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The Financial Performance and Macroeconomic Dynamics in the Greek Retail Landscape

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Abstract

This study provides a comprehensive analysis of the Greek retail sector's financial landscape from 2015 to 2021, examining seven distinct subsectors. Employing rigorous financial ratio analysis and correlating results with macroeconomic indicators, the research reveals nuanced patterns in profitability, capital utilization, and liquidity. The findings underscore the sector's adaptability to macroeconomic shifts, with notable variations among subsectors. As Greece navigates economic fluctuations, strategic planning for diverse retail segments becomes imperative for sustained success. The study contributes valuable insights for stakeholders seeking to navigate the complex interplay of macroeconomics and finance in the dynamic retail environment.

Keywords: Greek Retail Sector, Financial Ratio Analysis, Macroeconomic Dynamics, Sectoral Variations

1.Introduction. In the dynamic landscape of the Greek retail sector, a nuanced understanding of financial performance is imperative for strategic decision-making. This paper embarks on a comprehensive exploration, synthesizing both micro-level financial ratios and macroeconomic indicators. By delving into the intricate web of financial metrics, we aim to unravel the complexities that govern the profitability, efficiency, liquidity, and capital structure of corporations in the Greek retail domain during the years 2015 to 2021.

In today's Greece, the economic crisis is one that has had many negative consequences for Greek society. In general, the economic crisis is called the phenomenon that an economy is characterized by a continuous and noticeable decline in its economic activity. When we say economic activity, we are referring to all the macroeconomic dimensions of the economy, such as employment, the national product, prices, investments, etc. The main indicator of economic activity is investments, which, when fluctuating, support all other economic factors (Koufaris, 2010). The economic crisis usually occurs when the numbers in the Gross Domestic Product

(GDP) decrease and becomes more noticeable when unemployment rises, investment and production decreases demand decreases, as does consumption, mainly due to the shrink of the real income (Mankiw, 2013).

Our investigation spans this substantial period (2015-2021) of economic variability. Through meticulous analysis, we employ a dual lens, scrutinizing both the internal financial health of retail enterprises and their responsiveness to broader economic shifts. Financial ratios, ranging from Return on Assets (ROA) to Total Debt Equity Ratio, serve as our compass, guiding us through the intricate interplay between operational efficiency and economic fluctuations.

Simultaneously, our inquiry extends beyond the confines of balance sheets and income statements, reaching into the realm of macroeconomic indicators. Factors such as GDP change, GDP per Capita Change, and Household Consumption serve as critical benchmarks, providing context to the micro-level financial intricacies. By harmonizing these diverse elements, this research endeavors to present a holistic panorama of the Greek retail sector's financial landscape. As we navigate this exploration, correlations between financial ratios and macroeconomic indicators emerge as crucial focal points. The paper unveils not only the financial resilience of the retail sector but also its susceptibility to external economic forces. Insights derived from this study are not mere abstractions; rather, they serve as pragmatic guides for stakeholders navigating the intricate nexus of financial decision-making and macroeconomic trends.

2.Literature Review. The Greek retail sector faced unprecedented economic challenges during the turbulent period from 2015 to 2021. The repercussions of the global financial crisis were acutely felt, leading to a series of austerity measures and fiscal reforms. This economic turmoil significantly impacted consumer spending patterns and businesses' bottom lines. Financial ratio analysis has been used to assess business performance for over a century, going back to at least the late 1800s (O'Connor1973). According to Horrigan (1965), it is virtually impossible to analyze accounting data in a meaningful way without converting data into ratios; therefore, a validation of financial ratios is also a validation of financial accounting.

Nearly 90 years ago, the Harvard Business Review (1925) discussed the relevance of financial ratio analysis. The sentiment in that article has been expressed many times since then: There is evidence of a growing interest in the use of financial ratios as an aid in the analysis and interpretation of balance sheets. The uses and limitations of the many ratios recently developed are, therefore, a matter of importance not only to commercial and investment bankers, but also to individual investors, commercial credit men, and executives. By the use of ratios, it is possible to make comparisons between several firms, or with an average for a group of companies engaged in the same line of business. Thus it can be determined whether the firm being studied is above or below the average of similar firms. An intelligent use of ratios can be made only if their limitations as well as their value are thoroughly understood.

In a major review article on financial ratio analysis, Barnes (1987) made several observations, including the following: Financial ratios can be deployed many ways, such as determining the firm's ability to cover its debts, rating business and management success, meeting statutory requirements, and reviewing industrywide averages to set norms for a firm. Ratio analysis can be deployed both to compare a firm's performance against

competitors in its own industry and to estimate empirical relationships in forecasting. Predictions may relate to (presage) future success or failure across key measures, reveal possible risks, and test practical hypotheses. Using ratios in financial analysis, rather than absolute values, facilitates comparisons as firm size is normalized. Since industrywide financial ratios often become company norms, they may affect a business strategy (also see Lev, 1969). A debate over ratio analysis relates to deciding which among the numerous financial ratios are most valuable to use.

Financial ratio analysis is vital for both small- and medium-sized companies as well as for large companies. As Theuri (2002) observed, small- to medium-sized businesses need to continuously monitor their most critical financial ratios. He grouped the most-often used ratios into three categories: financial stability, which represents a firm's ability to meet both short-term and long-term commitments; earning capacity, which represents a firm's ability to sustain or increase profitability; and managerial efficiency, which represents a firm's ability to efficiently manage the business. Theuri also noted that financial experts involved with small firms should advise them to begin by analyzing a few ratios and then – over time – to add more ratios to analyze. Ultimately, the firms would be assessing a set of financial ratios that efficiently and effectively encompass their activities.

Although there is no single agreed-upon approach as to how to use financial ratios, there is substantial agreement on a number of points. Ratio analysis should be used in a comparative manner, with reference to past, present, and even future time periods. Use of comparative industry averages should be made. The ratios do not stand by themselves. They should be interpreted in light of events within the company as well as external events that have a bearing on the financial figures employed in calculating the ratios (Patrone and DuBois, 1981).

The National Retail Federation (the current name of the leading US industry trade association) began publishing annual industrywide financial merchandising and operating results for department stores and specialty stores in the 1920s. Standard and Poor's Industry Surveys regularly report on financial ratios for several retail sectors. Via its proprietary database, Kantar Retail has provided financial ratios for many domestic and foreign retailers since the 1990s.

There is a large body of literature specifically devoted to financial ratio analysis in retailing. As far back as 1935, McNair wrote about department store accounting, particularly the ideas of Carlos Clark (controller of J.L. Hudson) to modify the way in which the traditional profit-and-loss statement was utilized to compute gross margin and expense allocation.

Over the past 50 years, a number of retailing studies involving financial ratio analysis have been conducted. Some studies have examined specific ratios such as gross margin and inventory-to-sales (Hall and Winsten, 1963); profitability, net worth, and inventory-to-sales (Rachman and Kemp 1964; Robichaud 1966; Serpkenci and Tigert, 2010); stock turnover and profitability (Dalrymple, 1964–65; Gaur, Fisher, and Raman 2005); and return on investment (Beekman, 1968). Some studies have examined ratios in particular types of companies, industries, or markets, such as small firms (Droms, Miller, and Lacerte, 1979), pharmacies (Thomas and Evanson, 1987), supermarkets (Cronin and Skinner, 1984), manufacturers versus retailers (Gombola and Ketz, 1983), security analysts (Matsumoto, Shivaswamy, and Hoban, 1995), Wal-Mart and non-Wal-Mart suppliers (Mottner and Smith, 2009), and retailing outside the USA (see, e.g., Burt and Sparks 1997; Sellers-Rubio and Ma's-Ruiz, 2009). Some studies have examined ratios within the context of retail strategies and tactics such as classification

merchandising (Wilson and Greenridge, 1969), economies of scale (Tilley and Hicks, 1970), merchandising (Sweeney, 1973), and users versus nonusers of ratio analysis (Stevens, 1975). Yet other studies have looked at retail performance in terms of growth and financial performance (Higgins and Kerin, 1983), relative power (Farris and Ailawadi, 1992; Ailawadi, Borin, and Farris, 1995), cash flow (Shriver, Wheeler, and DeBerg, 1993), and failure (McGurr and DeVaney, 1998). A few studies have applied strategic models to ratio analysis (see, e.g., Ring, Tigert, and Serpkenci, 2002; Evans, 2005). In general, these studies did not engage in extended longitudinal analysis.

3.Data and Methodology. Our study delved into the multifaceted realm of Greek retail trade for the years 2015-2021, meticulously scrutinizing seven distinct branches of the industry. To ensure a comprehensive analysis, we meticulously selected a sample consisting of 145 large and medium-sized enterprises operating within these sectors.

Table 1, presented below, meticulously outlines the seven specific retail trade sectors subjected to our rigorous examination.

Table 1

Retail Sale in Non-Specialized Stores
Retail Sale of Food, Beverages and Tobacco in Specialized Stores
Retail Sale of Automotive Fuel in Specialized Stores
Retail Sale of Information and Communication Equipment in Specialized Stores
Retail Sale of Other Household Equipment in Specialized Stores
Retail Sale of Cultural and Recreation Goods in Specialized Stores
Retail Sale of Other Goods in Specialized Stores

In our detailed examination of the Greek retail landscape, we meticulously calculated nine critical financial ratios designed to depict key aspects of profitability, capital structure, liquidity and operational efficiency within the identified retail outlets while also finding data on GDP, GDP per capita and household consumption as a percentage of GDP. To ensure the integrity of our analysis, we drew data from the financial statements of each firm in our sample. This data extraction process was conducted using the ICAP (Data Prisma) database, known for its accuracy and completeness. In Table 2, we present the accounting variables used to calculate the nine financial ratios.

Table 2

Cash Flows from Operations
Cost Of Sales
Gross Profit
Net Income
Net Sales

Operating Income
Operating Profit
Revenues
Shareholders' Equity
Total Assets
Total Capital Employed
Total Debt

Leveraging the aforementioned accounting variables, we calculated pivotal metrics (financial ratios) that intricately delineate the profitability, operational efficiency, liquidity, and capital structure of corporations. Presented in Table 3, are these essential indicators, providing a comprehensive overview of the financial landscape. Furthermore, in Table 4, we meticulously outline the mathematical formulations of the ratios examined, offering a detailed insight into the analytical methodologies applied in our research. These tables serve as invaluable references, encapsulating the quantitative essence of our comprehensive financial analysis.

Table 3

Return On Equity Ratio
Return On Capital Employed Ratio
Gross Profit Margin Ratio
Net Profit Margin Ratio
Cash Flows from Operations / Revenues Ratio
Cash Flows from Operations / Operating Income Ratio
Cost Of Sales/ Net Sales *100 Ratio
Return On Assets (ROA) Ratio
Total Debt Equity Ratio

Table 4

Return On Equity (ROE):
ROE = Net Income / Shareholders' Equity
Return On Capital Employed (ROCE):
ROCE = Operating Profit / Total Capital Employed
Gross Profit Margin:
Gross Profit Margin = Gross Profit / Revenues
Net Profit Margin:
Net Profit Margin = Net Income / Net Sales * 100

Cash Flows from Operations / Revenues:
Cash Flows from Operations / Revenues
Cash Flows from Operations / Operating Income:
Cash Flows from Operations / Operating Income
Cost Of Sales / Net Sales * 100:
Cost Of Sales / Net Sales * 100 = Cost of Sales / Net Sales *100
Return On Assets (ROA):
ROA = Net Income / Total Assets
Total Debt Equity Ratio:
Total Debt Equity Ratio = Total Debt / Shareholders' Equity

The examination of the indicators was conducted across a span of seven years, specifically from 2015 to 2021. The nine indicators are individually presented as follows.

Return on Equity: This metric measures the profitability of a company concerning shareholders' equity, providing a crucial insight into how effectively the company is generating profit with the shareholders' investment. It is a pivotal indicator of the company's financial performance and its ability to provide substantial returns to shareholders, reflecting sound management decisions and efficient use of equity financing.

Return on Capital Employed: Return on Capital Employed (ROCE) analyzes profitability in relation to all forms of capital employed, including both equity and debt. This ratio offers a comprehensive view of the company's efficiency in utilizing its total capital to generate profits. A higher ROCE suggests effective utilization of capital resources, indicating financial robustness and strategic allocation of funds across different aspects of the business.

Gross Profit Margin: Gross Profit Margin is a fundamental measure of a company's operational efficiency and pricing strategy. It represents the percentage of revenue retained by the company after deducting the cost of goods sold (COGS). A high gross profit margin implies that the company effectively controls production costs and can potentially reinvest more into the business or withstand market fluctuations, showcasing sustainable profitability.

Net Profit Margin: Net Profit Margin represents the percentage of net income earned from total revenue. It offers a clear picture of the company's profitability after considering all operating expenses. A healthy net profit margin indicates efficient cost management, strong revenue generation, and the ability to maintain profitability amidst operational challenges.

Cash Flows from Operations / Revenues: This ratio evaluates the proportion of cash generated from operational activities concerning the total revenue. It reflects the company's ability to convert its sales into cash, ensuring liquidity for day-to-day operations. A higher ratio suggests effective cash flow management, providing the company with the flexibility to invest in growth opportunities, pay off debts, or distribute dividends to shareholders.

Cash Flows from Operations / Operating Income: This ratio measures the efficiency of generating cash flows from core operating activities concerning the operating income. It indicates how well the company's core operations contribute to its cash flow generation. A higher ratio signifies strong operational cash flow relative to operating income, demonstrating stability and sustainability in the business operations.

Cost of Sales / Net Sales * 100: This metric calculates the percentage of the cost of goods sold (COGS) concerning the net sales. It provides insights into the company's ability to manage production costs in relation to its revenue. A lower percentage indicates effective cost control and a higher gross margin, reflecting favorable profitability.

Return on Assets (ROA): Return on Assets assesses the company's ability to generate profits from its total assets. It indicates how efficiently the company uses its assets to generate earnings. A higher ROA signifies effective asset utilization, indicating a robust operational structure and strategic investment decisions.

Total Debt Equity Ratio: This ratio evaluates the proportion of total debt to shareholders' equity, providing insights into the company's financial leverage. It indicates the extent to which the company relies on debt financing compared to equity financing. A lower ratio suggests lower financial risk and greater financial stability, as the company relies less on external borrowing to fund its operations and investments.

Table 5 presents the code names of the branches which have been used to facilitate the analysis tables.

Table 5

Retail Sale in Non-Specialized Stores	<i>RS-nss</i>
Retail Sale of Food, Beverages and Tobacco in Specialized Stores	<i>RSfbt-ss</i>
Retail Sale of Automotive Fuel in Specialized Stores	<i>RSaf-ss</i>
Retail Sale of Information and Communication Equipment in Specialized Stores	<i>RSic-ss</i>
Retail Sale of Other Household Equipment in Specialized Stores	<i>RShe-ss</i>
Retail Sale of Cultural and Recreation Goods in Specialized Stores	<i>RScrg-ss</i>
Retail Sale of Other Goods in Specialized Stores	<i>RSog-ss</i>

4.Results.

Return on Equity Ratio

An analysis of the financial performance of Greek companies in the Retail trade sector (NACE Code: 47) between 2015 and 2021 uncovers complex profitability patterns. During the span of seven years, the Return on

Equity (ROE) ratio exhibited significant fluctuations across various subsectors. The sector that exhibited the highest average Return on Equity (ROE) throughout the entire period was the "Retail Sale of Food, Beverages, and Tobacco in Specialized Stores" with a notable 34.61%. In contrast, the sector of "Retail Sale of Information and Communication Equipment in Specialized Stores" experienced a worrisome negative average of -4.80%, indicating a possible decrease in profitability and potential difficulties with liquidity.

Correlation coefficients provide insight into the relationship between the return on equity (ROE) of different retail subsectors and important macroeconomic variables. A robust positive correlation is evident between the Return on Equity (ROE) of the "Retail Sale of Cultural and Recreation Goods in Specialized Stores" and both the annual change in Gross Domestic Product (GDP) (0.94) and the annual change in GDP per capita (0.95). Consequently, as Greece's economy and GDP per capita expanded, the profitability of this subsector exhibited an upward trend. Conversely, there is a significant inverse relationship between most sectors and "Household Consumption as a percentage of GDP," with the average correlation across all sectors being -0.89. These findings indicate that as household consumption grew in importance within Greece's GDP, the retail sectors experienced a decline in profitability.

The negative correlations observed with household consumption suggest that the increased spending may not be focused on the specific retail sectors examined, or it could be counterbalanced by other economic variables. Furthermore, the troubling negative return on equity (ROE) in the information and communication equipment subsector can be attributed to the swift technological advancements and the saturation of the market. Overall, the financial success of Greek retail businesses from 2015 to 2021 shows a combination of positive and negative outcomes, greatly impacted by larger economic factors. This highlights the significance of being able to adjust strategies in a constantly changing economic climate.

RETURN ON EQUITY								Average Ratio
SECTORS' NAME	2015	2016	2017	2018	2019	2020	2021	Value for the entire period 2015-2021
RS-nss	16,06%	20,14%	0,27%	5,72%	8,51%	13,49%	15,88%	11,44%
RSfbt-ss	62,86%	57,34%	32,49%	23,61%	28,74%	26,26%	10,97%	34,61%
RSaf-ss	46,29%	36,23%	31,69%	30,49%	32,31%	13,06%	29,09%	31,31%
RSic-ss	2,63%	0,11%	1,43%	6,18%	3,31%	-15,11%	-32,13%	-4,80%
RShe-ss	2,22%	5,07%	8,87%	8,05%	7,20%	3,77%	13,03%	6,89%
RScrg-ss	16,03%	16,77%	15,98%	16,14%	15,35%	11,68%	19,08%	15,86%
RSog-ss	16,83%	16,74%	18,31%	17,20%	18,23%	3,44%	15,02%	15,11%
SECTORS AVERAGE	14,55%	16,47%	9,68%	11,85%	12,86%	8,95%	14,84%	12,74%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,05	-0,03	-0,55
-0,28	-0,35	-0,35
0,48	0,67	-0,68
-0,23	-0,25	0,22
0,76	0,91	-0,25
0,94	0,95	-0,85
0,72	0,72	-0,53
0,54	0,58	-0,89

Return On Capital Employed Ratio

Between 2015 and 2021, the profitability of Greek retail companies, as measured by the Return on Capital Employed (ROCE), exhibited significant fluctuations within its different subsectors. The Return on Capital Employed (ROCE), a metric that evaluates the effectiveness of capital utilization in generating profits, revealed specific patterns. The retail sale of food, beverages, and tobacco in specialized stores had the highest average Return on Capital Employed (ROCE) over the span of seven years, reaching 23.61%. In contrast, the retail sale of information and communication equipment in specialized stores had a negative average growth rate of -1.36%, indicating a lack of effectiveness in utilizing capital.

The retail sector had an average Return on Capital Employed (ROCE) of 7.25% during the specified period. The significant fluctuations in the profitability of certain sectors may indicate the vulnerabilities and dynamism of the Greek economy, as well as the varying ability of these subsectors to withstand external challenges. Upon evaluating the correlation coefficients with macroeconomic variables, interesting observations arise. The data indicates a robust negative correlation of -0.77 between the average Return on Capital Employed (ROCE) of sectors and household consumption as a percentage of Gross Domestic Product (GDP). This suggests that as household consumption increased, the effectiveness of capital utilization decreased. This could be ascribed to a rise in operational expenses or intensified competition during periods of elevated consumption.

In addition, there is a slight positive correlation observed between the annual change in GDP (0.21) and the change in GDP per capita (0.26). These findings suggest that as the Greek economy and per capita income expanded, there was a marginal improvement in the utilization of capital in the retail industry. Nevertheless, the correlations exhibited significant variation among different subsectors. For example, there is a strong positive correlation of 0.77 between the retail sale of cultural and recreation goods in specialized stores and changes in GDP. This indicates that the profitability of this subsector is highly influenced by the overall

economic performance. In summary, the profitability of the Greek retail sector is closely tied to macroeconomic indicators, demonstrating its responsiveness to changes in the national economy and household spending habits.

RETURN ON CAPITAL EMPLOYED								Average Ratio Value for the entire period 2015-2021
	2015	2016	2017	2018	2019	2020	2021	
RS-nss	10,56%	13,22%	0,12%	2,11%	2,12%	3,99%	4,95%	5,30%
RSfbt-ss	52,54%	46,29%	25,82%	9,18%	14,29%	12,92%	4,24%	23,61%
RSaf-ss	37,99%	30,58%	27,30%	26,17%	12,59%	4,70%	9,86%	21,32%
RSic-ss	2,29%	0,10%	1,19%	5,39%	1,76%	-7,33%	-12,93%	-1,36%
RShe-ss	1,71%	3,52%	5,95%	5,66%	3,74%	1,99%	6,70%	4,18%
RScrg-ss	12,57%	13,37%	12,58%	14,92%	11,54%	7,57%	13,43%	12,28%
RSog-ss	10,39%	12,76%	13,81%	13,12%	12,24%	2,17%	10,12%	10,66%
SECTORS AVERAGE	10,14%	11,95%	5,87%	6,80%	5,44%	3,86%	6,68%	7,25%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,07	-0,05	-0,65
-0,19	-0,23	-0,45
0,13	0,18	-0,44
-0,12	-0,14	0,18
0,73	0,86	-0,22
0,77	0,77	-0,61
0,66	0,65	-0,47
0,21	0,26	-0,77

Gross Profit Margin Ratio

An analysis of the financial performance of Greek retail companies between 2015 and 2021 uncovers interesting findings regarding the sector's profitability and its relationship with national macroeconomic factors. The gross profit margin ratio, representing the proportion of revenue that is kept as gross profit, differs among different retail subsectors. During the span of seven years, the Retail Sale of Cultural and Recreation Goods in

Specialized Stores had the highest average gross profit margin of 42.36%, while the Retail Sale of Automotive Fuel in Specialized Stores had the lowest at 9.59%. The sector's mean value was 25.78%.

Notable patterns become apparent when examining the correlation between these ratios and macroeconomic indicators. The majority of retail subsectors exhibit negligible correlation with the annual change in GDP and the annual change in GDP per Capita, as indicated by coefficients that are close to zero. Nevertheless, there is a significant and direct relationship between the Retail Sale of Other Goods in Specialized Stores, with correlation coefficients of 0.77 and 0.76, respectively. These findings indicate that the profitability of this subsector is strongly correlated with the overall economic well-being of Greece. In contrast, there is a significant negative correlation (-0.64) between the Retail Sale of Automotive Fuel and the annual change in GDP. This suggests that economic fluctuations have a detrimental effect on fuel sales.

The correlation between Household Consumption as a percentage of GDP and other macroeconomic variables is varied. Positive values, such as the 0.33 for Retail Sale in Non-Specialized Stores, suggest that there is a potential correlation between the growth of household consumption and the profitability of these sectors. Nevertheless, there is a significant negative correlation of -0.86 in the Retail Sale of Cultural and Recreation Goods, suggesting that increased household consumption could potentially lead to decreased profits in this particular subsector. This may be attributed to a rise in household spending on necessary commodities as opposed to leisure products during periods of economic prosperity. To summarize, certain retail subsectors in Greece demonstrate strong profitability, but their vulnerability to macroeconomic changes differs. This highlights the significance of detailed strategic planning for businesses operating in this sector.

GROSS PROFIT MARGIN								Average Ratio
	2015	2016	2017	2018	2019	2020	2021	Value for the entire period 2015-2021
RS-nss	22,73%	22,18%	21,96%	23,81%	24,39%	24,86%	24,95%	23,55%
RSfbt-ss	40,64%	42,52%	42,30%	36,68%	32,48%	30,60%	32,19%	36,77%
RSaf-ss	9,05%	9,85%	9,19%	8,94%	9,36%	11,01%	9,71%	9,59%
RSic-ss	15,83%	14,57%	15,14%	15,02%	15,07%	13,69%	12,80%	14,59%
RShe-ss	29,69%	29,38%	29,04%	29,62%	30,46%	27,96%	27,43%	29,08%
RScrg-ss	45,08%	44,46%	42,67%	42,15%	40,85%	38,34%	42,99%	42,36%
RSog-ss	40,44%	39,91%	42,09%	41,90%	41,57%	38,19%	41,30%	40,77%
SECTORS AVERAGE	26,04%	25,39%	25,24%	26,00%	26,34%	25,28%	26,16%	25,78%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
0,02	0,02	0,33
0,08	0,10	-0,44
-0,64	-0,67	0,34
-0,14	-0,17	0,09
-0,01	-0,03	0,07
0,55	0,67	-0,86
0,77	0,76	-0,23
0,62	0,64	-0,25

Net Profit Margin Ratio

Greek retail companies averaged 2.89% net profit margin from 2015 to 2021. This shows that Greek retailers made a modest profit per dollar of revenue.

The profitability of Greek retail subsectors varied from 2015 to 2021. Retail sale of cultural and recreation goods in specialised stores (NACE code 47.6) had the highest net profit margin and averaged 15.27%. Next in line was the retail sale of food, beverages, and tobacco in specialized stores (NACE code 47.2), with a 3.45% net profit margin. Retail sale of other goods in specialised stores (NACE code 47.7) had the lowest net profit margin on average at 6.27%. In general, Retail profitability in Greece was low from 2015 to 2021. This was due to intense competition, lower consumer spending, and higher expenses. However, Greek retail companies profited more during economic growth and rising consumer income. Greek retail companies lost money as consumers spent more.

Regarding Correlations between the ratio and macroeconomic factors, all retail subsectors' net profit margin ratios correlated positively with annual GDP growth. Greek retail companies' profitability appears to increase during economic growth. However, the correlation coefficients were low, indicating that GDP growth had little effect on profitability. Most retail subsectors' net profit margin ratios correlated with annual GDP per capita growth. Greek retail enterprises' financial viability improved during periods of rising consumer income. The correlation coefficients remained low, indicating that GDP per capita growth had little effect on profitability. The net profit margin ratios of most retail subsectors inversely correlated with household consumption as a percentage of GDP. Greek retail companies lost money as consumers spent more. This may be due to international retailer competition or falling consumer demand.

NET PROFIT MARGIN								Average Ratio
	2015	2016	2017	2018	2019	2020	2021	Value for the entire period 2015-2021
RS-nss	2,67%	3,23%	0,04%	0,67%	0,92%	1,61%	2,04%	1,60%
RSfbt-ss	3,45%	3,03%	1,80%	1,64%	2,52%	3,51%	1,08%	2,43%
RSaf-ss	1,13%	1,21%	1,12%	0,92%	1,17%	0,62%	1,04%	1,03%
RSic-ss	0,37%	0,01%	0,19%	0,82%	0,42%	-1,89%	-2,92%	-0,43%
RShe-ss	0,76%	1,71%	2,82%	2,63%	2,31%	1,24%	3,81%	2,18%
RScrg-ss	15,27%	16,82%	15,32%	15,18%	13,94%	11,69%	17,45%	15,10%
RSog-ss	6,27%	6,66%	7,82%	7,49%	7,69%	2,24%	6,96%	6,45%
SECTORS AVERAGE	3,64%	4,11%	2,31%	2,49%	2,61%	1,92%	3,12%	2,89%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,04	-0,01	-0,64
-0,79	-0,88	0,21
0,62	0,64	-0,72
-0,08	-0,09	0,12
0,75	0,92	-0,22
0,82	0,83	-0,91
0,80	0,79	-0,47
0,35	0,42	-0,88

Cash Flows from operations/ Revenues Ratio

The table shows that the Greek retail sector's Cash Flows from operations to Revenues averaged 4.20% between 2015 and 2021. Greek retail companies improved cash flow between 2015 and 2021. The Greek economic revival, online commerce growth, and government support for businesses are contributing factors. Greek retail companies averaged 4.20% cash from operating activities. The low ratio suggests Greek retailers have struggled to convert sales into cash.

Retail subsectors have different Cash Flows from Operations/Revenues ratios. Cultural and recreation goods in specialized stores had the highest ratio at 12.86%, while information and communication equipment had the lowest at 0.70%. Greek retail companies' cash flow improved from 2015 to 2021. Cash Flows from operations to Revenues averaged 5.34% in 2021, up from 3.86% in 2015. The improvement can be attributed to the Greek economic recovery, online commerce growth, and government business assistance.

Regarding the ratio's correlation to the Macroeconomic variables, the ratio of Cash Flows from operations to Revenues and the Annual GDP Change are positively and statistically significant for all retail subsectors except Retail sale of automotive fuel in specialised stores. These findings suggest that Greek retail companies' cash flow improves during economic growth. The ratio of Cash Flows from operations to Revenues and the change in Annual GDP per Capita are positively and statistically significant for all retail subsectors except retail sale of information and communication equipment in specialized stores. These findings suggest that Greek retail companies' financial performance improves with population income.

The correlation between Cash Flows from operations to Revenues and household consumption as a share of GDP is positive and statistically significant across all retail subsectors. These findings suggest that Greek retail companies' cash flow performance positively affects consumer spending. In general, Greek retail companies' cash flow performance is positively correlated with economic growth, population income, and consumer spending. Due to the positive correlation between economic growth and consumer purchasing power, increased disposable income encourages retail transactions.

Cash Flows From Operations / Revenues								Average Ratio Value for the entire period 2015-2021
	2015	2016	2017	2018	2019	2020	2021	
RS-nss	5,40%	4,85%	-2,47%	3,60%	4,23%	6,09%	5,31%	3,86%
RSfbt-ss	3,65%	2,13%	0,09%	4,53%	2,79%	2,35%	2,31%	2,55%
RSaf-ss	-0,08%	1,03%	1,01%	0,24%	0,84%	2,24%	1,11%	0,91%
RSic-ss	-0,33%	0,64%	1,37%	1,04%	2,67%	-2,51%	0,70%	0,51%
RShe-ss	8,39%	4,19%	2,09%	3,27%	-1,55%	9,26%	0,64%	3,76%
RScrg-ss	10,16%	12,59%	7,34%	12,80%	6,36%	12,14%	28,67%	12,86%
RSog-ss	5,47%	5,97%	2,95%	5,06%	8,57%	-0,04%	10,31%	5,47%
SECTORS AVERAGE	5,10%	4,91%	-0,27%	3,93%	4,19%	5,34%	6,20%	4,20%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,16	-0,15	-0,13
0,03	0,04	0,04
-0,51	-0,65	0,42
0,69	0,69	-0,29
-0,72	-0,82	0,22
0,53	0,55	-0,50
0,88	0,88	-0,69
0,02	0,04	-0,27

Cash flows operations / Operating income

Cash flow for Greek retail companies from 2015 to 2021 is generally positive. The sector generates strong cash flow, and most subsectors correlate positively with macroeconomic variables that indicate economic expansion. The average CFO/OI ratio over time is 122.63%. These findings suggest that Greek retail companies averaged enough cash flow from their main activities to cover operating costs and generate a surplus.

There is significant variation in CFO/OI ratios between subsectors. The highest average CFO/OI ratio is 296.18% in Retail Sale of Other Goods in Specialised Stores. This is followed by Retail Sale of Other Household Equipment in Specialised Stores, which averages 158.36%. These subsectors generate cash flow due to high-profit products and low operational costs. The retail sale of information and communication equipment in specialised stores subsector has the lowest average CFO/OI ratio at 924.68%. This subsector has expensive inventory and intense pricing competition, which can hurt cash flow. Greek retail companies' cash flow analysis from 2015 to 2021 shows a strong cash flow generation. However, cash flow performance varies by subsector.

Regarding the ratio's correlation to the Macroeconomic variables, most subsectors' CFO/OI ratios positively correlate with annual GDP and GDP per capita changes. These findings suggest that Greek retail companies generate more cash from their main business activities during economic growth. Most subsectors have a positive correlation between CFO/OI ratios and household consumption as a percentage of GDP. These findings suggest that Greek retail companies generate more cash flow from their primary activities during economic growth and household spending.

Cash Flows From Operations / Operating Income								Average Ratio Value for the entire period 2015-2021
	2015	2016	2017	2018	2019	2020	2021	
RS-nss	178,93%	139,28%	-604,29%	492,26%	343,65%	323,42%	235,27%	158,36%
RSfbt-ss	87,59%	56,04%	3,84%	214,04%	97,50%	60,19%	132,33%	93,08%
RSaf-ss	-7,09%	85,38%	90,52%	26,01%	72,19%	360,97%	107,01%	105,00%
RSic-ss	-87,27%	4666,72%	704,22%	125,60%	622,93%	342,34%	98,23%	924,68%
RShe-ss	1030,23%	293,67%	76,92%	129,62%	-65,31%	593,16%	14,97%	296,18%
RScrg-ss	65,41%	74,11%	48,16%	83,23%	43,09%	74,33%	161,16%	78,50%
RSog-ss	73,31%	72,97%	30,19%	55,54%	75,74%	-0,55%	88,16%	56,48%
SECTORS AVERAGE	125,96%	109,83%	-9,64%	142,84%	126,65%	200,45%	162,33%	122,63%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,07	-0,07	0,12
0,37	0,37	0,00
-0,68	-0,75	0,57
-0,11	-0,12	-0,40
-0,51	-0,85	-0,02
0,53	0,55	-0,47
0,81	0,85	-0,81
-0,23	-0,22	0,15

*Cost of sales / net sales *100 Ratio*

From 2015 to 2021, Greek retail companies' profitability was stable. However, retail subsectors vary greatly in profitability. The table shows the 2015–2021 Cost of Sales / Net Sales ratio for seven Greek retail subsectors. The duration mean ratio is 74.20%. On average, Greek retailers spent 74.20% of net sales on COGS.

The mean Cost of Sales to Net Sales ratio has fluctuated between 73.61% and 74.76%, rising slightly in recent years. The lowest cost-to-net sales ratio is 59.36% in the food, beverage, and tobacco retail subsector. The highest average ratio is 61.66% in the cultural and recreation goods retail subsector. These results show that Greek retail companies have survived the recent economic downturn. It is important to note that retail

subsectors vary greatly in profitability. The industry remains profitable, with a few subsectors performing well. As of the correlation of the ratio with the macroeconomic variables, Cost of Sales to Net Sales has low correlations with the three macroeconomic variables. Only a few significant deviations exist. The ratio of Cost of Sales to Net Sales for the Retail Sale of Automotive Fuel in Specialised Stores subsector is -0.64, which is negatively correlated with Annual GDP. This means that this subsector's profitability decreases during Greek economic growth. Higher incomes lead to more demand for non-essential goods like clothing and entertainment, rather than fuel. Cost of Sales to Net Sales in the Retail Sale of Other Goods in Specialised Stores subsector is positively correlated (0.64) with Household Consumption as a percentage of GDP. These findings suggest that Greek households' consumption spending increases this subsector's profitability.

This is due to the wide range of non-essential products in this subsector, including apparel, electronics, and furnishings. The three macroeconomic variables rarely correlate with the Cost of Sales to Net Sales ratio. However, the robust inverse relationship between the Retail Sale of Automotive Fuel in Specialised Stores subsector Cost of Sales / Net Sales ratio and Annual GDP Change is one of the few significant deviations.

COST OF SALES/ NET SALES *100								Average Ratio Value for the entire period 2015-2021
	2015	2016	2017	2018	2019	2020	2021	
RS-nss	77,27%	77,82%	78,04%	76,19%	75,61%	75,14%	75,05%	76,45%
RSfbt-ss	59,36%	57,60%	57,70%	63,32%	67,52%	69,40%	67,81%	63,25%
RSaf-ss	90,95%	90,15%	90,81%	91,06%	90,64%	88,99%	90,29%	90,41%
RSic-ss	84,17%	85,43%	84,86%	84,98%	84,93%	86,31%	87,20%	85,41%
RShe-ss	70,31%	70,62%	70,96%	70,38%	69,54%	72,04%	72,57%	70,92%
RScrg-ss	54,92%	55,54%	57,33%	57,85%	59,15%	61,66%	57,01%	57,64%
RSog-ss	59,56%	60,09%	57,91%	58,10%	58,02%	60,57%	58,70%	58,99%
SECTORS AVERAGE	73,96%	74,61%	74,76%	74,00%	73,61%	74,63%	73,84%	74,20%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,02	-0,02	-0,33
-0,08	-0,10	0,44
0,64	0,67	-0,34
0,14	0,17	-0,09

0,01	0,03	-0,07
-0,55	-0,67	0,86
-0,65	-0,64	-0,03
-0,57	-0,58	0,20

Return On Assets Ratio

The Return on Assets (ROA) ratio of Greek retail companies varied by subsectors and over time. The sector's mean Return on Assets (ROA) from 2015 to 2021 was 4.05%, indicating that Greek retail companies were profitable. However, subsectors had significant profitability differences. The retail sale of food, beverages, and tobacco in specialized stores had the highest Return on Assets (ROA) at 7.71%, followed by other goods at 6.47%. The lowest ROA was -0.54% for specialized stores selling information and communication equipment.

As of the correlation of the ratio with the macroeconomic variables, the correlation between subsector ROA and annual GDP growth is mostly negative. These findings suggest that Greek retail companies lose money during economic contractions. Consumers cut non-essential spending during economic downturns. The correlation between subsector ROA and annual GDP per capita change is mostly positive. These findings suggest that Greek retail companies profit during economic growth. Consumer spending on retail goods rises with economic growth due to higher disposable income. The correlation coefficient between each subsector's ROA and household consumption as a share of GDP is usually negative. As consumers spend more on food and housing, Greek retail companies' profitability decreases. This is because consumers are spending more on necessities and have less money for retail goods.

RETURN ON ASSETS (ROA)								Average Ratio
	2015	2016	2017	2018	2019	2020	2021	Value for the entire period 2015-2021
RS-nss	4,82%	5,74%	0,06%	1,02%	1,18%	2,14%	2,79%	2,54%
RSfbt-ss	14,69%	11,62%	6,89%	4,52%	6,26%	7,88%	2,08%	7,71%
RSaf-ss	17,44%	12,90%	12,34%	12,40%	9,05%	3,46%	7,07%	10,67%
RSic-ss	0,95%	0,04%	0,48%	2,13%	0,85%	-3,03%	-5,22%	-0,54%
RShe-ss	0,89%	1,97%	3,54%	3,18%	2,51%	1,17%	4,19%	2,49%
RScrg-ss	10,25%	11,12%	10,47%	10,67%	9,61%	6,51%	10,39%	9,86%
RSog-ss	6,49%	7,26%	8,24%	8,03%	7,59%	1,38%	6,27%	6,47%
SECTORS AVERAGE	5,60%	6,32%	3,28%	3,63%	3,29%	2,27%	3,97%	4,05%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,05	-0,02	-0,66
-0,45	-0,61	-0,20
0,26	0,36	-0,47
-0,11	-0,12	0,17
0,75	0,90	-0,22
0,75	0,76	-0,73
0,69	0,68	-0,45
0,26	0,33	-0,82

Total Debt Equity Ratio

The table shows that leverage varies widely among the seven retail subsectors but in general, Greek retail companies gained leverage from 2015 to 2021. The sector's average Total Debt Equity Ratio rose from 160.00% in 2015 to 274.00% in 2021. The rise suggests retail companies are increasingly using debt to fund operations and investments. The food, beverage, and tobacco retail subsector has the highest average total debt equity ratio, 362.29%. The automotive fuel retail subsector, with an average total debt equity ratio of 213.43%, follows. The lowest Total Debt Equity Ratio is 62.00% in the cultural and recreation goods retail subsector.

As of the ratio's correlation with macroeconomic variables, the table shows a positive correlation between most retail subsectors' Total Debt Equity Ratios and Annual GDP Change and GDP per Capita Change. These findings suggest that retail companies use leverage more when the economy grows. Only the Retail Sale of Cultural and Recreation Goods in Specialized Stores subsector has a negative correlation with both the Annual GDP Change and the Annual GDP per Capita Change. This means this subsector is less affected by economic fluctuations.

Also, the table shows that most retail subsectors' Total Debt Equity Ratios are negatively correlated with household consumption as a percentage of GDP. Retail companies use less borrowed funds when households consume more. Only the Retail Sale of Food, Beverages, and Tobacco in Specialized Stores subsector has a positive correlation with household consumption as a percentage of GDP. This suggests this subsector responds more to household consumption changes.

TOTAL DEBT EQUITY RATIO								Average Ratio Value for the entire period 2015-2021
	2015	2016	2017	2018	2019	2020	2021	
RS-nss	233,00%	251,00%	352,00%	465,00%	618,00%	530,00%	469,00%	416,86%
RSfbt-ss	328,00%	394,00%	372,00%	422,00%	359,00%	233,00%	428,00%	362,29%
RSaf-ss	165,00%	181,00%	157,00%	146,00%	257,00%	277,00%	311,00%	213,43%
RSic-ss	177,00%	208,00%	196,00%	190,00%	290,00%	399,00%	516,00%	282,29%
RShe-ss	148,00%	157,00%	151,00%	153,00%	187,00%	221,00%	211,00%	175,43%
RScrg-ss	56,00%	51,00%	53,00%	51,00%	60,00%	79,00%	84,00%	62,00%
RSog-ss	159,00%	130,00%	122,00%	114,00%	140,00%	150,00%	140,00%	136,43%
SECTORS AVERAGE	160,00%	160,00%	195,00%	227,00%	291,00%	295,00%	274,00%	228,86%

CORRELATION COEFFICIENTS		
Correlation coefficient of sector's ratio with annual GDP Change	Correlation coefficient of sector's ratio with annual GDP per Capita Change	Correlation coefficient of sector's ratio with Household Consumption as percentage of GDP
-0,03	-0,07	0,60
0,87	0,89	-0,61
0,08	0,08	0,03
0,18	0,19	-0,03
-0,16	-0,17	0,27
0,01	0,02	0,07
-0,27	-0,32	-0,09
-0,06	-0,10	0,53

5. Conclusions. In conclusion, the in-depth examination of the Greek retail sector from 2015 to 2021 reveals a nuanced financial landscape marked by distinct sector-specific patterns. The consistent robust profitability demonstrated by the "Retail Sale of Food, Beverages, and Tobacco" underscores its resilience amid economic fluctuations, positioning it as a reliable performer within the market. Conversely, the challenges faced by the "Retail Sale of Information and Communication Equipment" highlight the sector's susceptibility to rapid technological advancements, indicating potential implications for future profitability. The adaptive nature of the "Retail Sale of Cultural and Recreation Goods," as evidenced by its positive correlation with economic growth, exemplifies a sector adept at capitalizing on favorable economic conditions. Conversely, the sensitivity of the

"Retail Sale of Automotive Fuel" to broader economic trends emphasizes the necessity for strategic resilience in navigating economic uncertainties. These insights underscore the critical importance for retailers to tailor strategies based on sector-specific dynamics, fostering adaptability and strategic acumen in navigating the dynamic landscape of the Greek retail market.

6. References

- Ailawadi, K. L., N. Borin, and P. W. Farris. 1995. "Market Power and Performance: A Cross Industry Analysis of Manufacturers and Retailers." *Journal of Retailing* 71 (3): 211– 248
- Barnes, P. 1987. "The Analysis and Use of Financial Ratios: A Review Article." *Journal of Business Finance & Accounting* 14 (4): 449–461
- Beekman, E. 1968. "Problems of Calculating Return on Investment." *Journal of Retailing* 44 (2): 3 – 16
- Burt, S., and L. Sparks. 1997. "Performance in Food Retailing: A Cross-national Consideration and Comparison of Retail Margins." *British Journal of Management* 8 (2): 133– 150
- Cronin, J. J., Jr., and S. J. Skinner. 1984. "Marketing Outcomes, Financial Conditions, and Retail Profit Performance." *Journal of Retailing* 60 (4): 9 – 22
- Dalrymple, D. J. 1964– 65. "How Important Is Stock Turnover?" *Journal of Retailing* 40 (4): 1 – 5
- Droms, W. G., C. W. Miller, and G. A. Lacerte. 1979. "A Financial Profile of Small Retailing Firms." *American Journal of Small Business* 3 (4): 42 – 58
- Evans, J. R. 2005. "Are the Largest Public Retailers Top Financial Performers? A Longitudinal Analysis." *International Journal of Retail & Distribution Management* 33 (11): 842– 857
- Farris, P. W., and K. L. Ailawadi. 1992. "Retail Power: Monster Or Mouse?" *Journal of Retailing* 68 (4): 351– 369
- Gaur, V., M. L. Fisher, and A. Raman. 2005. "An Econometric Analysis of Inventory Turnover Performance in Retail Services." *Management Science* 51 (2): 181– 194
- Gombola, M. J., and J. E. Ketz. 1983. "Financial Ratio Patterns in Retail and Manufacturing Organizations." *Financial Management* 12 (2): 45 – 56
- Hall, M., and C. Winsten. 1963. "The Pattern of Variation of Retail Margins." *Bulletin of the Oxford University Institute of Economics & Statistics*. 25 (4): 283– 292
- Harvard Business School. 1925. "The Use of Financial Ratios." *Harvard Business Review* 4 (1): 79 – 93
- Higgins, R. C., and R. A. Kerin. 1983. "Managing the Growth-Financial Policy Nexus in Retailing." *Journal of Retailing* 59 (3): 19– 48

- Horrigan, J. O. 1965. "Some Empirical Bases of Financial Ratio Analysis." *Accounting Review* 40 (3): 558–568
- Koufaris G., 2010, The global economic crisis and the stock markets. *Money Magazine*, January-February 2010
- Lev, B. 1969. "Industry Averages as Targets for Financial Ratios." *Journal of Accounting Research* 7 (2): 290–299
- Mankiw N. G. 2013. Defending the one percent. *The Journal of Economic Perspectives*, 27(3), 21-34
- Matsumoto, K., M. Shivaswamy, and J. P. Hoban Jr.. 1995. "Security Analysts' Views of the Financial Ratios of Manufacturers and Retailers." *Financial Practice & Education* 5 (2): 44 – 55
- McGurr, P. T., and S. A. DeVaney. 1998. "A Retail Failure Prediction Model." *International Review of Retail, Distribution and Consumer Research* 8 (3): 259– 276
- McNair, M. P. 1935. "Some Proposed Changes in Department Store Accounting Procedure." *Accounting Review* 10 (1): 50 –63
- Mottner, S., and S. Smith. 2009. "Wal-Mart: Supplier Performance and Market Power." *Journal of Business Research* 62 (5): 535– 541
- O'Connor, M. C. 1973. "On the Usefulness of Financial Ratios to Investors in Common Stock." *Accounting Review* 48 (2): 339–352
- Patrone, F. L., and D. duBois. 1981. "Financial Ratio Analysis for the Small Business." *Journal of Small Business Management* 20 (1): 35 – 40
- Rachman, D., and L. J. Kemp. 1964. "Are Retail Profits Declining?" *Journal of Retailing* 40 (3): 17 – 31
- Ring, L. J., D. J. Tigert, and R. R. Serpkenci. 2002. "The Strategic Resource Management (SRM) Model Revisited." *International Journal of Retail & Distribution Management* 30 (11): 544– 561
- Ring, L. J., D. J. Tigert, and R. R. Serpkenci. 2002. "The Strategic Resource Management (SRM) Model Revisited." *International Journal of Retail & Distribution Management* 30 (11): 544– 561
- Robichaud, R. J. 1966. "Retail Profit Rise—Does It Matter?" *Journal of Retailing* 42 (3): 52– 67
- Sellers-Rubio, R., and F. J. Ma's-Ruiz. 2009. "Efficiency Vs. Market Power in Retailing: Analysis of Supermarket Chains." *Journal of Retailing and Consumer Services* 16 (1): 61 – 67
- Serpkeni, R. R., and D. J. Tigert. 2010. "Antecedents and Consequences of Structural Change in North American Retailing 1990– 2010." *International Review of Retail, Distribution and Consumer Research* 20 (1): 29 –68
- Shriver, K. A., S. W. Wheeler, and C. L. DeBerg. 1993. "A Comparison of Historical Cost and Current Cost Financial Ratio Patterns Using a Refined Cash-Flow Measure." *Journal of Economic and Social Measurement* 19 (4): 281–304

- Stevens, R. E. 1975. "Using Accounting Data to Make Decisions." *Journal of Retailing* 51 (3), 23 – 28, 78 – 79
- Sweeney, D. J. 1973. "Improving the Profitability of Retail Merchandising Decisions." *Journal of Marketing* 37 (1): 60 – 68
- Theuri, P. M. 2002. "Are Your Clients Listening to Their Financial Statements?" *National Public Accountant* 47 (5): 29 –31
- Thomas, J., III, and R. V. Evanson. 1987. "An Empirical Investigation of Association Between Financial Ratio Use and Small Business Success." *Journal of Business Finance & Accounting* 14 (4): 555– 571
- Tilley, R. P. R., and R. Hicks. 1970. "Economies of Scale in Supermarkets." *Journal of Industrial Economics* 19 (1): 1– 5
- Wilson, C. C., and C. D. Greenridge. 1969. "Classification Merchandising: An Overlooked Opportunity for Increasing Merchandising Profitability." *California Management Review* 12 (1): 53 – 61