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The Effect of Business Risk Management on the Relationship Between Operational Cash Transparency and Stock Price Crash Risk

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Abstract

Purpose: The purpose of this study is to investigate the impact of business risk management on the relationship between the lack of transparency of operating cash and the risk of falling stock prices.

Method: In this regard, a sample consisting of 131 companies accepted in the Tehran Stock Exchange during the years 2013-2022 was selected with the help of the systematic elimination model, and finally the research hypothesis was tested with the help of multiple linear regression based on panel data.

Findings: The results of the research hypothesis test show that there is a positive and significant relationship between the transparency of operating cash and the risk of falling stock prices. Also, the results showed that business risk management has a moderating role on the relationship between the lack of transparency of operating cash and the risk of falling stock prices.

Conclusion: The present study provides useful evidence for company managers and capital market agents. In other words, by properly managing the risks facing the company and forming a risk committee, it might be possible to reduce the risk of falling stock prices while monitoring the transparency of financial information.

Keywords: stock price fall risk, lack of transparency of financial information, risk management, operating cash.

1. Introduction

Various research has long looked at operational cash and more than that, capital market participants emphasize this factor more because a significant number of analysts and companies make cash flow forecasts with this factor (Defoend and Hong, 2003). Recently, studies show that the amount of operating cash flow increases over time. Given the importance of this Agent For market participants, managers have incentives to manage operational cash flow (Lee, 2012), which in turn increases the degree of blur (opacity), but many previous studies have not considered how opaque this important factor is and have only used this variable rawly. However, examples of managing operating cash flows and falling stock prices can be seen. It can be concluded that there may be a relationship between these two factors, therefore, in order to fully clarify the relationship between these two variables and to help improve the financial literature and eliminate the gap in research, we have investigated the effect of opaque operating cash flow on the risk of a company's specific stock price drop. The opacity of operating cash flows is likely to affect the risk of stock price declines, as this can facilitate the possible management of bad management news, and the divergence of operating cash flow sources, which are considered an important source of company-specific information, will inform market participants of the company's performance, and if this important factor is opaque, it will make it more difficult for market participants to understand the actual performance of the company. And this will cause dissatisfaction for investors and stakeholders; which in turn enables managers to hide bad news. When such unwelcome news is brought together for a long time and suddenly hits the market, stock price crashes occur (Hatton et al., 2009). The sudden disclosure of widespread resource divergence has the potential to cause a significant drop in stock prices. The main purpose of this research is to answer this question of whether the opaque operating cash flow can risk falling stock prices or not?

Major advances in the business environment, such as business globalization and the rapid pace of change in technology, have increased competition and management problems in organizations. In today's business climate, management and employees must be able to cope with the blurred and complex interrelationships between technology, data, tasks, activities, processes, and people. In such complex environments, organizations need managers whom be able to cope with the complexity of the business. Effective risk management based on valid conceptual principles is an important part of this decision-making process (Ghaderi and Tari Verdi, 2020). In addition to identifying risks and determining their quality, risk management systems can predict their impact on the project. Acceptance or rejection of risk usually depends on the project manager's level of tolerance. If risk management is done regularly to identify potential problems and find solutions, they will easily complete other processes such as organizing, planning, budgeting, and controlling costs. A project manager who is a pioneer in this field can greatly prevent the occurrence of unexpected events during the life of the project(Sayadi et al., 2019). Risk management is a process that aims to mitigate the harmful effects of an activity through conscious action to anticipate unintended events and plan to prevent them. In general, risk management can be considered as the process of measuring or evaluating the risk and then designing risk management strategies (Guiding Rivers et al., 1400). Therefore, the purpose of this study is to investigate whether risk managementcan affect the relationship between untransparent operating cash flow and risk of stock price collapse by creating a low-risk environment. In continuation of the structure of the research, first theoretical, empirical and hypotheses of the research and then the research method are presented. In the following we introduce and define the operational variables of the research, then the findings and finally the conclusion of the research are presented.

2. Literature Review and Theoretical Principles

A stock price crash is a phenomenon in which the value of a stock suffers from sudden and sharp drops. Many researchers believe that the fall in stock prices is due to the management of internal information. In situations where information enters the market randomly and the process of disseminating information is systematically done regardless of whether it is good or bad, it can be said that the published information has an asymmetric distribution. In other words, if managers disclose all the information quickly, it will cause stock returns to be asymmetrically distributed. This means that the average volume of positive returns on good news should be equal to the average volume of negative returns in relation to bad news. Business managers try to hide bad news as much as they want to spread good news about the company (Kothari et al., 2009). A certain set of circumstances can double the motivation of managers to hide bad news from the company. Managers are motivated to keep their jobs and achieve maximum rewards to make their financial performance good through the accumulation of bad news from investors for as long as possible (Foroughi & Mirzaei, 2011). Operating liquidity is the cash created as a result of a company's operations, usually obtained by deducting all operating expenses from revenues, but a series of adjustments to net profit. The cash flow statement prepared in accordance with accepted US accounting principles begins with after-tax profits and exceptional items, and then adjustments to the depreciation cost of fixed assets, non-operating income, Sales of fixed assets, changes in working capital, changes in interest payable and tax on income payable and investment income are made, while cash flow statements are initiated with pre-tax profits and unforeseen items and according to standards based on international accounting financial reporting standards with operating profit operating cash flow is the cash flow that the company conducts through the transaction. Establishing its own business activities, operating cash flow can be used to control the quality of corporate dividends. For example, if a company reports profits in its profit or loss statement but its operating cash flow is negative, it may have used bold accounting techniques. Free cash flow is a measure of corporate performance. Providing that the company has the necessary expenses for maintenance by developing assets (Kordestani et al., 2018). Sometimes management takes real earnings management by making operational decisions, or in other words, manipulating real activities to achieve the desired profit. The manipulation of actual activities indirectly affects the future operating performance of the company because the manager tends to sacrifice future cash flows to the current period profit. The manipulation of real activities affects operating cash flows, and It creates unusual cash flows. In studies of cash flow, most authors believe that operating cash flow is less manipulative or manageable than net profit because cash flows reflect the actual flow of cash received and paid by the entity. Hence, cash flow is more reliable than net profit; But recent studies show that managers can manage the flow of operating cash as well as profits (Fakhari and Hassani, 2013). The management of operating cash flows separates operating cash flows into normal and unusual; in other words, abnormal operating cash flows are managed cash flows. Incentives to manage cash flows from operations may be driven by low profit instability and divergence between profits and cash flows from operations (Cheng et al., 2020). Since the accumulation of unpleasant and critical news of the company, the risk of stock price collapse and operating cash flow is one of the important financial components of the company, so the lack of transparency of this factor may lead to shareholders' dissatisfaction and risk of falling stock prices in the future by publishing the news (Cheng et al., 2020). Major developments in the business environment, such as globalization and the high speed of changes in technology, have increased the competition and difficulty of management in organizations. Organizations in the business environment always face risks that are referred to in the theoretical literature as risks that include systematic and unsystematic risk. The sum of

these risks is called the risk of the whole company. In complex environments, organizations need managers who Distinguish these inherent complexities when making important decisions. Effective risk management, which is based on valid conceptual principles, is an important part of this decision-making process (Ghaderi and Tari Verdi, 2020). It can be said that risk management is the process of identifying, evaluating and taking control measures and correcting potential incidental risks that are clearly possible events, damages or non-changes in the status quo (Rostami et al., 1401). An enterprise risk management (ERM) manages risk to provide acceptable assurance for achieving the entity's objectives (Gordon Laures et al., 2009). The goal of any activity in each entity is to achieve the highest level of effectiveness and efficiency which is called performance in the term. To achieve this goal, all efforts must be put in place, one of these solutions, management. Risk is an entity (Sayadi et al., 2019). Risk management is the process of assessing risk and designing strategies for risk recognition. The researchers believe that new risk management creates a broader approach to risk management compared to its traditional aspect. By adopting a systematic approach and in accordance with the management of all the risks facing an organization, risk management is necessary to reduce the overall risk of corporate bankruptcy, increase the performance and ultimately increase the value of the organization. In today's competitive environment, the survival of firms depends on the continuous improvement performance in order to maintain and Increased competitiveness and greater profitability. This is achieved through setting objectives, planning and control, and consequently measuring performance to know the success rate in achieving the predetermined goals (Jalilvand et al., 2019). Based on the points mentioned in the statement of the problem and the theoretical and empirical foundations of research hypothesesare presented as follows:

The first hypothesis of the research is that: there is a significant relationship between transparency of operating cash and risk of stock price crash.

The second hypothesis of the research: Business risk management affects the relationship between the lack of transparency of operating cash and the risk of stock price crash.

In a study titled “producer service level and financial performance: the role of risk management”, Jette et al. (2023) stated that, given the initial and advanced classification of services, analysis shows that only advanced service delivery affects the effectiveness of risk management. In particular, the provision of advanced services reinforces the proactive dimension of risk management. Surprisingly, the analysis reveals the negative impact of proactive risk management on financial performance. However, proactive risk management indirectly enhances financial performance by supporting reactive risk management. Aprilia and Tobing (2022) in a study focusing on the impact of risk management on managerial ownership, financial leverage and firm value, stated that leverage has a negative and significant effect on the value of the companies while risk management has a positive and significant effect on the value of the companies. Risk management does not have a moderating role over the relationship between managerial ownership and company value and the relationship of financial leverage to the value of the company. Cheng et al (2020) in a study titled “transparency of operating cash flows and stock price crash risk”, stated that opacity of operating cash flows can lead to the risk of stock price collapse, and accruals management can have a significant effect on the risk of stock price drops. Hay and Ron (2018) examined the relationship between financing constraints and risk of stock price crashes in the form that increased limits on financing lead to increased risk of stock price crashes. Chen et al. (2017) examined the relationship between smoothing and risk of stock price crashes. The results showed that high levels of profit smoothing are associated with the risk of stock price crashes and such associations are more severe for companies with fewer analysts and smaller institutional shareholders as well as positive discretionary accruals. They also showed that the

smoothing of profit with significant negative returns during the three months after the profit announcement. Hutton et al (2009) examined the link between the lack of transparency of financial reporting and the risk of stock crashes. Using earnings management as a measure of lack of financial transparency, they concluded that the lack of transparency of financial information was associated with less disclosure. In addition, companies with opaque financial statements are more at risk of falling stocks. Shirbandi et al. (2023), in a study titled "the impact of cash flow riskmanagement on financial stability", stated that liquidity management is one of the biggest challenges faced by exchange companies. The main reason for this challenge is that most resources are financed from short-term deposits. In addition, the grant facilities are spent on investing in assets that have a degree of liquidity. They are relatively low. Holding insufficient amounts of liquidity puts companies at risk of failure to fulfill obligations and consequently bankruptcy. Findings of the study showed that risk management of cash flows derived from operating activities, investment activities and financing activities has a positive and significant effect on financial stability. The results also showed that cash flow risk management has a positive and significant effect on financial stability. Rostami et al. (2022), in a study titled "the impact of risk management on the pace of adjustment of financial leverage in the life cycle stages of companies", stated that the speed of adjustment of financial leverage indicates that companies are moving towards the optimal capital structure. The results showed that risk management has a direct effect on the speed of adjustment of financial leverage. Also, risk management in the growth period of companies with an increasing coefficient of direct effect on the speed of adjustment of financial leverage However, in the period of maturity, risk management does not affect the speed of adjustment of leverage. Also, risk management in the period of decline of companies with a decreasing and negative coefficient has a negative effect on the speed of adjustment of financial leverage; therefore, according to the results, in general, companies by managing the risks facing the company are able to move faster towards optimal financial leverage and this effect decreases in the transition stages of the life cycle of companies. Azadi et al. (2021) In a study titled "The Effect of Readability of Financial Statements on the Risk of Stock Price Crash and Shareholder Behavior", it states that there is a significant relationship between the readability of financial reports and risk of stock price crash as well as the behavior of shareholders, but the results of the third hypothesis test showed that legibility has no significant effect on the relationship between stock price fluctuation risk and shareholder behavior. Fakhari and Nasiri (2020) in a study titled "the impact of company performance on the risk of future stock price crash" in their research results showed that there is a negative and significant relationship between corporate performance indicators (Tobin Q index, rate of returns, market to book ratio and profit per share) and risk of stock price crash. Mehravar & Kargar (2019) in a topic titled "the moderating role of financial reporting quality on the relationship between political communication and the risk of future stock price drop", stated that companies involved in political relations experience less periods of stock price drop due to relations with the government, while the quality of financial reporting can improve the relationship between political relations and risk of stock price crashes. In this way, with improving the quality of financial reporting will certainly reduce the amount of hidden bad news and political relations and reduce the risk of collapse. Khalifeh Soltani et al. (2018) In a study titled "the effect of political communication on the risk of stock price crash under information asymmetry", they concluded that political communication has a positive and significant effect on the risk of stock price crash. This means that managers provide the company situation through storing bad news and not publishing it, and this behavior of managers leads to stock price crash in the long run.

3. Research Methodology, Model and Variables, Population and Sample:

The present study is an applied research and from the methodological point of view, it is a causal correlation. The statistical population is all the companies listed in Tehran Stock Exchange and the research period is between 2013 and 2022. Companies listed in Tehran Stock Exchange that meet the following criteria are selected as sample: For comparability of the data, the end of the financial year of the companies should be the end of Esfand (final month based of Iranian calender). During the period (10 years) the financial period has not changed. Information about the variables selected in this study is available. They are not banks, insurance or investment firms. In this study, systematic deletion method was used to reach the sample, and 131 companies were selected as the sample of the study. Data analysis was done using mixed data method and panel data approach using Eviews 12 software. Because statistical tests are resistant to variance and serial autocorrelation predictions, and in order to eliminate these two statistical assumptions, in the first model test, according to the latest researches, strong standard expression and GLS command in Eviews 12 software have been used.

Regression model

Model (1)

$$NCSKEW_{it} = \beta_0 + \beta_1 OCFOPQ_{it-1} + \beta_2 ERM_{it-1} + \beta_3 (OCFOPQ_{it-1} \times ERM_{it-1}) + \beta_4 SIZE_{it-1} + \beta_5 ROA_{it-1} + \beta_6 MB_{it-1} + \beta_7 LEV_{it-1} + \beta_{10} RET_{it-1} + \varepsilon_{it}$$

Operational Definitions of Research Variables

Independent Variable: Lack of transparency of operating cash ($OCFOPQ_{i\ t-1}$). To measure the degree of intransparency of operating cash flows, according to Dycho (1998) and Li (2012) model and Cheng et al. (2020) model that measures abnormal operating cash flow, the remaining absolute value of the model indicates the opacity or lack of transparency of operating cash flow. The larger this number is, there is less transparency. This model measures the degree of lack of transparency in a year, and in order to specify a specific procedure in operating cash management that reflects continuous management of operating cash flows, the total absolute value of the remaining model (3) has been used over the past three years (Cheng et al., 2020).

Model (3)

$OCFt / TAt\text{-}1 = \lambda_0 + \lambda_1 (1/TAt\text{-}1) + \lambda_2 (SALEt/TAt\text{-}1) + \lambda_3 (\Delta SALEt/TAt\text{-}1) + \varepsilon_{it}$

The introduction of model components No. (3) is presented in Table (1).

Table 1: Introducing the Model of Measurement of Operational Cash Transparency

Symbol	Description
OCF	Operating cash flow is period t
TA	The total asset is the T-1 period
SALE	Sales are in period t
Δ SALEt	Changes in sales are during the period t . (Sale period – Sold out before)

The lack of transparency of operating cash flows is therefore equal to the model (4):

Model (4)

$OCFOPQ_{i,t} = Abs(OCFOPQ_{i,t-1}) + Abs(OCFOPQ_{i,t-2}) + Abs(OCFOPQ_{i,t-3})$

Dependent Variable: Stock Price Crash Risk

To measure the risk of future drop in stock prices similar to Cheng et al. (2020), the negative coefficient of skew (NCSKEW) is used.

To measure this criterion, the negative coefficient model of skewness of Chen et al. (2001) and Cheng (2020) is used as follows. The higher the negative coefficient of skewness, the more the company is at risk of falling stock prices.

$NCSKEWi,t=-[n(n-1)^{3/2}(wj,t3]/(n-1)(n-2)((wj,t2)^{3/2})$

NCSKEW: Negative Skew Specific Monthly Returns of the Company i per month t during the fiscal year
Wi,t: The company's specific month returns i in week t.
N: The number of months whose returns are calculated.

Modification Variable: Risk Management (ERM)

To measure risk management in accordance with Ghaderi and Tari Verdi (2020) and Rostami et al. (2022), the Gordon et al. model (2009) was used. These factors are identified based on their ability to achieve the goals set by the companies and are as follows:

$ERMIi,t = \beta 0 + \beta 1EUit + \beta_{2CIit} + \beta 3FSit + \beta_{4FCit} + \beta 5MBDit + \varepsilon_{it}$

In the above model, ERMI (Risk Management Indicators), EU (Environmental Uncertainty), CI (Industry Competitiveness), FS (Company Size), FC (Company Complexity) and MBD (Board Oversight). In the above model, Ɛ is a component of the model error, which indicates deviation from the best model proposed by Gordon et al. (2009), so that the lower the error component of the model indicates the high risk management of the company, and on the contrary. For this reason, the error of the absolute value model is multiplied by negative number and defined as risk management.

Risk Management Indicators (ERMI)

In 2004, the Committee to Protect Organizations at the Treaddo Commission known as COSO used the following four indicators for organizational risk management, internal control to improve organizational performance and better governance and reduce the rate of fraud in organizations.

$$ERM_I = \sum_{k=1}^{2} Strategy + \sum_{k=1}^{2} Operation + \sum_{k=1}^{2} reporting + \sum_{k=1}^{2} Compliance$$

Strategy (Strategy)

Refers to the strategies adopted by companies in order to stay competitive in the market. In this case, the company tries to maintain its competitive status over other companies in this field. To measure the strategy of competition, two relations can be used *which are calculated as follows:*

$$Strategy_1 = \frac{Sales_{it} - \mu Sales}{\sigma Sales}$$

In the above model, sales (sales of the company), (the average sales of the industry) and (the sales criteria of companies in the industry).μSalesσSales

$$\text{Strategy}_2 = \frac{\Delta\beta - \mu\Delta\beta}{\sigma\Delta\beta}$$

In the above model, Δβ (the company's beta in the year t-minus the beta of the company in the year t-1), (the average industry beta)μΔβ and σΔβ (standard deviation of the total companies in the industry).Δβ

Efficiency (Operation)

Productivity is measured as the relationship between the company's inputs and outputs in the company's operations process. Any size of the company's outputs at a certain level of inputs will indicate better performance of the company. To measure productivity the following two relationships can be used:

$$Operation_1 = \frac{Sales}{Total\ Assets}$$

In the above model, sales is the sum of the company's assets.Total Assets

$$Operation_2 = \frac{Sales}{Number\ of\ Employees}$$

In the above model, sales is (number of company personnel).Number of Employees

Managing Reporting Risks

Following Gordon et al. (2009), reporting refers to the degree of trust in company reporting, because proper reporting ensures the survival and success of the organization. To measure this factor, Jones Modified Model is used to measure the full value of optional and non-optional accruals. The reason for using both accruals (optional and non-optional) is because both items can be negative, so their relative strength is more dependable.

$$Reporting1 = \frac{\text{Absolute value of discretionary accruals}}{\text{Absolute value of non} - \text{discretionary accrual items} + \text{Absolute value of discretionary accruals}}$$

In this model, first the total accruals are calculated (net profit minus operating cash) and after calculating the total accruals, the parameters α1, α2 and α3 in order to determine the total of non-optional accruals are continued through the following model:

TAi,t /Ai,t-1 = α1(1/Ai,t-1)+α2(ΔREVi,t - ΔRECi,t) /Ai,t-1 +α3(PPEi,t/Ai,t-1)+εi,t

In the above model, TA (total accruals), ΔREVi, t (change in current period sales revenue relative to the previous period), ΔRECi, t (change in accounts receivable from the previous period), PPEi, t (gross property, plant and equipment), Ai, t-1 (the book-value of assets of the previous period) and εi,t (uncertain effects of the company's random factors). After calculating the parameters α1, α2 and α3 Through the least squares method, non-optional accruals (NDAs) are determined as follows:

NDAi,t = α1(1/Ai,t-1)+α2(ΔREVi,t - ΔRECi,t) /Ai,t-1 +α3(PPEi,t/Ai,t-1)+εi,t

And finally, the optional accruals (DAs) are calculated after determining the NDA as follows:

DAi,t = (DAi,t /Ai,t-1) - NDAi,t

Reporting2= (Material Weakness) + (Auditor Opinion) + (Restatment)

In the above model, Material Weakness (equal to the number of clauses stated in the independent auditor's report), Auditor Opinion (if the sensitive report is acceptable, the number will be 1 and otherwise zero), and Restatement (re-presentation of financial statements (in case of renewal the number would be 1 and otherwise zero).

Compliance (compliance)

Increased compliance with laws and regulations reduces risk and increases the value of the company. Compliance with accepted audit standards will require the cost of the audit. According to the research (Gordon et al. 2009), two relationships can be used to measure the variable of conformity (the audit costs are extracted from the company's profit statement):

$$\text{Compliance1} = \frac{\text{Audit fees}}{\text{Total Assets}}$$

$$\text{Compliance2} = \frac{\text{Net profit (loss).}}{\text{Total Assets}}$$

Environmental Uncertainty Factor (EU)

Environmental uncertainty can be seen as an increase in future unpredictable events. This uncertainty can cause a lot of problems for organizations. In fact, financial reporting and performance measurement are more complicated in companies with variable and volatile business operations (Ghaderi and Tari Verdi,

2020). The purpose of risk management as a subset of management control system is to identify and manage future uncertain events in companies. Therefore, environmental uncertainty can be a factor in risk management (Gordon et al., 2009).

Three parameters are used to measure this factor:
a) The coefficient of change in sales ((Sit)CN), (b) the coefficient of changes in capital expenditure, and (c) is the coefficient of changes in the net profit before tax ((Iit)CV), and the IIT is the company's pre-tax net profit in year t . *Using the above three parameters, environmental uncertainty is obtained as follows:*

$$EU = Log\ (\sum_{k=1}^{3} CV(X_k))$$

$$CV(X_k) = \frac{\sqrt{\frac{\sum_{t=1}^{11}(Z_{k,t} - \bar{Z}_k)}{n}}}{|\bar{Z}_k|}$$

In the above relationship**,** CV(Xk) (coefficient of changes in uncertainty), t (years of research), Xkt (uncertainty k per year t) and Zk (average uncertainty change k over n years).
3, 2 and 1 = K for uncertainty

1) Factor of sales change
2) Coefficient of changes in capital expenditure
3) Coefficient of changes in net profit before tax.

To calculate the cost of capital, the weighted average cost of capital will be used.

$$WACC = \left(\left(\frac{E_M}{E_M + D_M}\right)K_S + \left(\frac{D_M}{E_M + D_M}\right)K_D\right)$$

In the above model, DM (equal to total book value of liabilities), EM (market value of equity), KD (cost rate of debt after tax) is considered the minimum expected interest rate of facility in partnership contracts published by the central bank in the time domain of research. KS (Shareholder Fee Rate) is used to calculate the expected cost rate of common stock from the Gordon model, whose formula is as follows:

$$K_S = \frac{D_0(1+g)}{P_0} + g$$

In the above model, D_0 (equal to cash profit per share in the current period), P_0 (share price at the beginning of the year) and g (rate of dividend growth).

Industry Competitiveness (CI): Industry competitiveness measures the concentration of the industry, which means high competitiveness. Due to fierce competition between competing firms, each company tries to adopt a suitable strategy to outperform other competitors, so there is always a risk of unsustainable profitability for the companies (Gordon et al., 2009).

$$CI = 1 - \sum_{i=1}^{n}\left(\frac{S_{it}}{TotalS_{st}}\right)^2$$

In the above model are CI (market share), S_{it} (sales per company in year t) and S_{st} (industry sales in year t).

Company Size (FS): The relationship between company size and organizational structure has been considered in the organizational theory literature. To measure this factor, the natural logarithm of total assets is used.

Corporate complexity (FC): The complexity of the company reduces the integrity of information and further problems in the internal control system, so to reduce complexity requires strong organizational risk management (Gordon et al., 2009). Cost complexity is defined as the breadth of covering costs with revenues. In organizations with less cost complexity, the cost moves proportionately as profits. It is easily determined by projected changes in revenues. If the cost doesn't change proportionally to the income, then understanding the things that lead to earnings forecasts won't help forecast profits. As a result, performance prediction is likely to be affected by cost complexity if other items are not changed; therefore, cost complexity is measured through the relationship between earnings and earnings before interest and tax (Ghaderi and Tari Verdi, 2020).

FC =-1* CORREL(revenues & earnings)

Board Supervision (MBD**):** The variable of board supervision is calculated and measured by dividing the number of board members by the logarithm of sales.

Control variables of research

ROAit-1 :To calculate this variable, net profit is divided by total assets .

SIZE $_{it-1}$:To calculate this variable, the natural logarithm of the sum of assets is used.

LEV $_{it-1}$: To calculate this variable, the sum of the total liabilities divided by the sum of the total assets.

MB $_{it-1}$: To calculate this variable, the division of the market value of capital by the book value of capital is used at the end of the fiscal year.

RET $_{it-1:}$ (stock price - previous period of stock price + dividend)/ (previous period stock price).

4. Findings:

Table 2 shows descriptive statistics of quantitative variables. The main central index is mean, which represents the equilibrium point and center of gravity of the distribution and is a good indicator to indicate the centrality of the data. For example, the mean value for the financial leverage variable of the sample companies is (0.57), which shows that most of the data is centered around this point. In general, scattering parameters are a criterion for determining the amount of dispersion from Together, or in the same way, they are dissimilar to each other. One of the most important parameters of dispersion is standard deviation. The value of this parameter for growth opportunity (market to book value) is (2.32) and the return on assets is (0.14), indicating that these two variables have the highest and lowest standard deviations respectively. The minimum and maximum also show the lowest and the highest in each variable. For example, the largest amount of leverage is (1.13).

According to the results obtained in Table 3, it is observed that the significant level of variables in the stability test was less than 5% and indicates the stability of the variables.

According to the results obtained in Fig. 4, it is observed that the F-Limer test with a significant level of 5% (0.95) confirmed the pattern with common effects (integrative). Variance heterogeneity test with a significance level higher than 5% indicates the absence of variance in the components of the research model. Meanwhile, serial autocorrelation test with a significance level below 5% indicates the existence of serial autocorrelation between the remaining components of the model. In the final estimation by using the tools of standard error of Eviews software this problem resolved (Aflatooni, 2018).

Test results of research hypotheses

The results of Table 8 show that the variable of transparent operating cash with a positive coefficient (0.76) and a significance level of less than 5% (0.000) has a significant correlation with the risk of falling stock prices because in statistical relationships in regression, if the significance level of the test is below the standard value of 5%, the relationship is confirmed. Regression coefficient is a positive number in the statistical test and there is a direct and significant relationship between independent and dependent variables of the research. In fact, as the lack of transparency of operating liquidity increases, the risk of falling stock prices increases, and vice versa. Also, the interactive coefficient of transparency of operational cash and risk management with a positive coefficient (0.94) and a significance level below 5% (0.0000) affect the relationship between transparency of operational cash and risk of stock price crash. The coefficient of determination is equal to 25%, which indicates that the independent and control variables in the model have been able to explain 25% of the variation in dependent variables. The test statistic is equal to 22.39 and its significance level is less than 5%, so it can be said that the fitted model has sufficient validity. Durbin-Watson's test value is also 1.87, which indicates that there is no serial autocorrelation between variables.

5. Conclusion and suggestions:

The main purpose of this research is to investigate the relationship between operating cash and risk of stock price crash**.** The important and special purpose of financial reporting is to provide a wide range of users with transparent and timely information about the financial performance of the entity. Many investors believe that investors place more value on companies that have fixed profits and do not want to lose their shares in this situation. To gain the trust of such investors, the company prefers to hide the unpleasant news of the company. Managing and manipulating the accounts lead to bankruptcy and a decline in the value of the company's shares in the future. Cash flow is very important for evaluating the performance of a company. In accounting standards, it is recommended to pay special attention to this factor, because it can be used to identify the amount of accruals allowed and estimated by the managers. In this research, the studied population of the listed companies in Tehran Stock Exchange from 2014 to 2019. In fact, all companies accepted in the stock exchange were selected as the population and then 131 eligible companies were considered as the sample by applying conditions and restrictions. The lack of transparency of operating liquidity shows a direct and significant relationship with the risk of falling stock prices, and in fact, it can be argued that as the operating cash flow moves toward lack of transparency, in the same direction the risk of future stock price drop will increase because this lack of transparency will be kept to a certain point of secrecy. And when this information is communicated to the market, the company will certainly not respond to the investors and sentiments of the group, and the stock price will fall suddenly. Also, business risk management by reducing risks and planning principles can affect this relationship. The results of the research hypothesis test are in accordance with the research of Fakhari and Hassani (2013) and Cheng et al. (2020), which found that lack of profit transparency and operating cash flows have a significant and positive effect on the risk of falling stock prices of companies. Also the results are in accordance with the research of Cheng et al. (2012), Hutton et al. (2009) and Foroughi et al. (2011) whom found that lack of profit transparency and financial reporting has a positive and significant relationship with the risk of future stock price decline.

References

Azadi, Keyhan; Azizmohammadlou, H.; Tesadi Kari, M.J.; Khezmatgozar, H. (2021) The effect of financial statements on stock price crash risk and shareholder behavior. Knowledge of Financial Accounting Spring 1400 - Issue 39. pp. 122-144.

Khalifeh Soltani, S.A.; Rahnama, M., Koyasi, F., (2018) The Effect of Political Communication on the Risk of Stock Price Crash under Information Asymmetry Conditions of Audit Knowledge Journal, Vol. 9, No. 4, pp. 11-128. (in Persian).

Rostami, Vahab, Mehravar, M., Kargar, H. (2022) The Effect of Risk Management on the Pace of Adjustment of Financial Leverage in the Life Cycle Stages of Companies, Accounting Advances, Shiraz University, Vol. 14, No. (1), pp. 59-88. (in Persian).

Shirbandi, H.; Khaloti, Shakour; Farmani, A.(2023) The Effect of Cash Flow RiskManagement on Financial Stability. Research in Accounting and Economic Sciences, Vol. (7), No. (1), pp. 91-104.

Fakhari, H.; Hassani, M. (2013) The relationship between operating cash flows, lack of profit transparency and risk of stock price crash. Journal of Applied Research in Financial Reporting, Successive 2. pp. 63.88.

Fakhari, H.; Mohammadi, J.; Hassan Tavajal-kordi, Mohsen (2017) The Effect of Abnormal Operating Cash Flows on Earnings Sustainability in Listed Companies in Tehran Stock Exchange. Journal of Economics and Business. Vol. 8, No. 16, pp. 69-78.

Fakhari, H.; Nasiri, M. (2020) The Impact of Company Performance on the Risk of Future Stock Price

Crash. Journal of Financial Management Strategy, Vol. 8, No. 30. pp. 43-62.

Foroughi, D., Amiri, H., Mirzaei, M., (2011) The effect of untransparent financial information on the risk of future stock price crash in companies accepted in the stock exchange. Journal of Financial Accounting Research, 3rd Year, No. 4.

Kamyabi, Y., Shahsavari, M., Salmani, R. (2016) The Effect of Accrual Earnings Management on the Relationship between Real Earnings Management and Capital Expenditure. Accounting and Audit Studies, Tehran University of Management, Vol. 22, No. 1, pp. 19-38

Kordestani, Gholamreza, Rezazadeh, Javad, Mohammadi, Vahid (2018) Investigating the Temporal and Economic Factors Affecting the Relationship between Accruals and Operating Cash Flow. Journal of Empirical Accounting Studies. Volume 15, Issue 60. pp. 33-59.

Shame, Beauty, Goodness , Goodness. (2016) The Relationship between Real Profit Management and Accrual Earnings Management in Firms Suspected of Fraud in Tehran Stock Exchange. Journal of Empirical Studies of Financial Accounting Vol. 12, No. 49, pp. 29-52. (in Persian).

Mehravar, M.; Kargar, H. (2019) The moderating role of financial reporting quality on the relationship between political communication and risk of future stock price decline. 17th Iranian National Accounting Congress. Qom.

Chen, Ch. Kim. J.B. and Yao, L. (2017). “Earnings Smoothing: Does it 13.Exacerbate or Constrain Stock Price Crash Risk?” Journal of Corporate Finance, 42 (C): 36-54

Chen, J. Chan, kam. Dong, Wang. & Zhang, F, (2017), "Internal Control and Stock Price Crash Risk: Evidence from China", European Accounting Review,26 (1), PP. 125-152.

DeFond, M. Hung, M. 2003. An empirical analysis of analysts’ cash flow forecasts. J. Accounting Econ. 356(1), 95-101.

He, G. Ren, H. (2017). Financial constraints and future stock price crashrisk. The Review of Financial Studies, 16: 487- 525.

Hutton, A.P. Marcus, A. J. & Tehranian, H. (2009). Opaque financial reports, R2, and crash risk. Journal of Financial Economics, 94, 67-86.

Kothari, S. P. Shu, S. & Wysocki, P. D. (2009). Do managers withhold bad news? Journal of Accounting Research, 47, 241-27.

Lee, L.F. 2012. Incentives to inflate reported cash from operations using classification and timing. AccountingRev.87(1),1–33.

C. S. Agnes Cheng, S. Li and (2020) Operating cash flow opacity and stock price crash risk, J. Account. Public Policy,https://doi.org/10.1016/j.jaccpubpol.2020.106717

Jat, M.N., Jajja, M.S.S., Shah, S.A.A. and Farooq, S. (2023), "Manufacturer's servitization level and financial performance: the role of risk management", Journal of Manufacturing Technology Management, Vol. 34 No. 1, pp. 122-146. https://doi.org/10.1108/JMTM-12-2021-0503.