

The Impact of Financial Weakness on the Development and Performance of Companies Under Dynamic Conditions With a Moderating Role of Competitiveness and a Complex Environment

Ali Osamah Abdulameer Al- Saed

*Faculty of Administrative Sciences, Department of Business Administration/Maysan
Branch/College of Administrative and Financial Sciences*

Hussein Ali Abed

*Faculty member, College of Administrative and Financial Sciences, Imam Jaafar Al-Sadiq
University, Department of Business Administration/Baghdad / College of Administrative and
Financial Sciences*

Mohsen Sadiq Abdul-Sada Al-Harshaawi

Maysan Branch / College of Administrative and Financial Sciences

Abstract: In the present day, the concepts of competitiveness and maintenance of competitive advantage have been viewed as necessary survival requirements and tools of attaining preferred performance in organizations. One of the most relevant criteria of success in business enterprises is firm performance, and, in conjunction with financial resources, is one of the key indicators of an economic unit, as it takes a central role in financial decision-making, securities valuation models, and capital project evaluation techniques, among others. Conversely, the business environment has also grown more complicated as a result of customer needs diversity, strong competition, globalization and financial incompetence, which influences the performance of managers as well as their different policies of managing uncertainty and environmental changes. This paper seeks to identify how financial weak addresses issues of dynamics, development and performance in competitiveness and complex environment. Based on this, a sample of 147 listed Tehran Stock Exchange companies in 2014-2024 was taken. The library method was utilized in gathering data and information based on financial data and explanatory notes. Multivariate regression analysis and the EViews software were used to analyse the data. The findings suggest that financial weakness influences the firm development and performance, industry volatility of returns. Secondly, corporate environment is complicated, which moderately affects the relationship between financial weakness and firm development and performance. In addition, optimum cash management and financial flexibility of firms dealing in competitive product markets can contribute towards archiving valuable investment opportunities, which subsequently translates to better performance of such firms and value.



This is an open-access article under the [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) license

1. Introduction

Cash is regarded as a valuable and crucial asset to any economic organization, because it is an important aspect in making most financial decisions. It is market imperfections that result in the establishment of an efficient level of cash holdings that has the effect of balancing their costs and benefits and maximizing the value of a firm; firms must store cash in order to deal with future uncertainties and to exploit future profitable investment opportunities. Moreover, cash possession decreases dependence on facilities to finance a firm. The best way of managing cash is adopting the best practices in regard to liquidity where both shortages and excess cash in the hands of firms can cost firms more since such are accompanied by financing costs. According to the market value of cash holdings, other factors that can cause a variation in valuation include competition in the product market that is one of the most significant ones (Fakhari et al., 2017, p. 49).

In the current highly volatile world, where the development of competition in different industries has been incredible, companies can move at light speed and even surpass their competitors in case they have access to relevant information about markets, products, clients, and have sufficient financial capacity. Estimating a good amount of such resources, among other variables, may help enhance the performance of firms in the current and future. In this respect, the research is especially significant in investigating how financial weakness affects the performance of firms when it is complex in the competitive market. In addition to this, it is important to identify and appropriately interpret the factors that determine the decisions made by managers on whether to provide financial resources or not bearing in mind their implication in the performance of firms. Financial resource constraints (financial weakness) is an occurrence that has been covered widely in the financial economics literature. In this regard, the degree of availability of financial resources by the managers might be an indicator of overinvestment. Conversely, economic institutions make a significant percentage of their assets in terms of financial resources, and this has been the interest of researchers since long to determine why they retain such assets at the level they do.

This paper explores how the issue of weak financial performance in firms is sensitive to internal managers. It as well examines the factors of environmental complexity that affect the performance of the managers. In that regard, the research problem, as well as its theoretical premises is introduced first, then a review of the research background, hypotheses, significance, and methodology is provided. Lastly, the findings of the research are discussed.

2. Problem Statement and Theoretical Framework of the Study

One of the most vital concepts that have been discussed in the research of management is firm performance and it is regarded as one of the key criteria of measuring success in business enterprises. Performance is a multidimensional phenomenon, which is to be evaluated on the basis of a variety of criteria and includes the external indicators of organizational efficiency such as market performance and general financial performance. Financial performance on the other hand involves how successful a firm is in meeting the financial goals of its shareholders in a bid to make them rich (Ebrahimpour Azbari & Sha'bani Mazdehi, 2018, p. 21).

In the context of intense competition in today's markets, successful firms are those that engage in financial planning for their future. Financial resources are the primary and most important factor in the life of any firm. In fact, firms cannot continue to operate unless their financial foundations are provided in a timely manner. The management of financial resources is among the most critical tasks in the financial management process: on the one hand, a shortage of financial resources creates difficulties in meeting a firm's day-to-day needs; on the other hand, maintaining a high level of liquidity and financial resources leads to opportunity costs for the firm (Zandi & Tanani, 2017, p. 3).

Financial resources are among the most important indicators for evaluating an economic entity, as they play a central role in numerous financial decisions, valuation models, capital project appraisal methods, and others, and they may be affected by agency issues. One of the most important decisions in the conflict between shareholders and managers concerns how a firm's internal funds are used. As corporate reserves and financial resources increase during periods of economic growth, managers decide whether to distribute more resources to shareholders, allocate them to internal expenditures, use them for external acquisitions, or retain them for future investment opportunities. The manner in which profit-seeking managers choose between retaining or spending financial resources remains an ambiguous issue.

The two dominant theories regarding cash holdings and financial weakness are the trade-off theory and the pecking order theory. The former states that firms decide on the optimum amount of cash by establishing a compromise between benefits and costs of cash. It is possible to describe the three primary motives of holding cash as precautionary, transactional, and speculative motives. Conversely, in the latter theory, because of information asymmetry and signaling problems in external financing, a hierarchical process of financing is adopted, where internal sources are used first as compared to external sources and where extra funds are needed, firms turn to debt financing and cash hoarding (Jahanshad & Sha'bani, 2016, p. 43).

Cash management is a broad activity in terms of the amount of cash that is collected, held as well as the amount that is released. It is mainly meant to establish the degree of liquidity needed in a business entity and in the management of cash balance and short-term investments. Liquidity management attempts to balance the surplus and the deficit of liquidity, the capability of the economic entity to fulfill its liability, and the potential of the enterprise to capitalize on the business opportunities. Firms always need to have some minimum in terms of cash to meet their day to day operations, and precautionary motive, in this case, focuses on the rising costs due to the loss of future investment opportunities. It also deals with controlling risks of liquidity deficiency and financial ineptitude, capitalizing on business prospects, and evading bankruptcy.

When firms are in need to deal with any unforeseen events and when the cost of other sources of financing is too high, firms maintain cash balances in order to meet their requirements. The small firms will have increased capital to face obstacles like high external financing cost. Similarly, the companies that have superior investment opportunities have higher cash reserves to minimize the opportunity cost of investing in the future. Stable cash flows of firms, and those that experience liquidity constraints require them to hoard larger amounts of cash. Additionally, companies may at times need a large amount of cash in the form of reserves to make use of price deals and offers; cash kept in speculative motives are known as such. The transactional motive is due to the cost of transactions involving the use of non-cash assets.

In this regard, companies that experience inadequacies in internal sources can augment their resources by issuing new equity, selling assets, or having cash dividend payment, or taking on new debt; but all the above are expensive. Hence, the increase in the cost of transactions made by firms is likely to have more cash reserves than they would in other situations (Lashkari et al., 2016, p. 68).

In the case of the companies where financial constraints exist, financial weakness or shortage of cash will result in the deprivation of future investment opportunities and may thus have a negative impact on their future performance and profitability. Nonetheless, other schools of thought focus on the positive sides of having cash on hand and believe that those companies that have high amounts of cash to pursue any future opportunity to invest and ignore agency conflict issues are likely to enjoy a boost in profitability and subsequent performance. However, the theories on the optimal level of cash holdings are not the only theories that discuss and examine financial weakness (cash surpluses and deficits) in an economic entity.

As an example, in the trade-off theory, companies set the optimum cash amount through the definition of a balance between the advantage and expense of cash holding. A significant aspect that this theory brings forth is that there must be an ideal level of cash at which the management makes decisions at the cost-benefit analysis, but is proactive in terms of cash retention. According to the forecasts of this theory, the companies that neither face the surplus of cash nor deficit can make better use of their investment opportunities as well as are likely to gain higher returns.

The pecking order theory states that the firm insiders have better information compared to the shareholders and in case internal resources are not enough to fund the best investment plans and policies, the managers have no choice but to give up lucrative projects and the firm will perform poorly. Moreover, the theory of free cash flow states that when the liquidity levels within the firm increase, the managers can evade the discipline of the market. Under such circumstances, they will not need the consent of shareholders and will be able to make their own decisions with regards to investment. Even where there are no positive net present value projects, managers usually have an incentive to invest and are unwilling to give out cash (e.g. cash dividends). Therefore, a surplus of free cash flow will result in a drop in the performance of the firms (Drobetz et al., 2012, p. 2170).

The operational behaviours of managers can be examined on the basis of the level of competition in the market in order to enable the investors to determine the future performance of firms. The effect of the market competition on the major decisions of firms especially investment and financing decisions and the resulting cash flows has been studied in many studies (Haselter et al., 2007; Zhou, 2012; Hou & Robinson, 2006). Haberg and Phillips (2016) discovered that the environmental complexity of corporations implies a powerful impact on the risk-based appraisal and market worth of cash flows of firms. Nevertheless, few studies have analyzed the effects of corporate environmental complexity on the market value of significant policies, including cash liquidity shortages of firms. It is believed that optimal cash management is a source of financial flexibility to companies that deal with competitive products because cash liquidity helps the management to quickly react to market changes, hence saving the companies the precious investment opportunities (Alimoo, 2015, p. 7).

Companies that have increased cash holding in the competitive product markets are better placed to increase their future market share, have increased sales growth and better operating performances. Also, Chi and Su (2013) demonstrated that, as aggressive actions of the rivals in product markets may result in underinvestment by companies, the value of corporate cash holding in competitive product markets is maximized with investment opportunities (Fakhari et al., 2017, p. 51).

2.1 Firm Performance

The continuous change in customers' levels of awareness and preferences requires today's organizations to deliver their services and products at the required level and in accordance with higher standards. This can be achieved only through performance evaluation and is therefore unavoidable. Despite the importance of industrial and manufacturing sectors, the service sector is no exception to this rule, as approximately 60% of the gross national product of industrialized countries is related to the service sector. The growing dynamism of corporate environment in regards to competitiveness of the business and escalated customer expectations has demonstrated the necessity to seek organizational strengths and weaknesses, as well as to measure performance in a manner never experienced before. In this regard, the primary issue of the companies is to create a universal, trustworthy and adaptable performance assessment framework allowing them to get the correct and adequate information on their present state of affairs, learn the lessons of mistakes, and look into the future (Heydari, 2019, p. 42).

Objectives are directly related to performance. Performance evaluation entails the determination of the degree to which a firm meets the targets of its plans. Performance evaluation should not be viewed as an end itself, rather it should be used as a foundation to predict the further plans, improve the strengths, and get rid of the weaknesses. Many such decisions are based on performance measurement including executive compensation, stock pricing, equity risk assessment, investment decisions, and others. These choices are supposed to be made on the basis of results of the evaluation and the suitable performance indicators in accordance with the organizations processes. Continuous performance evaluation produces valuable, documented, and timely information that will help managers make the necessary decisions in order to improve the performance and business activities of the organization. The determination of the performance of firms is very crucial to the investors as it helps them to determine the effectiveness of the management in exploiting the available capital and whether to retain, to increase or to withdraw their investments. Creditors also evaluate performance to determine the amount and cost of credit. In recent decades, some economic institutions have employed various methods to evaluate performance, relying on indicators and ratios calculated based on accounting and economic information, as well as aggregated data (Mirzaei, 2020, p. 56).

2.2 Financial Weakness

Financial weakness refers to a situation in which firms are unable to access cash flows. The level of access to cash flows in financially weak firms is very low; consequently, they are unable to meet their financial obligations (Shalaki et al., 2018, p. 157). Creditors, investors, and other stakeholders attach great importance to a firm's ability to generate and increase cash liquidity and to reduce financial weakness when evaluating a business entity. In many financial decisions such as capital project appraisal methods, securities valuation models, management compensation plans, loan agreements, and others cash flows play a fundamental and central role.

The Iranian theoretical framework for financial reporting states that economic decision-making by users of financial statements requires an assessment of an entity's ability to generate cash and the degree of certainty associated with such generation. Evaluating the ability to generate cash is facilitated by focusing on the entity's financial position, performance, and cash flows, and by using these elements to forecast expected cash flows and measure financial flexibility. Although the history of preparing cash flow statements and reporting net cash from operations in Iran is shorter compared to income statements and earnings reports, recent trends indicate that the informational content of operating cash flows for investors has been increasing.

In the long run, operating cash flows should be sufficient to cover cash requirements. If a firm's net operating cash flow is negative, it faces several financial problems. In the short term, a firm may be able to obtain the required liquidity through borrowing or asset sales; however, in the long term, reliance on such methods will not enable the firm to achieve the necessary success in the competitive arena or to survive in the market. Creditors and lenders are reluctant to extend credit to firms that are unable to generate positive net operating cash flows. Accordingly, negative net operating cash flow together with positive net cash flows from investing activities and positive net cash flows from financing activities is regarded as an unfavorable indicator.

Holding cash enables firms to invest and acquire assets, thereby generating positive cash flows within the firm, which in turn drives change and creates negative cash flow sensitivity. Conversely, companies normally use the money acquired in the course of financing on investment schemes, however, when firms have negative cash flows, their capacity to exploit the investment opportunities reduces and ends up in the positive cash flow sensitivity. On the other hand, when cash flow of a firm is positive, then there is negative change in the amount of cash holdings also. Conversely, the bad cash flow position indicated by a firm is either a mark of decreasing productivity of divested fixed assets or that there are projects with a negative net present value within a firm.

2.3 Market Competitiveness

Market competitiveness is the power of an economic entity to sense its status and take the required measures to enhance it or even sustain its position. According to this view, competition is perceived by most researchers and experts through the prism of productivity and expenses are one of the major factors (Wilson, 2020). Reis and Yushe (2019) see competition as a multidimensional organization that involves causes (as a driver of competition), outcomes (as a result of competition), and engine of economic growth. The competitiveness in the market is regarded as a key measure to test the achievements of countries, industries, and firms in political, economical, and commercial competitive arenas (Ahmadi Farsani & Fazlollahi Dehkordi, 2018, p. 1).

Competition is stipulated as firms power in the market. Market power means the determination of the price of the products of a firm or the output that the firm produces. In an operational definition, it refers to monopoly power, i.e. multi-party competitive monopoly by a firm. Strategic studies suggest that, in the present competitive world, the survival and the continuation of firms left no choice but the need to gain a competitive advantage that is core to market power of firms.

Product market competitiveness implies that different firms compete intensely in the production and sale of goods, and that their products do not enjoy a significant advantage over others; otherwise, the market would tend toward monopoly or oligopoly. In other words, competitiveness means that a firm has not been able to adopt a specific production method that yields higher-quality goods or offers products at lower prices than competitors and thereby capture the sales market. In this regard, product market competitiveness is viewed as the reverse of product market monopoly. A company that manages to make a better production or lower prices due to better means of production is close to a monopolistic status (Ma'toofi & Dehghanian, 2018, p. 109).

Competitiveness defines the ultimate factor of success in business as companies fight to find their niche in the market, beat their competitors, and have market power. Power is considered to be one of the basic qualities of management and the foundation of its performance in the organization. There are managers who view power as a negative phenomenon but in the real sense, power can be either positive or negative and this depends on the judgments towards the exercise of power. If power is applied to achieve organizational objectives, it is considered a positive and practical phenomenon; conversely, if it is used to pursue personal and individual goals, it is undoubtedly a negative and inappropriate phenomenon (Nakhai & Ebrahimzadeh, 2017, p. 1).

Concepts such as competitive and monopolistic markets are relative in nature. In fact, if market types are classified according to the degree of competition, they can be viewed as a spectrum with perfectly competitive markets at one end and perfectly monopolistic markets at the other. In emerging economies, such as the Iranian economy, markets and industries active in the stock market tend to operate competitively within this spectrum of market types. Under normal conditions, market competition includes competition to prevent the entry of new rivals into an industry, as well as competition among firms operating within a given industry. In the former case, firms cooperate to deter new entrants, whereas in the latter case, firms within a specific industry compete with one another.

2.4 Research Background

Amri Asrami et al. (2024) examined the moderating role of competitiveness in the relationship between social and environmental performance and financial performance. Based on the results obtained, they found that social performance and environmental performance are positively associated with financial performance, and that competitiveness plays a negative moderating role in this relationship. Also, the social aspect of firms was identified to be effective compared to the environmental one in the promotion of performance.

Abbasian Hosseini et al. (2023) concluded that to enhance the competitiveness of the steel sector it is important and fundamental that suitable policies, government laws and regulations, industry competitiveness strategy and industry standards should be developed to increase the competitiveness ability of the sector. Mirazizi (2020), by assessing the impacts of financial constraints and macroeconomic environment on the recovery of firm performance following the financial crisis, detected that the financial constraints and the macroeconomic environment have some effects on the recovery of firm performance. Najafgholizadeh Siam et al. (2019) demonstrated that the direct and significant effect of the competition on the cash marginal value is product market competition. Ehsanfar et al. (2018) explored how cash surpluses and deficits affect the market value of the firms and, based on their findings, found out that the level of variance of cash holdings with the optimal cash holdings is positively and significantly correlated with market value.

Aroujloo and Daryaei (2017) provided statistically significant reverse correlation between market competition of the products and the state of cash holdings. They also determined that there is a statistically significant positive association of managerial ownership, non-executive board members, and the amount of cash holdings. Zandi and Tanani (2017) reported a positive opportunity cost of cash and firm performance relationship, and positive relationship between financial flexibility and firm performance. Firoozeh and Aryan (2017) established a strong association between cash reserves, financial crisis and competitiveness in the product market, and showed that, firms that experienced financial crisis have more cash. Fakhari et al. (2017) demonstrated that the higher the degree of competition in the market with products, the more impact on the capital market valuation of cash holdings of firms. Razavi (2017) established that, account receivable collection period, inventory turnover period, cash conversion cycle and operating cash cycle period positively influence the financial performance of the firms.

Lashkari et al. (2015) found no significant relationship between cash surpluses and deficits and stock returns when inflation was taken into account; however, a significant and positive relationship between cash surpluses and deficits and stock returns was observed when inflation was not considered. Talebnia and Mahdavi (2015) reported a significant inverse relationship between firms' trade credit and their level of cash holdings, such that an increase in trade credit was associated with a decrease in cash holdings. Amini Mehr et al. (2014), by examining the impact of Iranian and foreign financial constraints on the financial performance of investment companies, found a significant relationship between financial constraints based on Iranian and foreign models and firm performance. Arabi et al. (2012) showed that liquidity management has a strong positive relationship with return on assets and return on equity for the sampled firms.

Bergiano et al. (2022), in their study, examined corporate environmental complexity, financial weakness, and firm performance. The results showed that firms adopt multiple and simultaneous targeted actions to reduce organizational weakness in order to compete in more complex environments; depending on the type of financial system, complexity may increase financial weakness or alter or reduce incentives for financial weakness. Sheikh et al. (2019) demonstrated that internal managers have a significant impact on the positive relationship between financial weakness and investment intensity in research and development expenditures; moreover, the global financial crisis and financial constraints also affect the relationship between financial weakness and R&D investment intensity.

Imhof and Sevi (2019) showed that managerial commitment to earnings forecasts is negatively associated with information asymmetry; however, managerial commitment to earnings forecasts is positively related to higher market value of cash, excess cash holdings, and operating cash flows. Jin et al. (2018) examined firm performance after the 2008 global financial crisis and found that firms facing strong financial constraints were more capable of recovering from the crisis in the long run than firms with weak financial constraints. Yang and Cheng (2018) found that foreign

government involvement has a significant effect on the marginal value of corporate cash, and that product market risk increases the marginal value of cash.

Terrano et al. (2017) showed that financial conditions affect investment behavior only in firms with negative cash flows. This effect is stronger in larger firms and is more likely to be greater in non-state-owned enterprises. Li et al. (2017), by examining the relationship between earnings, stock returns, and operating cash flows during periods of financial distress, demonstrated that stock returns have a stronger association with operating cash flows when firms are exposed to financial risk. Minschik et al. (2017) found that firms with low earnings quality are more inclined to hold excess cash, possibly in an attempt to mitigate adverse information problems; such firms are also more likely to reduce the marginal value of their cash holdings.

The results of El-Sayed and Wahba (2016) showed that inventory management and organizational performance have a negative relationship during the early growth and maturity stages, and a positive relationship during periods of rapid growth and recovery. Abu Zaid (2015) demonstrated that the cash conversion cycle and its components constitute working capital management skills, that positive profitability occurs under an effective cash conversion cycle, and that profitable firms have less incentive to manage working capital. Cristina et al. (2014), Comparing the impact of liquidity cash on firm value, concluded that the purpose of a firm is to calculate an ideal level of liquidity that will maximize the firm value. Existence of such an optimal level is verified by cross-sectional relationship between cash liquidity and firm value as the deviation of the optimal level of liquidity decreases the firm value.

3. Research Methodology and Hypotheses

Considering the above discussion, it could be argued that the resulting effect of the increase in market competitiveness is likely to influence the final value of the cash holdings of firms and, thus, their performance. In this regard, the research hypotheses are the following:

Hypothesis 1: Financial weakness affects firm performance.

Hypothesis 2: Market competitiveness plays a moderating role in the relationship between financial weakness and firm performance.

The study is applied and ex post facto in terms of time horizon and purpose and both quantitative and qualitative data are used. One of the methods applied to the accounting research is the data collection approach that is descriptive-correlational and is part of the inductive reasoning framework. The data draws on the real numbers and figures gathered in the stock market and the financial statements of the companies listed in Tehran Stock Exchange during 2014-2024, which are collected using the financial statements, explanatory notes, and the software packages of Rahavard and Tadbirpardaz.

The process of purposive sampling was based on a systematic elimination method based on the following criteria: to increase the comparability, the firms used in the study had to have a fiscal year ending in March; besides, firms in the banking, financial, and investment spheres were excluded because of the specific nature of their activities. Moreover, all the financial and non-financial information, which was necessary, and, in particular, notes of the financial statements had to be provided. Considering these limitations, 147 firms were picked as the statistical sample.

Excel software was used in summarizing the data and to perform the inferential analysis and test the research hypotheses by the use of regression models. The EViews software was used to analyze and test the hypotheses. Decisions regarding the various statistics reported in these tests were made by comparing the obtained statistics with their critical values, as well as by comparing the associated probability values with a significance level of 5 percent.

3.1 Statistical Model and Research Variables

Based on the study by Bajarano et al. (2020), Equation (1) is used to test the first research hypothesis, and Equation (2) is used to test the second research hypothesis:

$$\text{Performance}_{it} = \alpha + \beta_1 \text{Slack}_{it} + \beta_2 \text{Sectoral ROA}_{it} + \beta_3 \text{Competitors' size}_{it} + \beta_4 \text{Dynamism}_{it} + \beta_5 \text{Munificence}_{it} + \epsilon_{it} \quad (1)$$

$$\text{Performance}_{it} = \alpha + \beta_1 \text{Slack}_{it} + \beta_2 \text{complexity}_{it} + \beta_3 \text{Slack}_{it} * \text{complexity}_{it} + \beta_4 \text{Sectoral ROA}_{it} + \beta_5 \text{Competitors' size}_{it} + \beta_6 \text{Dynamism}_{it} + \beta_7 \text{Munificence}_{it} + \epsilon_{it} \quad (2)$$

The dependent variable is firm performance, which is measured by return on assets (the ratio of operating profit to total assets). Financial weakness is the independent variable; to calculate it, the current ratio, the ratio of general and administrative expenses and selling expenses to total sales revenue, and the capital-to-debt ratio are first computed for each firm. Subsequently, the average value of this index is calculated for each firm and then subtracted from the industry-level average of financial weakness. The resulting value is finally substituted into the regression model. The moderating variable is corporate environmental complexity, which is calculated based on the Herfindahl–Hirschman Index using Equation (3):

$$\text{Complexity}_{jt} = \frac{1}{100} \left(\sum_{i=1}^N \left(\frac{\text{Sales}_{ijt}}{\sum_{i=1}^N \text{Sales}_{ijt}} \right)^2 \right)^{-1} \quad (3)$$

Financial ratio analysis is one of the tools used to determine the financial condition of firms, as it reveals important facts about a company's operations and financial position. The usefulness of calculating ratios lies in the fact that the relationships among the key items in financial statements become more precise. Financial ratios are also employed to identify financial problems as well as firms' strengths and weaknesses. Naturally, ratios become more meaningful when they are compared with a firm's own historical ratios, with those of similar organizations, or with the required standards of the relevant industry.

In this study, three ratios were used as indicators of competitiveness: the industry sales index, the ratio of fixed assets and equipment to total assets, and the ratio of distribution and selling costs to total sales. Evidently, higher values of the above ratios indicate greater competitiveness in the product market.

The following control variables were also employed in this study:

Industry Return Volatility: Defined as the standard deviation of asset returns at the industry level.

Firm Size: Measured as the natural logarithm of a firm's total sales.

To calculate firm dynamics and development variables, the following regression is first estimated:

$$(4) \quad \text{Sale}_{it} = \alpha + \beta_1 \text{sale}_{it-1} + \epsilon_{it}$$

The standard deviation of the error term of the above equation represents the dynamic index, while the slope of the sales ratio (β_1) in the above equation corresponds to the firm development index.

4. Research Results

The Table 1 provides the descriptive statistics of the three dimensions of central tendency, dispersion, and distribution. The mean firm performance is 0.128. The mean value is equal to the median, which means that this variable is normally distributed, the median performance of the firm is 0.12. The standard deviation of firm performance is 0.113. The skewness coefficient is sharply positive and close to zero, indicating that the distribution is approximately normal and slightly skewed to the right.

Kurtosis refers to the degree of peakedness of a frequency distribution relative to the standard normal distribution. If kurtosis is close to zero, the frequency distribution is balanced and normal in terms of kurtosis. A positive value indicates a more peaked distribution, while a negative value indicates a flatter distribution. In this study, kurtosis is positive for all variables.

Table 1. Descriptive Statistics Indicators of the Research Variables

Variables Indicators	Firm Performance	Financial Weakness	Corporate Environmental Complexity	Corporate Environmental Complexity in the Interaction with Financial Weakness	Industry Return Volatility	Firm Size	Firm Development	Competitiveness
Mean	0/128721	-0/000009	135/8460	2/984422	0/116638	14/25871	0/951673	0/331741
Median	0/120000	-0/080000	0/550000	-0/010000	0/110000	14/12000	0/860000	0/210000
Maximum	0/410000	9/680000	4516/920	360/0600	0/320000	790000 19	4/410000	5/490000
Minimum	-0/320000	-1/770000	0/000000	-470/0800	0/000000	9/690000	0/040000	0/050000
Standard Deviation	0/113811	0/604400	543/1828	40/29781	0/053687	1/579966	0/568216	0/515896
Skewness	0/128864	5/390925	5/532594	0/262987	1/242168	0/488247	2/398601	7/257352
Kurtosis	3/205859	72/58641	37/24587	55/53168	5/046689	3/898741	12/844520	69/31593
Observations	1029	1029	1029	1029	1029	1029	1029	1029

Source: Researcher's Findings

In this study, Pearson's linear correlation coefficient was used to assess the linear independence of the independent variables. The Jarque–Bera statistical test was employed to examine the normality of the research variables. According to Table 2, the significance level of the unit root test for all variables is less than 0.05, indicating that they are of order zero, $I(0)$, and stationary. This implies that the mean and variance of the variables over time, as well as their variance during the study period, are constant, and that the variables are stable.

Table 2. Results of the Levin–Lin Test

Variables	Levin–Lin–Chu Test Statistic	Significance Level	Result
Firm Performance	-12/9156	0/0000	1(0)
Financial Weakness	-13/6423	0/0000	1(0)
Corporate Environmental Complexity	-29/2796	0/0000	1(0)
Corporate	-7/29345	0/0000	1(0)

Environmental Complexity in the Context of Financial Weakness			
Industry Return Volatility	-10/6595	0/0000	1(0)
Firm Size	-9/84575	0/0000	1(0)
Firm Development	-3/25182	0/0006	1(0)

Source: Researcher's Findings

The assumption of heteroskedasticity of the residuals was also examined using the LR test. According to Table 3 and the significance of the model, Hypotheses 1 and 2 were accepted based on the presence of heteroskedasticity. To address the heteroskedasticity problem, the GLS method was used to estimate Models 1 and 2.

Table 3 – LR Test

Row	Type of statistic	Statistic value	Probability
Hypothesis Model 1	F-statistics	65/05998	0/0000
Hypothesis Model 2	F-statistics	57/01208	0/0000

Source: Author's results

To determine the estimation method, the F-Limer and Hausman tests were conducted for the research hypothesis model. Table 4 presents the test results as follows:

Table 4. Results of the F-Limer and Hausman Tests

Row	F-Limer Test	Significance Level	Result	Hausman Test	Significance Level	Result
Hypothesis 1 Model	9/246323	0/0000	Table	89/100621	0/0000	Fixed Effects
Hypothesis 2 Model	9/343171	0/0000	Table	91/493918	0/0000	Fixed Effects

Source: Researcher's Findings

The Limer (F) test indicates that when the test probability is less than 5%, the panel data method should be used to estimate the model. Based on the obtained results, the panel data approach is accepted for estimating both the first and second hypothesis models. According to the Hausman test, the probability of the chi-square statistic is less than 5%, and therefore the fixed effects method is employed to estimate and analyze the models of the first and second hypotheses.

5- Results of Hypothesis Testing

According to the fifth section and the first hypothesis, financial weakness has a significant effect on firm performance, and there is an inverse relationship between financial weakness and firm performance. Moreover, inefficiency in the utilization of idle resources negatively affects firm performance. Insufficient cash holdings (financial weakness) in firms facing financing constraints lead to the loss of future investment opportunities and, consequently, have an adverse impact on firms' future performance and profitability. These results are consistent with the concepts of the pecking order theory of financing, according to which managers may be forced to forgo profitable projects. In such circumstances, the firm experiences lower performance. The findings of Bigarano et al. (2020), El-Sayed Wahba (2016), and Taheri and Bayrami Sangrab (2015) are consistent with the results of the present study.

Table 5 – Summary of the Results for Hypothesis 1

Variables	Coefficients	Standard Error	t-Statistic	Significance Level	Result
Return on Assets	-0/750016	0/081271	-9/228560	0/0000	Negative
Financial Distress	-0/018590	0/002724	-6/824866	0/0000	Negative
Industry Return Volatility	0/173392	0/023916	7/250038	0/0000	Positive
Firm Size	0/067826	0/002221	30/53430	0/0000	Positive
Firm Growth	-0/035902	0/012067	-2/975247	0/0030	Negative
Market Competitiveness	-0/224024	0/235438	-0/951521	0/3416	Positive
Coefficient of Determination (R ²)	0/735189				
Adjusted Coefficient of Determination (Adjusted R ²)	0/689594				
F-statistic	80/94194				
Significance level	0/000000				
Durbin–Watson statistic	2/446879				

Source: Researcher's findings

According to Table 6 and the second hypothesis, financial distress, through its interaction with competitiveness and environmental complexity, has a significant effect on firm performance. Considering the negative coefficient of the financial distress variable in the interaction with firm environmental complexity, an inverse relationship is inferred between financial distress through the interaction of competitiveness and environmental complexity and firm performance. It can therefore be concluded that competitiveness and environmental complexity play a moderating role in the relationship between financial distress and firm performance. In this regard, investigation of operational behaviors of managers relative to the competition level of products market can aid investors to predict the future performance of firms. The market competition of products seems to greatly influence the risk assessment and market value of cash flows of firms. Because the optimal cash management is considered to be a source of financial flexibility among companies in the competitive product markets, the nature of cash allows the corporate management to react quickly to market change, thus preserving valuable investment opportunities among firms, which translates into better performance of the firm and value. The findings of this study are consistent with those of Gustibers et al. (2020), Bentley and Kohei (2020), Conley et al. (2017), and Müller et al. (2018).

Table 6 – Summary of the Results of Hypothesis 2

Variables	Coefficients	Standard Error	t-statistic	Significance Level	Result
Intercept	-8/959744	26/15097	-0/342616	0/7320	Positive
Financial Weakness	-0/017578	0/002789	-6/301488	0/0000	Positive
Firm Environmental Complexity	0/060393	0/192559	0/313636	0/7539	Insignificant
Firm Environmental Complexity in Interaction with Financial Weakness	-8/88E-05	4/29E-05	-2/071778	0/0386	Negative

Industry Return Volatility	0/172830	0/023880	7/237555	0/0000	Positive
Firm Size	0/067781	0/002234	30/34428	0/0000	Positive
Firm Growth	-0/036208	0/011195	-3/234259	0/0013	Negative
Market Competitiveness	-0/205179	0/238346	-0/860845	0/3896	Positive
Coefficient of Determination (R^2)	0/736889				
Adjusted Coefficient of Determination (Adjusted R^2)	0/690882				
F-statistic	81/41426				
Significance level	0/000000				
Durbin–Watson statistic	2/440084				

Source: Author's findings

5-1 Discussion and Conclusion

The emphasis on financial distress and its effects on the performance of firms would contribute to increased knowledge and understanding of investors and scholars in the capital markets domain. In this regard, it is possible to find out other factors that may explain deviations in the performance of firms. The implications of this research can be important to the users of financial information, investors, creditors, managers and auditing firms, to whom the financial implications and outcomes of performing firms relate directly. Much of the research findings of this study is consistent with theoretical backgrounds, helps fill the research gap in this field, and can help managers to make sound decisions in managing the company; institutional shareholders make investment decisions and determine the company policies and procedures.

In its planning, the management of the company should examine and evaluate the financial weakness indicator to allow the company to hold cash reserves to facilitate the attainment of desired liquidity. Through proper and effective planning, the management can also decide the desirable amount of excess cash and minimize the financial weakness index to promote the performance of the firm. Such a strategy helps in drawing investors, maximizing the profitability of the company, avoiding the situation when investors underestimate the shares of the firm, minimizing information asymmetry, lowering the cost of information acquisition by investors, and eliminating cash crunch to invest in profitable projects.

The relationship between the level of competitiveness in the product market and managerial operational behaviors can be studied to aid the investors in evaluating the future performance of firms. The product market competitiveness seems to play a crucial role in the assessment of risk and the evaluation of the cash flows of the firms by the market. Cash management is best in providing a competitive product market with financial flexibility. The cash in a liquid state allows management to react fast to the changes in the market hence saving worthwhile investment in the firm hence resulting in the eventual alteration of the performance and value of the firm.

The environment of the company is also complex and this aspect influences the content of the information and according to the notes, the behavior of the company in reporting its performance. This therefore means that financial weakness is one of the factors that investors should consider when judging corporate performance in addition to other environmental factors. Natural and legal persons who use accounting and financial information in particular and who are willing to invest in the shares of the company are encouraged to thoroughly analyze all financial variables and not to ignore information pertaining to the financial weakness. In order to determine the best investment opportunity, they need to learn the financing structure of the company, monitor resources obtained, the degree of financial weak aspects in various asset sources, compare the

investment cycle and the rate of returns inside the financing source, and lastly, understand the availability of companies in complicated environmental circumstances; this will help to foresee future issues, its development or enhance future performance.

6- References:

1. Asrami, M., & Others. (2024). The moderating role of competitiveness in the relationship between social and environmental performance and financial performance: Empirical studies in financial accounting. *Financial Accounting Experimental Studies*, May 29, 2014.
2. Ebrahimpour Azbari, M., & Shabani Mozhdehi, S. (2017). Studying the effect of market orientation on firm performance through the mediation of innovation contradiction. *Organizational Resource Management Research*, 7(3).
3. Ehsanfar, M. H., Zareh Behnamiri, M. J., & Maleki, L. (2018). The effect of cash surplus and deficit on the market value of listed companies in Tehran Stock Exchange: An approach using generalized method of moments. *Non-Governmental and Non-Profit Higher Education Institutions*.
4. Ahmadi Farsani, F., & Fazelollahi Dehkordi, Z. (2018). Product market competition and working capital management of listed companies in Tehran Stock Exchange. 2nd International Conference on New Developments in Management, Economics, and Accounting, Tehran, Allameh Khoei Higher Education Institute (Iran) – Koosh International Company.
5. Orujlu, R., & Darya, A. A. (2017). The relationship between product market competition and corporate governance with cash holdings. 3rd International Conference on Knowledge-Based Management, Accounting, and Economics, Tehran.
6. Tahriri, A., & Bayrami Sangarab, M. (2015). Studying the relationship between cash flow management and financial performance of listed companies. *International Conference on Management, Economics, and Business Development*.
7. Jahanshad, A., & Shabani, D. (2015). The impact of financing constraints on the relationship between institutional investors and investment cash flow sensitivity. *Accounting and Financial Auditing Research*, 18(5), 39–56.
8. Galki, B., Mansourfar, G. R., & Karami, A. (2018). Studying the effect of managerial capability on financial distress with a focus on financial flexibility. *Financial Accounting Knowledge*, 14(7), 153–180.
9. Heydari, M. (2019). Studying the relationship between corporate social responsibility performance, firm performance, and managerial compensation (Master's thesis). *Accounting Professor*.
10. Razavi, M. (2016). The impact of cash flow management on financial performance of listed companies in Tehran Stock Exchange. 2nd National Conference on New Approaches in Management, Economics, and Accounting, Babol.
11. Zandi, A., & Tanani, M. (2017). The relationship between the opportunity cost of cash, financial flexibility, and firm performance. *Accounting and Financial Auditing Research*, 14(3), 1–22.
12. Talebnia, G., & Mahdavi, M. (2015). Studying the effect of trade credit and financial depth on cash holdings. *Journal of Auditing and Managerial Accounting Knowledge*, 9(2), 41–54.
13. Abbassian Hosseini, S. M., Modiri, M., Fathi, K., & Jafari, S. M. (2013). Designing an investment policy model for competitiveness in the steel industry using a comprehensive structural equation modeling approach. *Financial Economics*, 17(62), 317–340. <https://doi.org/10.30495/fed.2023.700138>

14. Arabi, M., Otayi, D., Bozorgmehrian, S., & Abnar, S. (2012). The impact of liquidity management on return on assets and return on equity of listed companies in Tehran Stock Exchange. Conference on New Topics in Accounting.
15. Fakhri, H., Taghavi, S. R., & Bashiri Joubari, M. (2016). Studying the effect of product market competition intensity on the market valuation of corporate cash holdings. Quarterly Journal of Financial Accounting Knowledge, 1(1).
16. Firoozeh, D., & Arian, E. (2016). The impact of financial crisis and product market competition on cash holdings of listed companies in Tehran Stock Exchange. International Conference on Management and Accounting, Tehran.
17. Lashgari, Z., Ahmadzadeh, Y., & Tahan, M. (2015). The effect of cash surplus and deficit on stock returns under inflationary conditions. Accounting and Financial Auditing Research, 11(7), 71–86.
18. Matoofi, A. R., & Dehghanian, F. (2018). Studying the effect of product market competition on tax compliance of listed companies in Tehran Stock Exchange. Managerial Accounting, 1(3), 107–119.
19. Mirazizi, M. (2019). Studying the effect of financial constraints and macroeconomic environment on corporate performance recovery after the financial crisis (Master's thesis). Azad University, Ashtian.
20. Mirzaei, G. (2019). The effect of technological diversification efficiency on performance due to agency conflicts and the moderating role of environmental factors (Master's thesis). Azad University, Arak.
21. Najafgholi Zadeh, S. S., Shahvali Zadeh, A., & Davood Banahi, D. (2019). Studying the effect of product market competition and agency conflicts on marginal cash value in listed companies of Tehran Stock Exchange. Modiriyat va Mohazbeh Perspective, 12(2), 17–31.
22. Nakhai, K., & Ebrahimzadeh, M. (2018). Studying the relationship between CEO authority, market performance, and financial performance of return on equity for listed companies in Tehran Stock Exchange. 5th International Conference on Management and Accounting Technologies, Tehran, Mehr Eshraq Conference Company.
23. Abuzayed, Bana, (2015). Working capital management and firms' performance in emerging markets: the case of Jordan. The current issue and full text archive of this journal.
24. Cristina Martínez-Sola , Pedro J. García-Teruel ,Pedro Martínez-Solano. (2014). Corporate cash holding and firm value, Applied Economics, 45(2), 161-170.
25. Drobetz, W., Gruninger, M. and Hirschvogl, S. ,(2012), "Information Asymmetry and The Value of Cash. Journal of Banking & Finance, 34,2168-2184
26. Elsayed, kh, Wahba, H, (2016).Reinvestigating the Relationship between Ownership Structure and Inventory Management: a Corporate Governance Perspective, International Journal of production Economics.
27. Hoberg, G., & Phillips, G. (2016). Text-based network industries and endogenous product differentiation. Journal of Political Economy, 124(5), 1423-1465.
28. Imhof Michael J, Scott E.Seavey. (2019). How investors value cash and cash flows when managers commit to providing earnings forecasts, Advances in Accounting, Volume 41, June 2018, 74-87.

29. Jin Y., Luo M, Wan C, Financial constraints, macro-financing environment and post-crisis recovery of firms (2018), *International Review of Economics and Finance*, *International Review of Economics & Finance*, Volume 55, May 2018, Pages 54-67.
30. Lee J., E., Robson Glasscock, Myung Seok Park,(2017), Does the Ability of Operating Cash Flows to Measure Firm Performance Improve during Periods of Financial Distress?, *ACCOUNTING HORIZONS* American Accounting Association, Vol. 31, No. 1 DOI: 10.2308/acch-51594, pp. 23–35.
31. Minshik Shin, Sooeun Kim, Jongho Shin & Jaeik Lee. (2017). Earnings Quality Effect on Corporate Excess Cash Holdings and Their Marginal Value. *Emerging Markets Finance and Trade*, 54(4), 901-920.
32. Reyes, G. E., & Useche, A. J. (2019). Competitiveness, Economic Growth and Human Development in Latin American and Caribbean Countries 2006-2015: A Performance and Correlation Analysis. *Competitiveness Review*, 29(2), 139-159.
33. Shaikh, Ibrahim.Paul O'Brien, Jonathan. Peters, Lois (2019). Inside directors and the underinvestment of financial slack towards R & D intensity in high-technology firms, *Journal of Business Research* 82 (2019) 192–201.
34. Tran, N. H., Tran, N. H., Le, C. D, Le, C. D. (2017). Financial conditions and corporate investment: evidence from Vietnam. *Pacific Accounting Review*, 29(2), 183-203.
35. Wilson, S. (2020). Building apparel manufacturing competitiveness through policy—a system dynamics approach. *Journal of Fashion Marketing and Management: An International Journal*, 24(2), 277–302.
36. Yang, X. B, Zheng, J. G. (2018). The Impact of Predation Risk on the Marginal Value of Cash Holdings: An Empirical Perspective. *Journal of Financial Risk Management* , 6, 150- 162. <https://doi.org/10.4236/jfrm.2018.62012>.