681	64.6980	12.5900	51.8121	64.5400	37.8922	10.5867
Price by book ratio	3.6600	550	244	22.4110	500	4.7671	5.5554	5.1856	1.9300
Total Debt ratio	15467.4333	9365.8333	433063	3964.0100	239200	121365.4500	9422.7462	58300	342765.9667
EBITDA's Q	2.3322	778	320	10.7871	126	2.5075	3.0531	2.0184	1.2748
Return on equity ratio	0.1146	635	289	654	084	0.1303	0.1849	0.1228	0.0828
Earnings before interest and tax	10867	54167	63459.488	37000.120	58740	10674	36157.092	4973	75.7
Return on capital Employed	0.1332	446	323	774	784	0.1353	0.2458	0.1327	0.0815
Return Assets ratio	0.0822	062	222	944	142	0.0760	0.1251	0.0584	0.0620
Return Sales ratio	0.1884	092	754	946	998	0.1868	0.1906	0.1529	0.2097
Dividend Yield ratio	3.8768	50.2391	23.5902	31.2457	241.6015	80.0243	14.3137	19.1985	4.61
Return on Equity	0.0235	191	185	205	290	0.0347	0.0193	0.0276	0.0112

Table 2 presents industry-wise mean values of financial performance variables for the financial year 2019. Beta indicates that the industrials sector is riskier as compared to other industries, and the information technology industry has the least risk. For the closing price, mean value shows that the highest value is of consumer discretionary, and the least is of utilities and telecom. The market capitalization, which is a proxy of the company's size, the information technology outstanding shares market value is the highest and the least is for

industrials. Looking at enterprise value, again information technology sector overall value is the highest. For earning per share, consumer discretionary has the highest mean, reflecting that this sector makes more money from its shares as compared to the rest of the sectors. The consumer staples book ratio, reveals that this sector market valuation is the highest. The total debt ratio of energy indicates that it uses the highest leverage. Tobin's Q highest average score is of consumer staples, thus have the the highest replacement cost. From a return on equity ratio, it can be seen that the highest mean score is of consumer staples and the least mean score is of utilities and telecom. Earnings before interest in tax average scores indicates that the highest mean score is of energy. The average score of information technology (IT) is the highest for return on capital employed, return on assets and return on sales ratio. The dividend yield ratio highest mean score is of the energy sector. And looking at CSR average scores, the the highest spending is by materials and the lowest score is utilities and telecom.

### iii) Differences in Financial Performance as per Age and Industry Sector

Table 4 shows ANOVA results of demographic-wise differences in financial performance variables.

**Table4- ANOVA Results of Differences in Financial Performance**

Financial Variables	Age		Industry Sector	
	F	Sign	F	Sign
Beta-Measure of volatility	6.220	.01	6.220	.000
Listing Price	1.574	.11	1.574	.265
Market Capitalization	2.335	.09	1.574	.062
Enterprise Value	3.369	.02	1.574	.063
Earning Per share	1.200	.44	1.574	.061
Price to Earning ratio	.820	.66	.820	.587
Tobin's Q	1.532	.22	4.185	.000
Return on Equity	1.688	.19	10.185	.000
Earnings before interest and tax	1.240	.31	4.185	.000
Return on Capital Employed	1.895	.16	10.185	.000
Return on Assets ratio	1.263	.26	8.185	.000
Return on Sales	1.134	.29	.885	.533
Dividend Yield	1.684	.19	4.185	.000
CSR Spend	1.820	.17	1.574	.158
Price to Book Ratio	1.255	.27	9.185	.000
Total Debt Ratio	1.099	.33	4.185	.000

For age-wise classification of beta, F value (6.220) is significant at 0.01 level of significance, market capitalization and age; the F value is 2.335, which is significant at a 0.079 level of significance. The F value for enterprise value is 3.369, which is significant at a 5 per cent



level of significance (0.022). This indicates that beta, market capitalization and enterprise value significantly differ age-wise. Thus, *null hypothesis H<sub>01</sub>* is partially supported for beta, enterprise value and market capitalization. These results suggest that out of four age group categories, category 50-75 years is significantly different from the rest of the age groups. For enterprise value, companies which belong to the age group of 25-50 years are significantly different from the rest of the groups. Based on the age-wise classification, other financial variables do not show a significant difference in their characteristics.

For the industry sector, the beta F value is 6.255, which is significant at a 0.00 level of significance. Similarly, for market capitalization, the F value is 1.946, which is significant at a 0.062 level of significance. Considering enterprise value, results show F value 1.942 as significant at 0.063 level of significance. For earnings per share, the F value is 1.959, which is also significant at a 0.061 level of significance. ANOVA results for Tobin's Q shows that the F value is 4.119, which is significant at 0.000 level. Similarly, the return on equity F value is 10.334. For EBIT, the F value is 4.943, return on capital employed F value is 10.946, return on assets F value is 8.133, dividend yield F value is 4.715, price to book ratio F value 9.228 and the total debt ratio of value 4.033. This shows that these F values are significant at 0.000 level of significance. Thus, *null hypothesis H<sub>02</sub>*, is partially supported for the beta, market capitalization, enterprise value, earnings per share, Tobin's Q, return on equity, Earnings before interest in tax, return on capital employed, return on assets, dividend yield, price to book ratio and total debt ratio.

#### iv) Differences in Financial Performance Variables

Table 5 shows the Duncan post-hoc test results for demographic differences in financial performance variables.

**Table 5- Duncan Post Hoc Test Results of Demographic wise Differences in Financial Performance Variables**

Financial variables	Age	Industry Sector
Beta-Measure of volatility	50-75 years	IT, financial, utility, consumer discretionary, materials, industrial
Listing Price		
Market Capitalization		
Enterprise Value	25-50 years	
Earnings Per Share		
Price to Earnings ratio		
Tobin's Q		Consumer Staples
Return on Equity		Utility, Financial, Industrial, Consumer staples, IT Energy
Earnings before interest and tax		Energy and Utility
Return on Capital Employed		Consumer staples, financials, energy
Return on Assets ratio		Financials, Energy, IT, consumer staples.
Return on Sales		

Dividend Yield		Energy, Healthcare and Utilities
CSR Spend		
Price to Book Ratio		Energy and Utilities
Total Debt Ratio		Consumer Staples

For different industry sectors, beta is statistically significantly different for Information technology, finance companies, utility and telecom companies, consumer discretionary, materials, and industrial sector companies. Tobin's Q is found to be significantly different for consumer staples. Return on equity is statistically significantly different with an F value of 10.334, which is statistically significantly different at the 0.05 per cent level of significance for utility and telecom, financials, industrial sector, consumer staples, the information technology sector, and energy sectors. Earnings before interest tax was found to be statistically significantly different for the energy and utility sector. Return on capital employed is significantly different for consumer staples, financial and energy sector companies. A return on assets is statistically significantly different for the financial and sector and consumer staple sectors. The dividend yield for companies was found to be statistically different for energy, healthcare, utility and telecom companies. Return on assets is statistically significantly different for the financial, IT, and consumer staple sectors. The dividend yield for companies was found to be different for energy, healthcare and utility and telecom sectors. The price to book ratio is different for the energy and utility and telecom sectors. Total debt ratio was found to be statistically significantly different for the consumer staple sector. This implies that the *null hypothesis* ( $H_{02}$ ) that there is no significant difference between the industry sector-wise classification of financial performance variables is, rejected. And for most of the variables, the companies which belong to different industrial sectors usually do have different levels of financial performance. This indicates that the industrial sector can be an important variable, which influence the performance of companies.

## V. Conclusion

Beta, closing price, earning per share, dividend yield, and CSR spending are the highest for companies aged 50-75 years. Price to book ratio, tobin's Q, return on equity, total debt ratio, return on capital employed, return on assets is the highest for companies above 75 years of age. This indicates that older companies have better return ratios, stakeholders related ratios, leverage, replacement ratios like price to book ratio and tobin's Q. Younger companies have better market capitalization, enterprise value, price to earnings ratio, earnings before interest and tax and return on sales ratio. This reveals that younger companies have better operational efficiency and market valuation. Thus *null hypothesis*  $H_{01}$  is partially supported for beta, enterprise value and market capitalization.

The industry sector has emerged as a significant variable for the financial performance of firms. Utility, Financial, Industrial, Consumer staples, IT, Energy, consumer discretionary sectors are significantly different for return ratios.

Overall it can be concluded that *null hypothesis*  $H_{02}$ , that there is no significant difference in the demographic characteristics of companies and their financial performance variables, is partially supported.

The study has implications for the corporate sector to formulate strategies for the long term survival strategies. Investors can decide about investing in older companies that have higher performance and investing in industries that are high in companies' financial performance. Age and

industry sector do impact financial performance of corporate entities in Indian context.

## References

- Acharya, Viral V. and Gottschalg, Oliver and Hahn, Moritz and Kehoe, Conor, Corporate Governance and Value Creation: Evidence from Private Equity (February 17, 2010). European Corporate Governance Institute (ECGI) - Finance Working Paper No. 232/2009, Available at SSRN: <https://ssrn.com/abstract=1324016> or <http://dx.doi.org/10.2139/ssrn.1324016>
- Akben-Selcuk, E. (2016). Does Firm Age Affect Profitability? Evidence from Turkey. *International Journal of Economic Sciences*, 3, 1-9.
- Akhavein, J.D., Berger, A.N. and Humphrey, D.B. (1997), “The effects of megamergers on efficiency and prices: evidence from a bank profit function”, *Review of Industrial Organization*, Vol. 12 No. 1, pp. 95-139.
- Akinyomi, O. J. &Olagunju, A. (2013). Effect of firm size on profitability: Evidence from Nigerian manufacturing sector. *Prime Journals of Business Administration and Management*, 3(9), 1171-1175.
- Basti, E., Bayyurt, N. & Akın, A. (2011). A comparative performance analysis of foreign and domestic manufacturing companies in Turkey. *European Journal of Economic and Political Science*, 4(2), 125- 137.
- Bianco, M., Bontempi, M.E., Golinelli, R. &Parigi, G. (2013). Family firms’ investments, uncertainty and opacity. *Small Business Economics*, 40(4), 1035–1058.
- Booth, L., Aivazian, V., Demirguc-Kunt, A. and Maksimovic, V. (2001), “Capital structures in developing countries”, *The Journal of Finance*, Vol. 56 No. 1, pp. 87-130.
- Coad, A., Segarra-Blascoand, A. &Teruel, M. (2013). Like milk or wine: does firm performance improve with age?. *Structural Change and Economic Dynamics*, 24, 173-189.
- Dogan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4), 53-59.
- Esteve-Pérez, Silvano, Fabio Pieri, and Diego Rodriguez. 2018. Age and Productivity as Determinants of Firm Survival over the Industry Life Cycle. *Industry and Innovation* 25: 167–98.
- Ghafoorifard, M., Sheykh, B., Shakibae, M. &Joshaghan, N.S. (2014). Assessing the relationship between firm size, age and financial performance in listed companies on Tehran Stock Exchange. *International Journal of Scientific Management and Development*, 2(11), 631-635.
- Gilchris, M. (2013), “Influence of bank specific and macroeconomic factors on the profitability of 25 commercial banks in Pakistan during the time period 2007-2011”, *American Journal of Business and Finance*, Vol. 3 No. 2.
- Gurbuz, A.O., Aybars, A. &Kutlu, O. (2010). Corporate governance and financial performance with a perspective on institutional ownership: empirical evidence from Turkey. *Journal of Applied Management Accounting Research*, 8(2), 21-37.
- Hande, Karadag. 2017. The Impact of Industry, Firm Age and Education Level on Financial Management Performance in Small and Medium-Sized Enterprises (SMEs): Evidence from Turkey. *Journal of Entrepreneurship in Emerging Economies* 9: 300–314.
- Kipasha, E.F. (2013). Impact of size and age on firm performance: Evidences from Microfinance

Institutions in Tanzania, *Research Journal of Finance and Accounting*, 4(5), 105-116.

- Kogan, L. and Tian, M. (2012), “Firm characteristics and empirical factor models: a data-mining experiment”, *International Finance Discussion Papers No. 1070*.
- Kücher, Alexander, Stefan Mayr, Christine Mitter, Christine Duller, and Birgit FeldbauerDurstmüller. 2018. *Firm Age Dynamics and Causes of Corporate Bankruptcy: Age Dependent Explanations for Business Failure*. *Review of Managerial Science*, 0123456789.
- Lahiri, Somnath, and SaptarshiPurkayastha. 2017. *Impact of Industry Sector on Corporate Diversification and Firm Performance: Evidence from Indian Business Groups*. *Canadian Journal of Administrative Sciences/Revue Canadienne Des Sciences de l’Administration* 34: 77–88.
- Legesse, Guta. 2018. *An Analysis of the Effects of Aging and Experience on Firms’ Performance BT—Economic Growth and Development in Ethiopia*. Edited by Almas Heshmati and Haeyeon Yoon. Singapore: Springer, pp. 255–76.
- Li, Yao Amber, Wei Liao, and Chen Carol Zhao. 2018. *Credit Constraints and Firm Productivity: Microeconomic Evidence from China*. *Research in International Business and Finance* 45: 134–49.
- Liargovas, P. and Skandalis, K. (2008), “Factors affecting firms’ financial performance: the case of Greece”, *Working Papers No. 0012, Department of Economics, University of Peloponnese*.
- Loderer, C.F. &Waelchli, U. (2010). *Firm age and performance*, SSRN working paper. Retrieved March 01, 2018 (de indirildi) from the World Wide Web: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1342248](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1342248).
- Lopez–Gracia, J. & Sanchez–Andujar, S. (2007). *Financial structure of the family business: evidence from a group of small Spanish firms*. *Family Business Review*. 20, 269-287.
- Lwango, Albert, RégisCoeurderoy, and Gabriel A. Giménez Roche. 2017. *Family Influence and SME Performance under Conditions of Firm Size and Age*. *Journal of Small Business and Enterprise Development* 24: 629–48.
- Majumdar, Sumit K. 1997. *The Impact of Size and Age on Firm-Level Performance: Some Evidence from India*. *Review of Industrial Organization* 12: 231–41.
- Marsh, P. (1982), “The choice between equity and debt: an empirical study”, *The Journal of Finance*, Vol. 37 No. 1, pp. 121-144.
- McKnight, P.J. and Weir, C. (2008), “Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: a panel data analysis”, *The Quarterly Review of Economics and Finance*, Vol. 49 No. 2, pp. 139-158.
- Omondi, M. M &Muturi, W. (2013). *Factors affecting the financial performance of listed companies at the Nairobi Securities Exchange in Kenya*. *Research Journal of Finance and Accounting*, 4(15), 99-104
- Osunsan O.K., Nowak J., Mabonga E., Pule S., Kibirige A.R. &Baliruno J.B. (2015). *Firm age and performance in Kampala, Uganda: A selection of small business enterprises*. *International Journal of Academic Research in Business and Social Sciences*, 5(4), 364-374.
- Owolabi, S. A. &Alu, C. N. (2012). *Effective Working Capital Management and Profitability: A Study of Selected Quoted Manufacturing Companies in Nigeria*. *Economics and Finance Review*, 2(6), 55– 67.
- Owolabi, S.A. &Inyang, U. E. (2013). *International pragmatic review and assessment of capital structure determinants*. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 2(6),82-96.

- Prajogo, Daniel I. 2006. The Relationship between Innovation and Business Performance—A Comparative Study between Manufacturing and Service Firms. *Knowledge and Process Management* 13: 218–25.
- Rajan, R.G. and Zingales, L. (1995), “What do we know about capital structure? Some evidence from international data”, *The Journal of Finance*, Vol. 50 No. 5, pp. 1421-1460.
- Reed D (2002) Corporate governance reforms in developing countries. *J Bus Ethics* 37(3):223–247
- Reed, Richard, and Susan F Storrud-Barnes. 2009. Systematic Performance Differences across the Manufacturing-Service Continuum. *Service Business* 3: 319.
- Richard, P.J., Devinney, T.M., Yip, G.S. and Johnson, G. (2009), “Measuring organizational performance: towards methodological best practice”, *Journal of Management*, Vol. 35 No. 3, pp. 718- 804.
- Seo, Yong Won, Youn Sung Kim, DaeSoo Kim, Yung-Mok Yu, and Sung Hee Lee. 2016. Innovation Patterns of Manufacturing and Service Firms in Korea. *Total Quality Management & Business Excellence* 27: 718–34.
- Smirlock, M. (1985), “Evidence on the (non) relationship between concentration and profitability in banking”, *Journal of Money, Credit and Banking*, Vol. 17 No. 1, pp. 69-83. S
- Subrahmanyam, A. and Titman, S. (2001), “Feedback from stock prices to cash flows”, *Journal of Finance*, Vol. 56 No. 18, pp. 2389-2413.
- Wald, J.K. (1999), “How firm characteristics affect capital structure: an international comparison”, *Journal of Financial Research*, Vol. 22 No. 2, pp. 161-187.
- Walker, D. (2001), “Exploring the human capital contribution to productivity, profitability and the market evaluation of the firm”, available at: [wwwlib.umi.com/dissertations](http://wwwlib.umi.com/dissertations)
- World Bank Group (2015), “Kenya economic update”, available at: [www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2015/10/14/090224b08314473e/1\\_0/Rendered/PDF/Kenya0economic0public0participation.pdf](http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2015/10/14/090224b08314473e/1_0/Rendered/PDF/Kenya0economic0public0participation.pdf) (accessed 15, June 2015).

