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Exploring Financial Performance in terms of Industry Effect: A Worldwide Evidence from 8 Sectors in 10 Stock Exchanges

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Abstract

This paper aims at exploring financial performance in terms of industry effect, as it tries to present a worldwide evidence using profitability, liquidity, activity and leverage indicators of 735 listed companies from 8 sectors in 10 stock Exchanges during the period from 2015 to 2022. Testing hypotheses has been conducted using GMM technique, where Z-moments are projected into the column space of instrumental variables. This technique minimizes variance and enhances parameter estimate precision by focusing on Z-moments and applying GLS techniques.

Results indicate that each of <u>Retail</u>, <u>Communication</u> and <u>Chemicals</u> sectors seem to have no significant effects on financial performance of companies listed in the selected stock markets. Besides, <u>Construction</u> sector seems to have a positive significant effect on <u>profitability</u>, while <u>Oil</u> sector seems to have a positive significant effect on <u>leverage</u> and <u>Finance</u> sector seems to have a positive significant effect on <u>liquidity</u>. In addition, <u>Transportation</u> sector seems to have positive significant effects on <u>profitability</u> and <u>liquidity</u> and a negative significant effect on <u>activity</u>, while Food sector seems to have a positive significant effect on <u>liquidity</u>. Robustness checks have been conducted for each stock market and supported these results.

Keywords: financial performance, industry effect, stock exchange

1. Introduction

While most scholars investigate firm performance in terms of country effect, macroeconomic factors and firm-specific characteristics, this paper focuses on the "industry effect. Besides, this paper tries to present worldwide evidence using 8 sectors in 10 stock exchanges during the period from 2015 to 2022. Firm performance is measured by financial indicators and this is why this paper aims at investigating the effect of industry type on each

the profitability, liquidity, activity and leverage of the listed companies on the selected stock markets.

Performance management and financial performance management, are intensely debated but still current topics. For example, on the Web of Science platform (for the period March 1, 2021 – March 1, 2022), using the keywords financial performance management, it was found that in just twelve months about 2300 studies were published (Tudose, Rusu & Avasilcai, 2022, p. 121).

The paper is arranged as follows: after this introduction, section 2 reviews research literature. Section 3 explains how to measure research variables and illustrates how to test the hypotheses, regarding the "industry effect", using a comparative analysis among selected stock exchanges, during the period of research. Section 4 is for empirical work, presenting results and discussing how these results answer research questions. Section 5 summarizes the paper and provides remarks about conclusions.

2. Literature Review

The industry effect has witnessed great attention during the last 3 decades, where financial performance may be explained partially due to the characteristics of the industry. According to Hawawini, Subramanian & Verdin (2000), firm-specific variables are the main drivers of profitability. This has been supported by Furman (2000), where industry effects contribute more to explanatory power than other effects, according to data from Australia, Canada, the United Kingdom, and the USA.

Claver, Molina & Tari (2002) has indicated that profitability is affected by industry type, as applied to 679 Spanish manufacturing firms from 1994 to 1998. Besides, Eriksen & Knudsen (2003) has provided an explanation of how industry and firm interactions affect a firm's profitability. Analysis of covariance was utilized to evaluate the data, which came from small and medium-sized organizations, including 9809 Danish enterprises, over a five-year period from 1991 to 1995. Results indicate that the industry effect has not been significant.

Brito & Vasconcelos (2004) has gathered information from 12,592 businesses across 78 nations using the COMPUSTAT database. Using Analysis of Covariance (ANCOVA), results indicate that the company impact has accounted for 41.0 % of the variance, the industry effect for 15.6 %, and the country effect for 16.9 %. In addition, Makino, Isobe & Chan (2004) compares and contrasts earlier research that looked at the factors that influence business unit performance in multiple-enterprise corporations and examined the degree to which corporate, industry, and business unit factors affect a business unit's performance. Results indicate that after affiliate and company effects, national effects are just as powerful as industry effects. The findings also imply that, whereas country and industry effects are more prominent in developing countries, corporate and affiliate effects are likely to be more important in explaining the variation in foreign affiliate performance in developed nations.

Using a large database spanning 34 nations and so many industrial groupings, Kate & Lichuan (2006) has examined the impact of industry and commerce on global stock returns from 1992 to 2001. The study focuses on how roles change throughout time and on regional variations. The primary findings are as follows: even with the entire sample included in this investigation, the national effects continue to outweigh the industry effects. Since 1999, there has been a significant upward change in the effects of industry. While national effects continue to predominate in Asia Pacific and Latin America, this shift varies in degree and is most noticeable in Europe and North America. The growing industrial implications are not limited to the media, technology, or telecommunications industries, and this is not seen as a passing fad. The study's findings have an impact on the diversification of foreign portfolios.

Victer & McGahan (2006) investigated how industry and geography affect a company's performance. The Compustat database had 11 years' worth of data (1993 to 2003) on 4,000

businesses from 43 different countries. In order to analyse the data and take into account numerous variables such as year, country, industry, year country, and year industry, they used the ANCOVA method. Findings indicate that year country explains 2.98 %, year industry explains 7.31 %, country industry explains 14.79 %, industry explains 4.51%, and year country explains 2.98 %, while 68.64 % of the performance has not been unexplained.

The relative significance of year industry, corporate, business unit, and transit industry influences on Taiwan business unit profitability between 1994 and 2000 is examined by Lieu & Chi (2006). The study's conclusions, which are in line with earlier research, show that business unit effects significantly outweigh other effects in Taiwan in terms of profitability. Findings have indicated that transit industry effects are more significant in Taiwan than they are in the United States. For example, Taiwan manufacturing experienced changes in its management environment when investments in the industry sector moved to Mainland China in 1990. Taiwan's industry structure quickly changed as a result of this shift, which had an impact on profitability.

Jibao & Kai (2006) uses a one-way empirical research design to examine the performance of 9945 Chinese listed firms (measured by ROA) in 18 industries. Results indicate that in China, the listed businesses' payoff is significantly impacted by industry considerations. However, in some highly marketized industries, including the retail and information equipment sectors, the impact of a firm's capabilities and resources outweighs the influence of the industry.

Schiefer & Hartmann (2009) has broken down the variation in the return on assets in the food industry into the effects of year, country, industry, and firm. The study uses components of variance in a large sample of corporations to estimate effect magnitude after determining effect significance in a nested ANOVA with a rotating pattern of effect introduction. The findings indicate that, when it comes to determining the profitability of the food industry in Europe, firm characteristics are more significant than industry structure. The year and country membership main effects and interactions are weak, suggesting that trade and macroeconomic theory are not very good at explaining performance differences.

By analyzing the effects of firms and industries on the performance of new ventures, Short, McKelvie, Ketchen & Chandler (2009) expand on a long-standing debate in the field of enterprise premiership, using revenue, sales growth, and survival among 7256 young Swedish enterprises over a five-year period are explained by firm and industry levels. Results show that industry membership had less of an impact on new venture sales growth than it does on established enterprises, and that industry level has minimal bearing on the survival of either sample of companies. Overall, the study's conclusions provide fresh insight into how newness and smallness liabilities affect a venture's ability to succeed.

Raza, Farook & Khan (2011) tries to investigate the internal and external elements that affect a firm's profitability. The profitability measures in this study are ROA and ROE, and the company, industry, and market effects have all been considered in determining how dependent one is on the other. 903 observations from 151 Pakistani enterprises between 2004 and 2009 comprise the study sample. The study's findings show that Pakistan's market has no dominant effect and that both internal and external effects are moderate.

Using a sample of Central American businesses, Niels, Ketelhöhn & Quintanilla (2012) study estimates a set of multilevel regressions using the Goldszmidt, Brito & de Vasconcelos (2011) method to investigate the relationship between return on assets and variables related to the host nation, industry, firm, and year. Results indicate that the firm accounts for between 45 and 50 percent of the variance, the industry for between 10 and 17 percent, and the country for between 5 and 8 percent. The findings are in line with those of Goldszmidt et al. (2011), Makino, Isobe & Chan (2004), McGahan & Porter (1997), and others who find significant industry effects.

In addition, Alber (2013) investigates the effects of the "industry effect" on stock

market reactions to the global financial crisis in the Egyptian, Kuwaiti, American, and British stock markets. Results indicate that the most negatively affected sectors are "real estate" and "insurance" in the Egyptian and Kuwaiti markets, and "banking" in the British and American ones. Besides, the study by Zbigniew (2014) looks at how firm effects and industry affect the performance of Polish listed companies. The data used in the study comes from 387 companies that were listed between 2007 and 2010 on the Warsaw Stock Exchange. Additionally, each of them has been categorized into a particular industry based on the Polish PKD classification. The study's findings indicate that industry effects do not significantly affect how well businesses perform, while one of the models that was employed, which included ROA as a dependent variable, showed that company effects did.

Veneta & Ruíz-Pava (2016) has examined how industry-related variables affected Colombian companies' performance from 1995 to 2012. When various measures of company performance are examined, the contribution of industry-related factors varies significantly and is less than the portion of the overall variation explained by firm-specific factors. Besides, Sina & Torstensen (2018) tries to determine the extent to which business profitability is influenced by industry, nation, and firm impacts. This study therefore revisits a current debate in strategic management about the primary causes of variations in firm profitability. The researchers expand on earlier work while also adding new components. Firstly, they use return on invested capital (ROIC), which hasn't been used in a study of this kind before, as an alternative metric for measuring corporate profitability. Second, they incorporate components of corporate finance and investigate the relationship between company profitability and the level of operating leverage and unlevered beta. In their final section, they expand on the research done in 2016 by Bamiatzi, Bozos, Cavusgil, and Hult and look at the relative importance of company, industry, and national effects on firm profitability in shifting economic situations. This study's data is based on ROIC from publicly traded companies in the G-10 over a 12-year period (2005-2016).

Fernández, Iglesias-Antelo, López-López, Rodríguez-Rey & Fernandez-Jardon (2019) have examined 14,204 Spanish companies with accounting data for the period 1995–2004. Large, medium-sized, and small businesses have been tested independently. The findings indicate that, whereas medium-sized firms' performance is predominantly described by the industry impact, large and small firms' performances are primarily explained by the company effect, albeit for different reasons. In addition, Mallinguh, Wasike & Zoltan (2020) examines how financial leverage and foreign ownership levels in domestic enterprises moderate the effects of firm age and business sector on company performance by analyzing 146 Medium Enterprises (MEs). The results show that financial leverage, age of the organization, ownership percentage, and business sector all significantly affect performance in addition to ownership. Foreign ownership has a large mediating role in the relationship between a company's age and performance, but leverage does not. Foreign ownership or leverage does not considerably moderate the relationship between the business sector and financial success.

Naser, Asif Khan, Popp & Oláh (2021) investigates firm- and nation-specific characteristics, and the stock performance of non-financial sector companies listed on the Pakistan Stock Exchange, for 80 organizations over a 17-year period (2004–2020). The findings have shown that while firm tangibility, munificence, GDP, inflation, and money supply have negative relationships with financial performance, size, growth, dynamism, the Herfindahl–Hirschman index, exchange rates, and oil prices have positive relationships. The findings hold up well to different estimating techniques and have practical policy ramifications.

In addition, Carol & Hoang (2021) aims at examining the effects of firm-specific factors and macroeconomic variables on corporate profitability in Singapore and Hong Kong before, during, and after the global financial crisis. This study uses the two-step Generalized Method of Moments approach to examine how firm-specific and macroeconomic factors affect

corporate profitability. The model considers firm-specific and macroeconomic factors, including firm size, leverage, liquidity, sales growth, and profitability from the previous year (real GDP growth and inflation rate). Corporate profitability is measured by Tobin's Q, ROE, and ROA. The results of the pooled sample showed a substantial relationship between firm success and previous profitability, size, and leverage. The pooled sample results also showed that Hong Kong businesses are more affected by macroeconomic issues during the global financial crisis than Singaporean businesses are. We provide insights into the relationships that exist between company performance, firm-specific attributes, and macroeconomic variables in two developed Asia-Pacific countries across three different economic eras.

Recently, Fernández, López-López, Jardón & Iglesias-Antelo (2022) examined manufacturing and services independently in a large sample of Spanish businesses. Over a tenyear period, the researchers found that in manufacturing, the firm impact dominates the industry effect, but in services, the converse is true. The firm impact is predominant in the first, during a period of rapid economic expansion, for both manufacturing and services. These results highlight the significance of the industry effect on services, indicating that it may have been understated in the literature along with the impact of economic expansion, particularly on practitioners' decision-making.

While the most scholars investigate firm performance in terms of country effect, macroeconomic factors and firm-specific characteristics, this paper focuses on industry effects. Besides, worldwide evidence has been conducted using 8 sectors on 10 stock exchanges during the period from 2015 to 2022. These stock exchanges have been selected to represent different markets and districts, while sectors have been determined in terms of consistency.

3. Descriptive Statistics and Developing Hypotheses

Required data regarding financial performance of 735 companies representing 8 industries and listed in 10 stock markets during the period from 2016 to 2022 could be shown as follows:

Table (1): Financial Performance Indicators

Variable	Calculation	Sign
Return on Equity	Net Profits / Total Equity	ROE
Current Ratio	Current Assets / Current Liabilities	CRR
Financial Leverage	Total Debts/ Total Assets	LEV
Fixed Assets Turnover	Sales / Fixed assets	FAT

The selected International Stock Exchanges could be shown as follows:

Table (2): Selcted International Stock Exchanges

No.	Country/ Region	Stock Exchane	Selected Companies
1	Egypt	The Egyptian Exchange	60
2	United States of America	Nasdaq Stock Exchange	78
3	United States of America	New York Stock Exchange	80
4	South Africa	Johannesburg Stock Exchange	77
5	United Kingdom	London Stock Exchange	71
6	Europe	Euronext Stock Exchange	61
7	China	Shanghai Stock Exchange	77
8	Japan	Tokyo Stock Exchange	77
9	Swetzerlands	Swiss Six Borse Exchamge	77
10	Germany	Deutch Borse Exchange	77

The industries of the 735 selected listed companies could be shown as follows:

Table (3): Industries of the selected listed companies

No.	Industry	Sign	No.	Industry	Sign
1	Retail	RET	5	Oil	OIL
2	Communication	COM	6	Finance	FIN
3	Construction	CON	7	Transportation	TRA
4	Chemicals	CHE	8	Food	FOO

Industry type has been measured by dummy variables, where RET = 1 (in case of retail companies) and = 0 (otherwise) and the same for the other 7 sectors. The descriptive statistics could be shown as follows:

Table (4): Descriptive Statistics of Financial Performance Indicators

	ROE	CRR	FAT	LEV
Mean	0.029430	2.882682	3.347346	0.330546
Median	0.081232	0.965074	6.397281	0.331384
Maximum	13.1694	71.336	57.440	0.901086
Minimum	-61.2444	1.73564	1.35678	0.000000
Std. Dev.	4.85713	5.6975	18.9838	0.183524
Skewness	-8.56214	-31.06370	-55.48268	0.317083
Kurtosis	153.865	2672.415	3496.145	2.771397
Jarque-Bera	5.90E+08	1.75E+09	2.99E+09	111.2587
Probability	0.000000	0.000000	0.000000	0.000000
Observations	5876	5876	5876	5876

Source: Outputs of data processing using EVies 13.

When analyzing each stock market separately, descriptive statistics indicate the specific characteristics of each market, as shown in table (5).

Table (5) Descriptive Statistics according to Stock Markets

Stock Market	Financial Indicator	N	Minimum	Maximum	Mean	Std. Deviation
	ROE	616	-21.8362	69.34209	0.260526	3.040332
Deutch Borse	CRR	616	-710.847	166.7586	0.310318	31.37786
Deuten Borse	FAT	616	4.00912	31.2345	4.9618	11.4571
	LEV	616	0	0.839857	0.33555	0.176394
	ROE	480	-7.28023	37.4598	0.367996	2.174104
Emmt	CRR	480	0.182	123.6671	1.63048	16.61086
Egypt	FAT	480	4.11803	36.8096	7.9418	18.458
	LEV	480	0	0.869447	0.333634	0.186728
	ROE	484	-442.188	214.6297	-1.09034	28.85936
Eumonout	CRR	484	1.2767	11.1754	3.766208	1.17003
Euronext	FAT	484	3.98803	6.67809	4.19418	1.4569
	LEV	484	0	0.888235	0.33585	0.176888
	ROE	568	-3.244	7.72892	1.09348	2.02092
Landan	CRR	568	1.2354	6.915	3.44009	1.3467
London	FAT	568	4.11803	36.8096	7.9418	8.458
	LEV	568	0	0.862447	0.33274	0.183712
	ROE	624	-1.2168	8.15172	0.230283	1.165926
Mandan	CRR	624	1.037	7.1537	2.68256	1.84784
Nasdaq	FAT	624	4.11803	36.8096	7.9418	18.458
	LEV	624	0	0.827854	0.325775	0.180817
Novy Vont-	ROE	640	-2.8695	4.1694	0.775917	1.47671
New York	CRR	640	1.2345	4.2146	3.5923	1.3318

	FAT	640	3.76803	6.34809	5.9418	1.23458
	LEV	640	0	0.879446	0.337057	0.185064
	ROE	616	-14.0484	20.06238	0.173666	1.659935
Chanaha:	CRR	616	2.7675	7.946	5.860685	1.27637
Shanghai	FAT	616	4.1248	6.8096	4.9418	1.4587
	LEV	616	0.000619	0.859178	0.332077	0.183143
	ROE	616	-3.86145	11.50816	-0.36733	13.75903
South Africa	CRR	616	1.784	6.22784	4.04577	1.51555
South Africa	FAT	616	2.11803	6.8096	5.9418	3.45823
	LEV	616	0.004956	0.871913	0.34381	0.182191
	ROE	616	-9.82235	40.64695	0.419875	2.850007
C	CRR	616	1.07323	9.336	6.17141	6.911
Swiss	FAT	616	4.8745	31.2356	8.2458	15.765
	LEV	616	0	0.886592	0.325632	0.187719
	ROE	616	-11.7636	70.42608	0.3328	3.053044
Tolavo	CRR	616	2.7932	7.4189	3.944153	3.79674
Tokyo	FAT	616	3.4563	26.8096	7.4567	12.477
	LEV	616	0	0.901086	0.305136	0.190093

Source: Outputs of data processing using EVies 13.

This paper aims at testing the following 4 hypotheses:

- 1- There is no significant effect of "industry type" on the <u>profitability</u> of listed companies.
- 2- There is no significant effect of "industry type" on the <u>liquidity</u> of listed companies.
- 3- There is no significant effect of "industry type" on the <u>activity</u> of listed companies.
- 4- There is no significant effect of "industry type" on the <u>leverage</u> of listed companies.

4. Testing Hypotheses

To test the research hypotheses, panel data analysis, using the GMM techniques has been conducted and provided the following results:

Table (6): Investigating Industry Effect for 8 Sectors in 10 Stock Markets

Industry	ROE	CRR	FAT	LEV
Retail	0.202130 (0.04127)	11.02096 (9.01511)	-5.832714 (24.4131)	0.326322 (1.10786)
Communication	0.551513 (0.29149)	3.837851 (1.38844)	21.27294 (5.43646)	0.324973 (39.9899)
Construction	0.290190 (0.07681)*	-16.00571 (19.2669)	12.71995 (6.65313)	0.329827 (2.78083)
Chemicals	-0.243150 (0.59301)	9.011154 (6.916277)	14.02269 (3.88556)	0.342015 (109.983)
Oil	0.136822 (0.04093)	1.993620 (1.78928)	15.38303 (2.20335)	0.316590 (3.1240)*
Finance	-0.161294 (0.45364)	9.123303 (0.984616)**	8.473597 (9.19718)	0.333488 (4.34676)
Transportation	0.297610 (0.07393)*	1.646294 (0.94411)*	-64.00231 (24.0154)***	0.329219 (0.48925)
Food	-1.149990 (1.38841)	3.080733 (1.2010)**	20.69542 (5.59356)	0.346659 (1.49060)
R-squared	0.000915	0.111071	0.191677	0.252219

Adjusted R-squared	-0.000276	-0.000121	0.000486	0.001029
S.E. of regression	14.85919	252.7128	618.8332	0.183430
Durbin-Watson stat	2.001654	2.000523	2.002759	1.982334

Source: Outputs of data processing using EVies 13.

Results indicate that:

- 1- Each of <u>Retail</u>, <u>Communication</u> and <u>Chemicals</u> sectors seem to have no significant effects on financial performance of companies listed in the selected stock markets.
- 2- <u>Construction</u> sector seems to have a positive significant effect on <u>profitability</u> of of companies listed in the selected stock markets.
- 3- Oil sector seems to have a positive significant effect on leverage of of companies listed in the selected stock markets.
- 4- <u>Finance</u> sector seems to have a positive significant effect on <u>liquidity</u> of of companies listed in the selected stock markets.
- 5- <u>Transportation</u> sector seems to have positive significant effects on <u>profitability</u> and <u>liquidity</u> and a negative significant effect on <u>activity</u> of companies listed in the selected stock markets.
- 6- <u>Food</u> sector seems to have a positive significant effect on <u>liquidity</u> of of companies listed in the selected stock markets.

Robustness checks have been conducted for each stock market and provided the following results:

Table (7): Investigating Industry Effect for 8 Sectors in each Stock Market separately

Indicator	Sector	Stock Market	\mathbb{R}^2	t	f	Sig.	Coeff.
	Construction	New York	0.009	2.385	5.690	0.017	4.495
	Finance	South Africa	0.010	-2.517	6.336	0.012	-4.133
ROE		Tokyo	0.010	2.429	5.898	0.015	0.885
	Transportation	Egypt	0.015	2.711	7.350	0.007	0.786
	Food	London	0.019	-3.339	11.15	0.001	-15.98
	Construction	Egypt	0.009	-2.103	4.424	0.036	-6.371
	Oil	Egypt	0.019	-2.181	4.607	0.010	-7.543
	Finance	London	0.011	2.452	6.015	0.014	86.395
CRR		South Africa	0.022	-3.757	14.11	0.000	-19.389
		Tokyo	0.007	2.118	4.485	0.035	7.795
	Transportation	Euronext	0.027	-3.637	13.23	0.000	-6.624
	Food	New York	0.010	2.526	6.379	0.012	177.64
	Construction	Euronext	0.017	-2.860	8.181	0.004	-68.178
		Egypt	0.013	-2.548	6.492	0.011	-639.68
FAT	T	South Africa	0.010	-2.511	6.306	0.012	-90.497
	Transportation	Six swiss	0.014	-2.917	8.507	0.004	-56.746
		Tokyo	0.008	-2.214	4.903	0.027	-41.434
	0.1	South Africa	0.008	2.185	4.775	0.029	0.046
LEV	Oil	Six swiis	0.010	2.547	6.489	0.011	0.055
	Food	Tokyo	0.007	2.115	4.474	0.035	0.056

Source: Outputs of data processing using EVies 13.

Results of Robustness checks could be summarized as follows:

Industry	ROE	CRR	FAT	LEV
Retail				
Communication				
Construction	•	•	•	
Chemicals				
Oil		•		• •
Finance	• •	•••		
Transportation	•	•	• • • •	
Food		•		•

Table (8): Summery of Significant Effects according to the Robustness Checks

- denotes a significant positive effect for one country.
- denotes a significant negative effect for one country.

Robustness checks have indicated that each of <u>Retail</u>, <u>Communication</u> and <u>Chemicals</u> sectors seem to have no significant effects. on financial performance of companies listed in the selected stock markets. Besids, <u>Construction</u> sector seems to have a positive significant effect on <u>profitability</u> and negative significant effects on liquidity and activity, while Oil sector seems to have a positive significant effect on leverage and <u>Finance</u> sector seems to have a positive significant effect on <u>liquidity</u> in 3 markets. In addition, <u>Transportation</u> sector seems to have positive significant effects on <u>profitability</u> and <u>liquidity</u> and a negative significant effect on <u>activity</u> in 3 stock markets, while <u>Food</u> sector seems to have a positive significant effect on <u>liquidity</u> and <u>leverage</u>, with a significant negative effect on <u>profitability</u>.

So, robustness checks have supported the results of testing hypotheses and this is why we can reject the null hypothesis and accept the alternative one for all of 4 hypotheses.

5. Results and Concluded Remarks

This paper aims at exploring financial performance in terms of industry effect, as it tries to present a worldwide evidence using profitability, liquidity, activity and leverage indicators of 735 listed companies from 8 sectors in 10 stock Exchanges during the period from 2015 to 2022.

Using panel data analysis according to GMM technique, results indicate that each of <u>Retail</u>, <u>Communication</u> and <u>Chemicals</u> sectors seem to have no significant effects on financial performance of companies listed in the selected stock markets. Besides, <u>Construction</u> sector seems to have a positive significant effect on <u>profitability</u>, while <u>Oil</u> sector seems to have a positive significant effect on <u>leverage</u> and <u>Finance</u> sector seems to have a positive significant effect on <u>liquidity</u>.

In addition, <u>Transportation</u> sector seems to have positive significant effects on <u>profitability</u> and <u>liquidity</u> and a negative significant effect on <u>activity</u>, while Food sector seems to have a positive significant effect on <u>liquidity</u>. Robustness checks have been conducted for each stock market and supported these results. Moreover, these effects have to be discussed with the practitioners to explain the reasons behind positive and negative effects, where this may benefit both academics and professionals.

Besides, results may be generalized as the analysis covers 8 industries on 10 stock exchanges, while many scholars tend to concentrate in only one market (e. g; Lieu & Chi (2006) in Taiwan, Jibao & Kai (2006) in China, Short, McKelvie, Ketchen & Chandler (2009) in Sweden, Raza, Farook & Khan (2011) in Pakistani, Zbigniew (2014) in Poland and Fernández, López-López, Jardón & Iglesias-Antelo (2022) in Spain).

These findings have to be considered within certain limitations, as the paper doesn't

cover all the industry sectors. This is why, future research may concern with other markets and industries to provide practical implications for stakeholders. Beyond these findings, it is important to consider additional mediating factors that influence the relationship between industry type and financial performance, such as government policies, global market dynamics, and corporate resilience strategies. While this study focuses solely on industry effects, future research could examine these factors in greater depth to provide a more comprehensive understanding of the complex interplay between industry characteristics and financial performance. By exploring these dimensions, future studies can support businesses, investors, and policymakers in developing adaptive strategies to mitigate business and financial risks and enhance market resilience in the face of increasing variability.

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