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How Do Financial Distress Risk and Related Party Transactions Affect Financial Reporting Quality? Empirical Evidence from Iran

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Abstract: The paper aims to investigate the effects of financial distress risk (FDR) and related party transactions (RPT) on financial reporting quality (FRQ) in an emerging market called Iran. In this study, the ordinary least squares regression (OLS) method is employed to test the hypotheses; moreover, Jones' discretionary accruals model is used to assess the financial reporting quality (FRQ). The results show financially distressed companies have a lower financial reporting quality because they try to mislead other stakeholders about the corporate actual performance to attract more investors and lenders. Consistent with the "tunneling" or "conflict of interests transaction" assumption, our findings confirm there is a positive association between related party transactions through loan and accrual-based profit management. In other words, Iranian managers participate in loan-related party transactions to expropriate their firm's resources and then manipulate financial statements to mask such expropriation. Finally, additional analysis indicates that financial reporting quality is seen well among firms having higher sale growth and more institutional owners, whereas the variables of ROA and financial leverage negatively affect financial information quality.

Keywords: financial distress risk; related party transactions; financial reporting quality; bankruptcy; Tehran Stock Exchange

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1. Introduction

Today, financial reporting quality has attracted the attention of many researchers around the world because the efficiency of many economic decisions of different groups in the market depends on it (Assad and Alshurideh 2020). High-quality financial information has always been one of the main columns of financial markets because resources are allocated efficiently through the correct dissemination of information (Qawqzeh et al. 2020). The quality of financial statements can not only be useful for the transfer of information among different groups in the market but also can be an effective tool for evaluating the financial performance of companies and analyzing management decisions (Jerry and Saidu 2018). Some studies show that quality not only affects financial results but that the financial security of enterprises also reduces the risk of bankruptcy (Zimon and Zimon 2020; Fonseca and Domingues 2018). In order to effectively make decisions that reduce the financial risk, financial statements must be of high quality. Incorrect and insufficiently detailed information resulting from financial statements increases financial risk, especially in SMEs (Zimon

and Chlodnicka 2019). Thus, when the true financial performance of firms is not disclosed and financial information is manipulated by management, many groups such as employees, investors, creditors, analysts, and ultimately the entire economy of a country may be seriously damaged (Pergola and Verreault 2009; Gotti 2016; Callao et al. 2007). In any economy, the quality of financial reporting can go a long way in helping to assess a company's profitability and past performance. The reported net profit has often been the main concern of key players in the capital market such as managers, investors, creditors, shareholders, and so on to evaluate the performance of companies. It will always be possible for the reported profit to be manipulated in the financial statements as it can be affected by the use of accounting approaches and estimates as a result of applying the accrual basis (Qawqzeh et al. 2020). According to agency theory, the existence of the conflict of interest between directors and stockholders owing to the separation of ownership from management creates big motivation for misrepresenting corporate performance (Salehi et al. 2019a; d'Udekem 2021; Zimon et al. 2021). To cover the poor financial performance, sometimes company executives may embrace accounting methods that increase their revenue (Campello et al. 2010; Habib et al. 2013; Zimon et al. 2021). To report the company's profits to the ideal level, executives often cleverly utilize the potential of generally accepted accounting principles (GAAP) (Salehi et al. 2020; Zimon et al. 2021). Since financial statements can be an effective tool for evaluating corporate performance and managerial competence, directors probably take part in earnings manipulation inside the regulative outline to pretend that they are moral executives (Hassan and Ahmed 2012; Zimon et al. 2021). Financial reporting quality may be reduced strikingly when managers use the flexibility existing in the generally accepted accounting principles (GAAP) and International Financial Reporting Standards (IFRS) to compute the earnings (Qawqzeh et al. 2020).

According to the existing research literature, aggressive accounting approaches are often seen when managers have great incentives to manipulate profits (Zimon et al. 2021). Irrefutable evidence shows that taking full advantage of managerial compensations, job anxiety, fame rise, diminishing the tax pressure, influencing labor negotiations, reducing agency costs, increasing regulatory advantage, etc. are the most important motivations for managers to carry out profit management activities (Fan et al. 2010; Hassan and Ahmed 2012; Rodriguez-Ariza et al. 2016; Ajina and Habib 2017; Zimon et al. 2021). In addition, some authors believe that managers face significant personal costs if their businesses are financially distressed and threatened with bankruptcy (Singhal and Zhu 2013; Thorburn 2000). Therefore, managers have a strong incentive to reduce the likelihood of bankruptcy in their companies because it is very profitable for them. This allows them to gain a better position in the market (Aggarwal and Samwick 2003). Perhaps one of the lesser-known issues is how managers behave under severe financial pressures toward financial reporting. Certain economic situations can put managers under extreme pressure; particularly if companies are exposed to bankruptcy, disastrous financial pressures can severely affect management decision-making processes related to financial reporting (Iatridis and Kadorinis 2009; Li et al. 2020; Tarighi et al. 2022a). In such cases, distressed companies are expected to be responsive to financial problems by taking amendatory actions to recuperate from the status quo (Sudarsanam and Lai 2001; Li et al. 2020). However, considerable research has shown that when companies are under extreme pressure and have a lot of financial problems, managers have powerful motivations for distorting profits to attain certain objectives and subsequently misinform stakeholders about their original financial performance (Graham et al. 2005; Campa 2015; Zang 2012; Li et al. 2020; Zimon et al. 2021). Since managers of Iranian companies have been under the most intense pressures in recent years, and the characteristics of the Iranian market are quite different from developed countries, we have focused on the Iranian market in this study.

As for Iran's market, it can be stressed that it has encountered the worst economic sanctions over the past decade, causing many of its companies to struggle with catastrophic financial troubles (Tarighi et al. 2019; Salehi et al. 2020; Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022b). In the awful economic conditions of the Iranian market, since the

supply of raw materials for companies is very expensive, there is an increase in the cost of products. In addition, in an inflationary economy like Iran, where prices are going up gradually, people's buying potency will drop over time; therefore, there will be a substantial decline in the request for manufactured goods in Iran's market. As inflation increases, people's purchasing power, public welfare, and corporate sales decline, which, in turn, leads to more problems for companies in financing (Moradi et al. 2021). Due to financiers and investors simply not being able to trust such firms with a high risk of downfall (Moradi et al. 2020; Tarighi et al. 2022b), managers of these companies are expected to paint a brighter and more attractive picture of their financial performance to have a positive impact on investors' mentality, and to attract sufficient financial resources (Tarighi et al. 2020; Moradi et al. 2021; Zimon et al. 2021). Furthermore, because management performance is evaluated based on corporate profitability in the Iranian market, executives are keen on distorting profits as much as possible to obtain more compensation and not lose their careers (Salehi et al. 2018; Zimon et al. 2021; Tarighi et al. 2022b). Likewise, the desirability of monitoring internal control systems in an emerging market like Iran is not comparable to advanced markets (Zimon et al. 2021). In the absence of effective supervision by shareholders, high-level managers are allowed to make the most of the weaknesses of such systems and to take steps to portray better the company's financial picture and receive more appropriate rewards (Salehi et al. 2019b). Lower-quality financial information seems to be seen among Iranian firms that have fundamental weaknesses in their internal control system (Lashgari and Gawradar 2015). Accordingly, opportunistic managerial behaviors when preparing financial reports can occur if the internal control system is not efficient enough (Ravenstein 2012; Zimon et al. 2021). According to the points made about the Iranian market, problems related to corporate financing, corporate management assessment based on profitability, weaknesses in the internal control system, and severe financial pressures from economic sanctions have all doubled the incentives for managers to manipulate financial statements. Therefore, the first purpose of this study is to examine if there is a significant relationship between financial distress and financial reporting quality. On the one hand, earnings distortion through accrual items does not need any cash resources, which is suitable for bankrupt companies in this regard. On the other hand, since accrual earnings management typically happens at the end of a fiscal year, it has become more effortlessly identifiable by supervisory bodies and auditors (Graham et al. 2005; Li et al. 2020). As a result, this study aims to examine if Iranian financial distressed firms are willing to take the risk that their financial misreporting may be detected by external auditors, which will ultimately lead to more investors and lenders distrusting them.

Related party transactions (RPT) have had the main role in recent high-profile accounting scandals. RPTs have been recognized as one of the biggest causes of the collapse of many companies such as Enron, WorldCom, Subprime Mortgage, and Adelphia in the US market, Parmalat and Cirio in Italy, and the Bank of Credit and Commerce International in the UK (Kumari and Pattanayak 2017; Marchini et al. 2018; Zimon et al. 2021). Building on the "propping" or "efficient transaction" assumption (Coase 1937; Williamson 1975), RPTs between enterprises with good corporate governance mechanisms are suitable business exchanges and satisfy specific firm needs (Marchini et al. 2018). However, "tunneling" or "conflict of interests transaction hypothesis" assumes RPTs can be carried out in line with the interests of individuals within the organization such as executives and controlling shareholders to seize the wealth of outside investors (Gordon et al. 2004; Pozzoli and Venuti 2014; Zimon et al. 2021). Even though RPTs can fulfill the need for comprehensive firm knowledge or the demand for alternative ways of compensation, directors may have motivations for managing earnings to cover the extraction of the firm's resources (Pozzoli and Venuti 2014; Zimon et al. 2021). Since RPTs are transactions with firm insiders and are regarded as difficult to audit, aggressive accounting practices can be carried out through RPTs (Jian 2003; Gordon and Henry 2005; Zimon et al. 2021), although these lead to worsening financial reporting quality. Thus, the second purpose of this study is to investigate whether RPTs in the Iranian market are consistent with the tunneling hypothesis or the

propping hypothesis. To put it another way, we want to know if the company's assets have been taken out of the company's ownership for the benefit of the associated party and if the manager engages in managing profits to cover it up.

In general, an enormous body of literature has not only investigated the association between bankruptcy risk and financial reporting quality (Ding et al. 2007; Chu et al. 2011; Zang 2012; Campa 2015; Agrawal and Chatterjee 2015; Jaggi and Sun 2016; Muljono and Suk 2018; Li et al. 2020; Rakshit and Paul 2020) but has also paid attention to the impact of related party transactions on earnings management (Jian 2003; Thomas et al. 2004; Chen et al. 2011b; Rahmat et al. 2020; Subastian et al. 2021). However, these research topics have been simultaneously less discussed in a developing market that has experienced one of the most unprecedented economic sanctions. In an emerging market where managers are under heavy financial pressure, corporate financing problems are rampant, the quality of internal control systems is below standard, the basis of assessing corporate management performance is profitability, and job security is poor, there are more potential incentives for engaging in profit management. Our study seems to fill this gap by investigating the relationship between financial distress risk, RPTs, and financial reporting quality in Iran.

After completing the first part, which was related to the introduction of this study, the focus of the next section is on the topics of theoretical framework, literature, and the development of research hypotheses. The third part deals with the fact that the research sample has to be selected based on specific criteria and also associates with how to design a research model and define each of the variables. In the next phase, the results of the research model, along with all the required statistical tests, are fully analyzed. Finally, the last part indicates the concluding remarks.

2. Research Literature and Hypotheses Development

Accounting quality is the term employed to explain the extent to which reported profits reveal the reporting entity's financial performance (Schipper and Vincent 2003; El-Helaly 2016). Consequently, low financial reporting quality specifies that reported figures could be an instrument used by management and controlling shareholders to misinform other shareholders or to attain private control benefits (Leuz et al. 2003; El-Helaly 2016). Drawing on the International Accounting Standards Board (IASB), the main purpose of financial reporting is providing quality information to investors, creditors, analysts, and other market stakeholders in a way that is useful for making investment, credit, and resource allocation decisions (Sovaniski 2020). According to the agency theory (Ross 1973), due to the separation of ownership from management, there is a conflict of interest between them, which ultimately leads to poor quality financial reporting (Hassan and Ahmed 2012; Salehi et al. 2019a; d'Udekem 2021; Zimon et al. 2021). Rules and regulations have allowed company managers to exercise judgment in adopting reporting methods that match the corporate economic activities, but it is still common for managers to try and manipulate financial information due to opportunistic motives (Zimon et al. 2021). Some managers try to better show the company's financial performance so that they can prove their managerial competencies and abilities to others. To achieve this goal, managers attempt to manipulate profits within the legal framework to pretend that they are ethically oriented (Hassan and Ahmed 2012; Zimon et al. 2021). In fact, executives cleverly seek to make the most of the weaknesses in the generally accepted accounting principles (GAAP) so they can close the reported profits to the desired profit level (Salehi et al. 2020). In general, incentives of the capital market, contracting, and regulations make corporate executives eager to perform profit management activities (Alokaily 2014). In this study, it is believed that managers of Iranian companies, due to fear of losing their jobs, performance assessment based on profitability, problems in financing, etc., have many incentives to manage profits to hide the corporate real performance. It should be noted that owing to severe economic sanctions against the Iranian market in recent years, most Iranian companies are facing the most severe financial problems and are at risk of bankruptcy (Salehi et al. 2020; Moradi et al. 2021). Accordingly, the first purpose of this study is to investigate whether companies at

risk of financial collapse seek to manipulate financial information and mislead stakeholders about the actual performance of the company. Furthermore, related party transactions are made sometimes to gain access to the experience, expertise, and unique skills of the associated party or to compensate for services (Gordon and Henry 2005). However, in some cases, the motivation for trading with a related party is that the company's assets are taken out of the company's ownership in favor of the affiliates, and the manager manages the profit to cover it (Zimon et al. 2021). Hence, the second purpose of this study is to examine if managers try to distort profits through RPTs. In other words, we want to know if there is a positive association between RPTs and earnings manipulation. In the following sections, this paper analyzes each of the research hypotheses in detail and separately.

2.1. The Relationship between Financial Distress and Financial Reporting Quality

With the expansion of economic activity around the world, intensifying competition, inflation rates, and unprecedented recessions in recent decades in various markets, financially distressed companies are increasing day by day, and this has increased the importance of research in the field of financial distress (Ranjbar and Amanollahi 2018). If a firms' cash flow is not enough to pay back its debt, or when the current assets and current liabilities do not match, the company will encounter the danger of financial distress (Li et al. 2020). In a situation where companies are struggling with severe financial problems, the profits of such companies cannot be expected to meet the expectations of shareholders and investors, which, in turn, lead to a fall in stock prices and economic value of the company (Li et al. 2020). The desire of managers to preserve the main shareholders incentivizes them to deny bad news deliberately, which can keep investors' expectations at undefended levels and inflate a firm's stock price beyond its inherent value at the expense of shareholders (Jin and Myers 2006; Benmelech et al. 2010; Andreou et al. 2021). For that reason, such opportunistic behavior extends the incorrect impression investors have about a firm's true state of economic essentials (Kothari et al. 2009; Kim et al. 2011). Managers' attempts to keep the deception up will be fruitless in the long run because they are forced to give up when the hoarding of negative news reaches its peak (Andreou et al. 2021). In Iran's economically uncertain situation due to sanctions, the results of Moradi et al. (2021) indicate that Iranian managers have many financial problems and try to overstate economic performance and hide bad news to have better access to financing; so, when the total volume of bad news stored over time reaches a tipping point, it causes a stock crash. Similarly, the results of Andreou et al. (2021) in the developed US market show that financial distress risk can lead to stock price crashes because opportunistic managers seek to camouflage bad news that affects firms' economic fundamentals negatively. Furthermore, a large number of studies have confirmed that managers of distressed firms act opportunistically to obscure their firm's poor operating performance and mislead stakeholders about their firms' economic fundamentals (DeAngelo et al. 1994; Rosner 2003; Charitou et al. 2007; Kim et al. 2011; Andreou et al. 2017). In addition, as the job security of management is very low among companies that have financial problems, managers try not to disclose real information about the financial situation of the company (Kothari et al. 2009; Moradi et al. 2021; Zimon et al. 2021; Andreou et al. 2021). Another inserting point is that debt issuance costs, as well as financing problems, are seen more for financially distressed companies (Li et al. 2020; Zimon et al. 2021). Given that lenders and investors cannot easily trust distressed firms, these firms are expected to manipulate financial information and show a beautiful picture of their financial situation so that they can obtain better financial resources (Moradi et al. 2021).

Numerous studies have so far shown that companies with financial problems and at risk of bankruptcy have a strong desire to manage profits (Ding et al. 2007; Chu et al. 2011; Zang 2012; Habib et al. 2013; Campa 2015; Izadinia et al. 2015; Jaggi and Sun 2016; Ranjbar and Amanollahi 2018; Du and Lai 2018; Jacoby et al. 2019; Li et al. 2020; Rakshit and Paul 2020). While in financially healthy companies, most of the profit management activities are conducted to smooth earnings and meet analysts' forecasts, managers of bankrupt companies are managing profits to get out of the crisis and maintain their survival in

the market (Graham et al. 2005; Li et al. 2020). It should also be noted that distressed firms often tend to undertake accrual-based earnings management because the marginal charge of deviating from ideal commercial tactics is likely to be high for such firms (Zang 2012). When companies have many financial problems and do not have enough financial resources, they try to avoid real profit management because it usually requires an adjustment to business strategies or operations (Li et al. 2020). In this regard, Li et al. (2020) argue that as real earnings management modifies profits through changing enterprises' economic actions, such as an irregular promotion at the end of the accounting period, the provision of slack credit policies, or declining R&D expenditures, it usually includes many processes and incurs a higher cost. Besides, since accrual earnings management (AEM) does not change corporate cash flows and economic activities, and just manipulates profits through altering accounting procedures, accounting estimations, and techniques of asset impairment, implementing AEM practice is easier and more cost-effective for financially troubled companies (Li et al. 2020). In the same vein, various studies have shown that companies in financial bankruptcy are very willing to participate in accrual-based profit manipulation, which is detrimental to the quality of their financial reporting (Zang 2012; Haga et al. 2018; Ranjbar and Amanollahi 2018; Li et al. 2020).

As stated earlier, due to severe economic sanctions against Iran, most companies are facing serious financial problems. Therefore, Iranian managers not only try to hide bad news about their economic situation but also manipulate accounting figures to meet the expectations of investors and others (Moradi et al. 2021). In fact, the poor and loss-making financial performance of companies can be met with a negative reaction from investors in the market, causing them eventually to withdraw their capital. Under such evil circumstances, managers mainly manipulate profits to provide good news and information to the capital market, thereby stopping firm depreciation (Campbell et al. 2015; Healy and Wahlen 1999). In very simple terms, to tackle financial distress, companies manipulate accounting profit as a performance measurement item (Burgstahler and Eames 2006). In addition, companies that have financial problems face difficulties in obtaining the financial resources they need through borrowing because banks and financial institutions cannot trust them (Moradi et al. 2020). For this reason, managers of these Iranian firms are expected to portray an attractive image of their financial situation so that they can gain better financial resources (Moradi et al. 2021; Zimon et al. 2021). Since not only the fear of losing more jobs is seen among the managers of distressed companies (Kothari et al. 2009; Moradi et al. 2021; Zimon et al. 2021; Andreou et al. 2021), but also the evaluation of management performance in the Iranian market is based on profitability, managers are expected to better show the company's financial performance by manipulating accruals items (Moradi et al. 2021; Tarighi et al. 2022b). After all, the quality of oversight of the internal control system in the Iranian market is not good enough (Zimon et al. 2021), which allows opportunistic managers to mislead shareholders and other stakeholders about the corporate actual performance (Salehi et al. 2019a). Thus, as accrual-based profit management activities do not involve cash flow and economic activities and are very low cost (Li et al. 2020), we expect companies with many financial problems to turn to accrual earnings management to better portray their financial current situation. In other words, since firms with greater financial problems have a higher level of accrual earnings management, their financial reporting quality will be low. Given all the above, the first hypothesis of this research is as follows.

Hypothesis 1 (H1). *There is a negative relationship between financial distress and financial reporting quality.*

2.2. The Relationship between Related Party Transactions and Financial Reporting Quality

The transition of funds, services, or commitments between a firm and a related party, regardless of whether a price is charged, is considered related party transactions (RPTs) (Zimon et al. 2021). Given that the associated party such as controlling shareholders, man-

agers, and every other group can affect firms' policies and macro plans, they can transfer resources in or out of the firm (Pozzoli and Venuti 2014; Zimon et al. 2021). The related party has a special relationship with the company and can control it. Since they have a strong influence on financial and operational decisions, they can affect the company's profits and losses. Reviewing the existing research literature, we find that there are two general views regarding the role of RPTs in the economic situation of companies. According to the first view, which is based on "propping" or "efficient transaction hypothesis" (Friedman et al. 2003; Peng et al. 2011; Pozzoli and Venuti 2014), RPTs can meet the economic needs of a company and contribute to corporate economic development (Zimon et al. 2021). Laws and regulations have never completely prohibited the existence of such transactions (Djankov et al. 2008) since RPTs can contribute to optimizing corporate economic efficiency in the context of a group trying to minimize transaction expenditures generated by local market uselessness (Chang and Choi 1988; Gordon et al. 2004; Claessens et al. 2006; Jian and Wong 2010; Pozzoli and Venuti 2014; Zimon et al. 2021). In fact, sometimes a transaction is made to gain access to the experience, expertise, and unique skills of a related party or to compensate for services, in which case there is no incentive to manage profits (Gordon and Henry 2005). In the same vein, various studies so far have shown that there is no specific incentive to manage profits when dealing with a related party (Kuan et al. 2010; Jian and Wong 2010; El-Helaly et al. 2018; Alhadab et al. 2020; Sari et al. 2021).

Turning to the other side of the argument, RPTs can have a negative influence on the company's performance. RPTs have been one of the main reasons for the collapse of large companies in the last two decades (Gordon and Henry 2005; Pizzo 2013; Tong et al. 2014; Marchini et al. 2018; Ashrafi et al. 2020; Zimon et al. 2021; Tarighi et al. 2022a). In these large and well-known companies, the quality of profits was severely reduced because their managers tried to manipulate these by using fraudulent tools such as structuring and artificial transactions with a related party (Abdoli and Royaee 2012). To restore the lost trust of various groups in the financial statements of companies, corporate governance laws entered the field of anti-corruption. The Sarbins–Oxley Act was passed in 2002 as an appropriate response to corporate financial scandals (Zimon et al. 2021). Section 402 of the Sarbanes–Oxley Act reviewed the requirements for the disclosure of transactions with related parties (Kuan et al. 2010). While acquiring corporate resources through transactions with affiliates is common in developed countries, this phenomenon is more prevalent in emerging economies due to poor corporate governance. From the point of view of regulators, standard setters, investors, and other stakeholders, RPTs can be a deadly factor for companies to survive in today's competitive world (Pozzoli and Venuti 2014; Zimon et al. 2021). Unlike the "propping" attitude stating RPTs can be an effective tool to improve corporate performance, "tunneling" or "conflict of interests transaction hypothesis" argues that RPTs may result in corporate weakness because they exploit company resources due to existing conflictual interests (Friedman et al. 2003; Peng et al. 2011; Pozzoli and Venuti 2014; Hendratama and Barokah 2020; Zimon et al. 2021; Tarighi et al. 2022b). According to this view, to increase the interests of the company's insiders such as major shareholders and management, sometimes RPTs are formed so that they can easily expropriate wealth from non-controlling shareholders (Gordon et al. 2004; Amzaleg and Barak 2011). Much of the earnings management literature seeks to explain earnings management motivations using agency theory. According to agency theory, due to the separation of ownership from management and the existence of a conflict of interest between them, transactions with affiliates may result in the loss of shareholder wealth, and managers may resort to profit management to cover up this transfer of wealth (Gordon and Henry 2005). When firm management decides to take part in related party transactions to expropriate a firm's resources, then they have motivations for distorting earnings either to justify or increase these perquisites or possibly to mask such expropriation (Gordon and Henry 2005; Marchini et al. 2018; Zimon et al. 2021; Tarighi et al. 2022a). In this regard, many studies have provided evidence that companies have opportunistic behavior and manipulate their profits using RPTs (Healy and Wahlen 1999; Johnson et al. 2000; Jian 2003; Thomas et al.

2004; Djankov et al. 2008; Chen et al. 2011b; Rahmat et al. 2020; Zimon et al. 2021; Subastian et al. 2021).

As before noted, Iran's market is characterized by poor investor protection, managers' high motivations for earnings management, and an inefficient internal control environment. Strong research documents in the Iran market have confirmed that carrying out RPTs by Iranian firms can lead to the loss of shareholder wealth, which is in line with the tunneling hypothesis (Zimon et al. 2021). For example, the results of Sarlak and Akbari (2014), as well as Ghannad et al. (2018), show a positive connection between RPTs and profit distortion. Both of them argue that due to the separation of ownership from management and the existence of a conflict of interest between them, RPTs in Iran's context lead to the loss of shareholder wealth, and the Iranian managers tend to manage profits to cover up this transfer of wealth. Similarly, Hajiha and Azadzadeh (2020) concluded that earnings management and profit smoothing of Iranian firms are often performed by RPTs, reducing the quality of accounting information. Another important point to note is that since the assessment of the Iranian managers' performance is based on profitability (Salehi et al. 2018; Tarighi et al. 2022b), managers are likely to resort to RPTs to receive an appropriate reward and maintain their job position (Zimon et al. 2021). In line with this point, research related to the impact of RPTs on management compensation in the Iranian market by Jamalikazemini et al. (2020) was conducted. They concluded that Iranian managers tended to manipulate earnings and adjusted their rewards through non-routine transactions with a related party; furthermore, their findings indicated different types of RPT such as purchase, sale, and loans that are a way of compensation enhancing indirectly. Generally, there is a strong conflict of interest between Iranian managers and their shareholders, as well as the existence of strong motivations for carrying out profit management among Iranian companies (Zimon et al. 2021). Accordingly, we anticipate that the more companies turn to conduct RPTs, the more the managers are inclined to perform profit management to cover up the company's resource extraction. In other words, it is predicted that there is a significant negative relationship between each type of RPT and financial information quality.

Hypothesis 2 (H2). *There is a negative relationship between purchase-related transactions and financial reporting quality.*

Hypothesis 3 (H3). *There is a negative relationship between sale-related transactions and financial reporting quality.*

Hypothesis 4 (H4). *There is a negative relationship between loan-related transactions and financial reporting quality.*

3. Research Methodology

This study has tried to collect data using the descriptive correlational method and is categorized as applied research. This study employs the panel data technique. This method (panel/combined) that combined time-series data and cross-sectional data, is largely used by various research. This method is used for the issues that cannot be examined in time-series and cross-sectional or once the number of data is low. The combination of time-series and cross-sectional data and the need for using them more likely are because of the increasing number of observations, raising degrees of freedom, reducing heteroscedasticity of variance, and falling collinearity between variables (Salehi et al. 2020; Zimon et al. 2021). Further, the ordinary least squares regression (OLS) method has been employed in this study to test the hypotheses, and the period of this research is from 2013 to 2018. In this research, we use the F-Limer (Chow) test to identify if the research model needs to be estimated based on the ordinary least squares (OLS) or panel data method. Afterward, the Hausman test is used to determine whether panel data with fixed effects should be estimated or panel data with random effects. Moreover, the Durbin–Watson measure for

recognizing the serial autocorrelation problem and the variance inflation factor (VIF) index to evaluate the severity of multicollinearity have been used in this research. Finally, we employ the white test to examine the heteroskedasticity problem, and the unit root test to investigate whether a time series variable is non-stationary and possesses a unit root.

3.1. Research Sample

The study sample contains all the manufacturing enterprises listed on TSE for a period of six years from 2013 to 2018. This article has determined the sample size of the research based on the following criteria by using the systematic removal method.

- The audited financial information of each of the firms under study must be accessible.
- The financial periods of firms need to be completed at the end of the solar year (March 20).
- The businesses must not have altered their fiscal year during the study period, and they should not have more than six months of trading halts.
- Building on the research time (2013–2018), the company should be listed on the Tehran Stock Exchange before the year 2013 and its name not removed from the listed companies by the end of 2018.
- The type of the business activity should be productive; hence, investment companies, leasing, credit, and financial institutions and banks are not included in our sample due to these companies have quite different natures in terms of reporting and ownership structure (Salehi et al. 2018; Salehi et al. 2020; Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022a).

In the following, Table 1 provides brief information on how our research sample is selected from all listed firms on the Tehran Stock Exchange (TSE).

Table 1. The study limitations.

Limitations	Firms
All listed firms on the Tehran Stock Exchange (TSE) by the end of March 2018	445
Investment firms, leasing, credit, and financial institutions and banks	(86)
Companies that have more than six months trading halt or have changed fiscal year during the period under study	(112)
Companies whose information is not available or has been removed from the stock exchange	(107)
The remaining firms in the sample	***140***

Taking account of the above conditions that have been used in many local studies (Salehi et al. 2018; Tarighi et al. 2019; Tarighi et al. 2020; Behmanesh et al. 2020; Moradi et al. 2020, 2021; Zimon et al. 2021), a sample size of 140 TSE manufacturing firms has been selected.

3.2. Research Model & Variable

Given the severe financial pressures on managers of Iranian companies due to economic sanctions in recent years, the main purpose of this article is to examine how financial distress influences financial reporting quality. Moreover, according to the existing research literature, the propping hypothesis argues that RPTs can meet the economic needs of a firm, while the tunneling hypothesis assumes RPTs can be used as a tool to exploit company resources due to existing conflictual interests (Marchini et al. 2018; Zimon et al. 2021). Thus, given that there are many incentives for performing profit management actions among Iranian managers, we want to know whether transactions with a related party confirm the conflict of interest hypothesis in Iran's context. To put it another way, this study tends to investigate if Iranian managers participate in RPTs to expropriate firms' resources and engage in earnings manipulation to mask such expropriation. To test the above hypotheses, the model of this research is designed as follows.

$$FRQ_{it} = a_0 + a_1 \text{Financial Distress}_{it} + a_2 RPT - Purchase_{it} + a_3 RPT - Sale_{it} + a_4 RPT - Loan_{it} + a_5 ICW_{it} + a_6 \text{Institutional Owner}_{it} + a_7 ROA_{it} + a_8 TobinQ_{it} + a_9 Growth_{it} + a_{10} \text{Current}_{it} + a_{11} Lev_{it} + a_{12} Size_{it} + a_{13} Age_{it} + \varepsilon_{it}$$

where financial reporting quality (FRQ) is defined as a dependent variable. By reviewing the existing research literature, it can be found that there is still no universal consensus on how to measure the quality of financial reporting (Chen et al. 2011a; Alokaily 2014). Most research around the world uses discretionary accruals as a valid proxy for measuring the financial reporting quality (FRQ) (Alokaily 2014; Notbohm et al. 2019; Du et al. 2020; Mensah 2020; Shuraki et al. 2020; Du 2021). Following previous research, this study uses Jones' discretionary accruals model to assess the financial reporting quality (FRQ). Accordingly, the lower the profit management, the better the financial reporting quality of companies. As for independent variables, it can be stressed the variables of financial distress risk (FDR) and different types of RPTs are regarded as our independent variables in this study. Regarding financial distress, research literature confirms that there are two methods to forecast the probability of corporate bankruptcy; one based on accounting data (Altman 1968; Ohlson 1980; Zmijewski 1984; Tykvová and Borell 2012; Altman et al. 2017), and the other based on a mixture of market and accounting data (Shumway 2001; Bharath and Shumway 2008; Black and Scholes 2019). Each of these approaches has its drawbacks and advantages for foreseeing firm insolvency. The most important point is that in any research, it is better to use a method that is appropriate to the characteristics and structure of that market and has good acceptance among different researchers. In Iran's context, financially distressed firms and healthy firms should be coded based on Article 141 of the Iran Business Law. In this paper, building on the Iran Business Law, Article 141, if the accumulated losses of a company are higher than 50% of stockholder equity, the firm is regarded as a distressed firm (Hosseini and Rashidi 2013; Salehi and Shiri 2016; Rafatnia et al. 2020; Ramezanzadeh Zeidi et al. 2021; Tarighi et al. 2022a). With respect to another independent variable, namely RPTs, we can divide such transactions into three general categories called RPT-Purchase, RPT-Sale, and RPT-Loan (Jamalikazemini et al. 2020; Zimon et al. 2021).

The rest of the variables of this research model are considered control variables. As accounting information is the product of firms' internal information systems (Huang 2016), higher quality internal controls are concluded to lessen the frequency of accounting fraud (Doyle et al. 2007; Ashbaugh-Skaife et al. 2008). For this reason, this paper tends to evaluate internal control weakness (ICW) as a control variable because the absence of a good internal control system can generate conditions leading to opportunistic managerial behavior (Järvinen and Myllymäki 2016; Lenard et al. 2016). Further, since in the body of most companies exist many institutional investors, and around two-thirds of institutional owners in the Iranian market consist of state-owned and quasi-governmental organizations (Moradi et al. 2012; Zimon et al. 2021), vital and important decisions of the company are made under the influence of government power. Given institutional ownership is one of the corporate governance mechanisms controlling the agency's problems and recovering the protection of the interests of investors (Shleifer and Vishny 1997; Zimon et al. 2021; Tarighi et al. 2022a), this study wants to know if institutional ownership is a barrier to misleading stakeholders and can improve accounting information accuracy. In addition, to better understand the relationship between companies' financial performance and the level of quality of their financial information, both accounting-based (return on assets—ROA) and market-based (Tobin's Q) measures are used as control variables in this study. Sale growth is defined as another control variable to analyze if firms try to maintain the quality of their financial reports so as not to damage their professional reputation in the market when they have high sales and customer loyalty. More assets and stronger information resources can determine the financial success of companies in the market (Alarussi and Alhaderi 2018; Nobakht and Acar 2021), and larger companies with such characteristics can have a higher market value compared to smaller companies (Zimon et al. 2021). By

choosing the variable of firm size as a control variable, we want to know whether larger companies that have higher competitiveness in the market tend to mislead stakeholders and manipulate financial statements. Finally, the theory of learning by doing describes the positive association between firm oldness and corporate success since when the age of a firm goes up, there is the possibility of enhancement in their productive proficiency over time by learning from their experience, while the negative connection can be viewed from the point of liability of obsolescence in which organizational performance drops with age (Ilaboya and Ohiokha 2016; Zimon et al. 2021; Tarighi et al. 2022b). For this reason, we want to know which of the above arguments are in line with older Iranian companies and what role firm age can play in the quality of financial information. Below, Table 2 shows how to calculate and define each of the variables of this research in full.

Table 2. Definition of the variables.

Variable	Type	Measurement
FRQ	Dependent	Financial reporting quality (FRQ) is calculated using earnings management, measured by modified Jones' discretionary accruals (Notbohm et al. 2019; Du et al. 2020; Mensah 2020; Shuraki et al. 2020; Du 2021). According to the modified Jones model, ABACC is non-discretionary accruals that are calculated by the following relation: $\mathrm{ABACC}_{it} = \alpha_{it}\left(\frac{1}{A_{it-1}}\right) + \beta_{1it}\left(\frac{\Delta REV_{it}}{A_{it-1}}\right) + \beta_{2it}\left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_{3it}\left(\frac{ROA_{it}}{A_{it-1}}\right)$ The below relation is used for calculating the required model coefficients (β_{it} and α_{it}). $TA_{it} = \alpha_{it}\left(\frac{1}{A_{it-1}}\right) + \beta_{1it}\left(\frac{\Delta REV_{it}}{A_{it-1}}\right) + \beta_{2it}\left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_{3it}\left(\frac{\Delta CFO_{it}}{A_{it-1}}\right) + \varepsilon_0$. After calculating the special parameters of the enterprise and non-discretionary accruals of the estimation period, the discretionary accruals equation for every company is as below: $\mathrm{NORACC}_{it} = TA_{it} - \left[\alpha_{it}\left(\frac{1}{A_{it-1}}\right) + \beta_{1it}\left(\frac{\Delta REV_{it}}{A_{it-1}}\right) + \beta_{2it}\left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_{3it}\left(\frac{\Delta CFO_{it}}{A_{it-1}}\right)\right]$. (Sarlak and Akbari 2014; Salehi et al. 2020; Metzker and Siekelova 2021; Strakova and Svabova 2021; Zimon et al. 2021).
FDR	Independent	Financial distress risk (FDR) is recognized based on article 141 of the Iran Business Law. According to this law, when the accumulated losses of a firm are more than 50% of stockholder equity, that firm is considered as a distressed firm and takes one, and otherwise zero (Hosseini and Rashidi 2013; Salehi and Shiri 2016; Rafatnia et al. 2020; Ramezanzadeh Zeidi et al. 2021; Tarighi et al. 2022a).
RPT-Purchase	Independent	This is defined as the aggregate of disclosed purchase-related party transaction prices in notes to the annual financial statements divided by the beginning assets of the firms (Sarlak and Akbari 2014; Jaafar Nodeh and Gerayli 2020; Zimon et al. 2021; Tarighi et al. 2022a).
RPT-Sale	Independent	This is calculated as the sum of disclosed sale-related party transaction prices in notes to the annual financial statements divided by the beginning assets of the firms (Sarlak and Akbari 2014; Jaafar Nodeh and Gerayli 2020; Zimon et al. 2021; Tarighi et al. 2022a).
RPT-Loan	Independent	This is calculated as the sum of disclosed loan-related party transaction prices in notes to the annual financial statements divided by the beginning assets of the firms (Sarlak and Akbari 2014; Jaafar Nodeh and Gerayli 2020; Zimon et al. 2021; Tarighi et al. 2022a).
ICW	Control	Internal control weakness (ICW) is a indicator variable that is equal to one if there is a material weakness in internal control, otherwise zero (Lashgari and Gawradar 2015; Zimon et al. 2021; Tarighi et al. 2022b).
Institutional Owner	Control	This represents the percentage of shares held by insurance institutions, financial and investment firms, banks, governmental corporations, and other parts of the state that are calculated by dividing the institutional ownership stake by the total number of ordinary shares at the end of the period (Salehi et al. 2017; Zimon et al. 2021; Tarighi et al. 2022a, 2022b).

Table 2. *Cont.*

Variable	Type	Measurement
ROA	Control	Earnings before interest and taxes (EBIT) divided by the sum of a company's assets (Mashayekhi and Bazaz 2008; Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022a, 2022b).
Tobin Q	Control	This is the ratio of the market value of a company's assets (Khanifah et al. 2020; Zimon et al. 2021; Tarighi et al. 2022b).
Growth	Control	The rate of changes in sales from last year to the current year (Yazdanfar and Öhman 2015; Salehi et al. 2018; Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022b).
Current	Control	The current assets divided by current liabilities (Salehi et al. 2018; Zimon et al. 2021; Tarighi et al. 2022a, 2022b).
Leverage	Control	This is calculated through long-term debt scaled by total assets (Alokaily 2014; Salehi et al. 2018; Zhang and Ayisi 2020; Zimon et al. 2021; Tarighi et al. 2022b).
Firm Size	Control	The natural logarithm of a company's total assets (Alokaily 2014; Raguseo et al. 2020; Zhang and Ayisi 2020; Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022a, 2022b)
Firm Age	Control	The number of years of company activity (Sarlak and Akbari 2014; Fan and Wang 2019; Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022a, 2022b).

4. Results and Discussion

4.1. Descriptive Statistics

Descriptive statistics show dispersion values and central indices. Descriptive statistics of this study comprise mean, median, standard deviation, minimum, and maximum presented in Table 3.

Table 3. Descriptive statistics of quantitative variables.

Variable	OBV	Mean	S. Deviation	Max	Min	Prob. Jarque-Bera
AEM	840	0.007	0.137	1.033	−0.424	0.138
RPT-Purchase	840	0.212	0.522	5.097	0.000	0.072
RPT-Sale	840	0.307	0.621	5.136	0.000	0.091
RPT-Loan	840	0.008	0.041	0.597	0.000	0.104
Institutional Owner	840	0.674	0.288	0.991	0.000	0.529
ROA	840	0.143	0.120	0.641	−0.121	0.762
Tobin Q	840	1.794	0.784	6.527	0.691	0.425
Growth	840	0.125	0.233	0.743	−0.975	0.238
Current	840	1.746	4.547	109.239	0.081	0.187
Leverage	840	0.554	0.173	0.949	0.103	0.170
Firm Size	840	14.494	1.369	19.773	10.532	0.064
Firm Age	840	39.457	13.633	57	9	0.341

To examine the normality of the distribution of observations of variables, the Jarque–Bera test can be employed. Based on this test, the null hypothesis (H0) indicating the normal distribution of observations of a variable is said to be accepted when its p-value is greater than five percent (Tarighi et al. 2022a). As the likelihood of all variables in Table 3 is more than five percent, the normality hypothesis of the variables is supported significantly. Our outputs also confirm Iranian companies are more inclined to conduct business with affiliates through purchase and sales than loans. As expected, almost two-thirds of Iranian companies are owned by institutional owners, indicating the government's unlimited power to control the market. As stated before, Iran's market has faced the most severe economic sanctions in recent years, which leads to its manufacturing firm having financial problems. In this regard, the leverage variable also shows that, on average, more than half of the assets and financial resources of Iranian companies are financed through borrowing. In addition, on average, the rate of return on assets (ROA) among Iranian companies is approximately 14%, and their sales have also increased by only 12% compared to the previous year, which both the ratio of ROA and sale growth confirm that companies have not performed well financially. However, the average Tobin Q ratio is very high. Perhaps the sharp inflation in the Iranian economy has caused the market value of the company

to be more than its assets, in which case the value of the companies' shares is more than its current value. Another important point is that the companies under review have an average of 40 years of experience in the market, and this high experience may help them to deal with the financial crisis.

The results of qualitative descriptive statistics in Table 4 clearly show that a quarter of the companies are at high risk of bankruptcy. Furthermore, as almost half of the Iranian companies have a material weakness in their internal control system, it can be suggested that the quality of financial reporting in the Iranian market is not highly reliable.

Table 4. Descriptive statistics of qualitative variables.

Variable	Status	Description	Frequency	%
ICW	1	If there is a material weakness in internal control	319	0.49
	0	If there is not a material weakness in internal control	329	0.51
FDR	1	If the accumulated losses are more than 50% of stockholder equity (distressed firm)	163	0.25
	0	If the accumulated losses are less than 50% of stock-holder equity (healthy firm)	485	0.75

4.2. Conclusive Statistics

Panel data focuses on a data set based on which observations are evaluated by many sectional variables often selected randomly during a given period (Tarighi et al. 2022b). As the panel data comprise both aspects of time series data and sectional ones, using suitable statistical explanatory models that refer to the specifications of the variables is more difficult than the models used in sectional and time series data (Salehi et al. 2018, 2020; Zimon et al. 2021; Tarighi et al. 2022a).

4.3. F-Limer & Hausman Tests

In accounting research, when data are collected for several enterprises over a specific period, longitudinal data (pooled or panel) is discussed. Hence, as data are longitudinal, the type of assessment of a model must first be determined (Zimon et al. 2021; Tarighi et al. 2022b). According to the principles of econometrics, the F-Limer (Chow) test should be performed as the starting point to determine exactly if the research model needs to be estimated based on the ordinary least squares (OLS) or panel data method (Tarighi et al. 2022b). According to the F-Limer test, the null hypothesis (H0) assumes that there is no difference between the estimated coefficients for individual cross-section and the estimated coefficient for individual mass, implying there is no necessity to estimate the model by using the panel data (Salehi et al. 2020; Tarighi et al. 2020; Moradi et al. 2021; Zimon et al. 2021). Now, if the use of the panel data method is approved, in the second step, the Hausman test must be conducted to determine whether a panel data with fixed effects should be employed or a panel data with random effects (Bell et al. 2019; Tarighi et al. 2020, 2022b; Moradi et al. 2021; Zimon et al. 2021). However, in the case where using the OLS regression is suitable, there is no need to carry out the Hausman test (Tarighi et al. 2022b). In general, the outcomes of the F-Limer test in this study show that since the p-value of the H0 for our research model is 0.469, the OLS method is accepted and it is no longer necessary to carry out the Hausman test.

Regarding the error values of the regression model, there are some assumptions that if they are not met, the values of the parameters and their significance cannot be relied upon. These assumptions are known as the classic regression hypotheses. To test the validity of these classic hypotheses, diagnostic tests are used in the econometric literature. In fact, if any of the classical hypotheses are not met, the problem must be solved so that the OLS model estimation results can be relied upon. The first classic regression assumption is that the average error of the model is zero. If there is a Constant (Y Intercept) in a regression model,

this assumption will generally be met and does not require any statistical test because the Constant causes the average of the dependent variable and the average of the fitted values of the model to be approximately the same. The second regression hypothesis states that the variance of the errors has a constant value. According to this assumption, when each arbitrary part of the model error is selected and its variance is calculated, it should not be significantly different from the variance of any other random part (Tarighi et al. 2022b). This implies that the variance of the errors must be homoskedasticity. Accordingly, this study uses the white test to examine the heteroskedasticity problem. The third classical hypothesis of the regression model states that the errors should not have a significant correlation with each other. Thus, the Durbin–Watson and Breusch–Godfrey tests are considered to evaluate the issue of correlation among residuals. The fifth and last hypothesis states that the statistical distribution of the error sentence should be normal. In practice, when other classical assumptions are established and the volume of observations is high, the regression model coefficients have two characteristics of minimum variance and efficiency, and failure to meet this assumption does not affect the estimation results in any way (Brooks 2008). Therefore, since this research includes 840 observations, and other classical hypotheses are also satisfied, there is no need to test the hypothesis.

4.4. Heteroskedasticity and Multicollinearity Tests

The lack of heteroskedasticity problem is another main assumption of a regression model. According to Moradi et al. (2021) and Zimon et al. (2021), homoscedastic disturbances, when heteroscedasticity is present, will yield consistent estimation results of coefficients that are not effective. The white test can be employed to explore the heteroskedasticity issue (Tarighi et al. 2022b). As a whole, since the amount of p-value in the white test is 0.13 and greater than five percent, it can be noted that there is no heteroskedasticity problem in our research model. Moreover, to examine the severity of multicollinearity in a regression analysis, the variance inflation factor (VIF) index can be used. The VIF index measures how much the variance of an estimated regression coefficient is increased due to collinearity (Tarighi et al. 2022a). Accordingly, when the VIF of the estimated model coefficients is less than 10, there is no linearity problem (Akinwande et al. 2015; Thompson et al. 2017; Kim 2019; Zimon et al. 2021; Tarighi et al. 2022b). Hence, as the results of the VIF index in this study are all less than 10, we can conclude that the linearity problem will not exist in this study.

4.5. Serial Correlation Test

One of the most important assumptions in regression is that error sentences should not be correlated significantly (Zimon et al. 2021). Serial autocorrelation occurs when errors are correlated with each other. In statistics, Durbin–Watson and Breusch–Godfrey tests are commonly used to examine the issue of serial autocorrelation among residuals (Savin and White 1977; Baum and Schaffer 2013; Anetoh and Anetoh 2016; Moradi et al. 2020). According to the research literature, while Durbin–Watson can be employed to analyze the low level of serial autocorrelation (Lag 1) in residuals, the Breusch–Godfrey test is regarded to identify higher levels of serial autocorrelation (Lag 2) (Moradi et al. 2020). As a whole, since the figure of the Durbin–Watson test in this study is 1.8790 and between 1.5 and 2.5, we can conclude that the error terms do not have serial autocorrelation (lag 1). In addition, thanks to the p-value of more than 5% in the Breusch–Godfrey test, there is no problem with the serial autocorrelation (Lag 2) in the residuals.

4.6. Unit Root Test

In statistics, a unit root test scans if a time series variable is non-stationary and possesses a unit root. The null hypothesis is usually regarded as the presence of a unit root and the alternative hypothesis is stationary (Moradi et al. 2021; Zimon et al. 2021; Tarighi et al. 2022a, 2022b). At large, as Augmented Dickey–Fuller (ADF) and Phillips–Perron (PP)

have constantly been among the most prevalent unit root tests; both of them are employed in Table 5.

Table 5. The results of the Unit Root Test.

Variable	Augmented Dickey-Fuller (ADF)		Phillips-Perron (PP)	
	Statistic	*p*-Value	Statistic	*p*-Value
AEM	324.711	0.0000 ***	383.425	0.0000 ***
FDR	10.611	0.0001 ***	10.467	0.0003 ***
RPT-Purchase	338.512	0.0000 ***	403.001	0.0000 ***
RPT-Sale	341.734	0.0002 ***	419.207	0.0001 ***
RPT-Loan	109.468	0.0007 ***	126.113	0.0005 ***
ICW	72.536	0.0004 ***	80.014	0.0009 ***
Institutional Owner	204.951	0.0150 **	253.004	0.0003 ***
ROA	305.337	0.0008 ***	345.004	0.0407 *
Tobin Q	397.498	0.0006 ***	486.137	0.0054 ***
Growth	293.994	0.0231 *	341.057	0.0183 **
Current	265.098	0.0000 ***	287.994	0.0001 ***
Leverage	242.014	0.0000 ***	284.943	0.0002 ***
Firm Size	325.012	0.0008 ***	411.003	0.0006 ***
Firm Age	3.134	0.0000 ***	2.537	0.0000 ***

Confidence level (**): 98% Confidence level (*): 95% Confidence level (***): 99%.

Since the amount of *p*-value for all variables is less than 0.05%, it can be said that our research variables are stationary, meaning there is efficient regression and very accurate results. To put it another way, our results confirm that the variables of our study are real and stationary, and they can be used in OLS regression with high reliability.

4.7. The Results of the Research Models

The results of this research model are presented in Table 6 as follows.

Table 6. Results of the research model.

Variable	Coefficient	Std. Error	T-Statistic	*p*-Value	VIF
C	−0.004991	0.074399	−0.067083	0.9465	——
FDR	0.164207	0.080896	2.029846	0.0428 *	1.114904
RPT-Purchase	0.003947	0.016322	0.241848	0.8090	2.404834
RPT-Sale	0.013077	0.013584	0.962668	0.3361	2.352754
RPT-Loan	0.32061	0.135392	2.368055	0.0182 **	1.028516
ICW	0.008532	0.011639	0.733034	0.4638	1.118258
Institutional Owner	−0.038757	0.021250	−1.823914	0.0487 *	1.248399
ROA	0.449633	0.071339	6.302781	0.0000 ***	2.418649
Tobin Q	−0.005128	0.008988	−0.570562	0.5685	1.641082
Growth	−0.045500	0.025211	−1.804770	0.0316 *	1.139125
Current	−0.001456	0.001257	−1.157802	0.2470	1.077450
Leverage	0.068138	0.041072	1.658990	0.0477 *	1.683855
Firm Size	−0.005199	0.004606	−1.128699	0.2595	1.315894
Firm Age	0.000430	0.000418	1.029319	0.3038	1.071258

Source: Own Research Method: OLS Regression. Confidence level (**): 98%. Confidence level (*): 95%. Confidence level (***): 99%. Adjusted R-squared: 0.4378 Prob (F-statistic): 0.0000 Durbin-Watson Stat: 1.8790. Breusch-Godfrey Test: Chi-Sq. Statistic: 2.8735 Probibity: 0.2917. F-limer Test: Statistic (Period Chi-square): 0.5754 d.f.: 5 Problibity: 0.4699. Heteroskedasticity Test (White): F-statistic: 4.621 Problibity: 0.1354.

After performing various statistical tests in the previous sections, it was found that the model of this research should be estimated based on an ordinary least squares (OLS) regression model. Furthermore, since the *p*-value calculated for the F-statistic is zero and less than 0.05, the significance of the whole model can be confirmed at the 5 percent error level. The results show that there is a significant and positive connection between bankruptcy risk and accrual-based earnings management. This means that financially distressed companies

have lower financial reporting quality because they try to better portray their financial situation by manipulating financial statements to attract more investors and creditors. This result was completely in line with our expectations in the Iranian market. Since the performance of management is usually evaluated based on profitability (Moradi et al. 2021; Tarighi et al. 2022b), and because job security in bankrupt companies is weaker (Kothari et al. 2009; Moradi et al. 2021; Zimon et al. 2021; Andreou et al. 2021), managers of Iranian companies are expected to keep their job position and receive more rewards through profit manipulation. Bankrupt companies do not have enough financial resources and that is why they prefer to resort to accrual profit management because they are very cheap and inexpensive (Li et al. 2020). Among the different types of RPTs, we found a positive linkage between loan-related party transactions and accrual profit manipulation, which is consistent with "tunneling" or "conflict of interests transaction assumption". As there is a strong conflict of interest between Iranian managers and their shareholders (Zimon et al. 2021), firms' management seems to have incentives to manage earnings to cover the extraction of the firm's resources. According to the existing research literature, the augmented likelihood of aggressive accounting through related party transactions exists as they are transactions with firm insiders and are considered difficult to audit (Gordon and Henry 2005; Zimon et al. 2021).

By looking at the details of control variables, interesting results can be realized. For example, our findings confirm that since institutional owners, as one of the corporate governance mechanisms, defend the rights and interests of the main shareholders of the company (Shleifer and Vishny 1997; Zimon et al. 2021), they try to push managers into providing financial information to others transparently and accurately. The positive relationship between ICW and FRQ shows the existence of such fundamental weaknesses in the structure of the internal control systems as they can create opportunities for opportunistic managers to mislead other stakeholders about the corporate actual performance, even though it is not significant statistically. Evidence shows more profit management is seen among companies that have higher rates of return on assets, as well as those that have used more financial leverage to meet the funding they need. However, the positive coefficient of leverage variable indicates companies that have captured more market share and have been able to sell more than other competitors tend to provide better financial reporting. Ultimately, we did not find any significant association between firm size and firm age with financial reports quality.

5. Conclusions

According to the existing research literature, lack of transparency in financial reporting, as well as conducting related party transactions, have been among the most important reasons for the collapse of large companies in recent decades (Kumari and Pattanayak 2017; Marchini et al. 2018; Zimon et al. 2021). As fully explained earlier, the severe economic sanctions against Iran in recent years have caused many companies to face severe economic problems, putting them at risk of collapse and bankruptcy (Salehi et al. 2020; Moradi et al. 2021; Zimon et al. 2021). As distressed firms are characterized by bigger financing problems, higher debt issuance costs, and weaker job security (Li et al. 2020; Zimon et al. 2021), managers of such firms may not disclose real information about the financial situation of their company (Kothari et al. 2009; Moradi et al. 2021; Zimon et al. 2021; Andreou et al. 2021). Hence, the main purpose of this study is to find out whether financially distressed companies are trying to mislead stakeholders by providing false financial reporting. The efficient transaction hypothesis suggests related party transactions can meet the economic needs of a firm, although RPTs can sometimes be used opportunistically (Marchini et al. 2018; Zimon et al. 2021), especially when there is a strong conflict of interests between corporate management and its shareholders. In this study, since Iranian firms have big incentives to distort profits, we wanted to know if managers participate in RPTs to expropriate a firm's resources.

Our findings highlight the fact that there is a negative relationship between financial distress risk and financial reporting quality. In fact, financially distressed firms in the Iran market tend to undertake more accrual earnings management so they can keep their poor financial performance a secret from the company's main stakeholders. Perhaps because the job security of managers in helpless companies is weak and the assessment of management competency is based on profitability, Iranian managers tend to show a better picture of their company's financial situation by manipulating financial reports. Accordingly, our outcomes are in line with the studies of Ding et al. (2007), Zang (2012), Habib et al. (2013), Izadinia et al. (2015), Jaggi and Sun (2016), Ranjbar and Amanollahi (2018), Du and Lai (2018), Jacoby et al. (2019), Li et al. (2020), and Rakshit and Paul (2020). Consistent with the "tunneling" or "conflict of interests transaction hypothesis", we found evidence that carrying out related party transactions through loans worsens financial reporting quality. In other words, Iranian executives seem to engage in loan-related party transactions to expropriate their firm's resources and then manipulate financial statements to mask such expropriation. Our findings are similar to the studies of Jian (2003), Thomas et al. (2004), Djankov et al. (2008), Chen et al. (2011a), Sarlak and Akbari (2014), Ghannad et al. (2018); Hajiha and Azadzadeh (2020), Rahmat et al. (2020), Zimon et al. (2021), and Subastian et al. (2021). However, our results are inconsistent with the studies of Kuan et al. (2010), El-Helaly et al. (2018), Alhadab et al. (2020), and Sari et al. (2021). It seems that the reason for the difference between the results of our research and other studies is partly because the agency problems in the Iranian market are more severe and there are stronger motivations among Iranian managers to manipulate financial information. Finally, additional analysis in this study shows that the quality of financial reporting is better among companies that have better sales growth and more institutional owners, whereas the variables of ROA and leverage are negatively correlated with financial information accuracy.

Our paper can be very useful for research literature in various ways. First, our research can be a convincing answer to the question of whether bankrupt companies are willing to manage profits. Given that the scope of research on the impact of bankruptcy risk on the quality of financial reporting is not very broad and the existing literature focuses mostly on developed countries, a study on the relation between financial distress and financial reporting quality in an emerging market facing the most severe economic sanctions can contribute to our understanding of the bigger motivations for earnings management. Secondly, this study can make users of financial statements aware of the fact that sometimes in times of financial crisis, RPTs may be of a negative nature and comply with the tunneling hypothesis. The findings also warn investors to be more careful in analyzing the financial statements of companies that are not in good financial conditions, because the managers of such companies may want to attract positive feedback by hiding their weaknesses. In addition to emerging markets, the results of this study can have practical implications for developed markets and make them aware of the fact that companies that are under severe financial pressure during a crisis may exhibit opportunistic behaviors and mislead them about investment projects. Another important point is that scientific research always faces limitations and obstacles and that this study is not without its limitations. Since the type of definition and measurement of variables in different researches can be different, one should be very careful in comparing and generalizing the results. The period of this research has coincided with the most severe economic sanctions against the Iranian market, which can put heavy financial pressures on managers. In addition to the heavy economic climate of the Iranian market, it should be borne in mind that the sample companies may be different in terms of size, organizational shape, and type of products, so it is necessary to be more prudent and intelligent in generalizing the results of this study.

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References

Abdoli, Mohammad Reza, and Ramezanali Royaee. 2012. Board monitoring and earnings quality: An empirical study in Iran. *African Journal of Business Management* 6: 4179–84. [CrossRef]

Aggarwal, Rajesh K., and Andrew A. Samwick. 2003. Performance incentives within firms: The effect of managerial responsibility. *The Journal of Finance* 58: 1613–50. [CrossRef]

Agrawal, Khushbu, and Chanchal Chatterjee. 2015. Earnings management and financial distress: Evidence from India. *Global Business Review* 16: 140S–54S. [CrossRef]

Ajina, Aymen, and Aymen Habib. 2017. Examining the relationship between earning management and market liquidity. *Research in International Business and Finance* 42: 1164–72. [CrossRef]

Akinwande, Michael Olusegun, Hussaini Garba Dikko, and Agboola Samson. 2015. Variance inflation factor: As a condition for the inclusion of suppressor variable (s) in regression analysis. *Open Journal of Statistics* 5: 754. [CrossRef]

Alarussi, Ali Saleh, and Sami Mohammed Alhaderi. 2018. Factors affecting profitability in Malaysia. *Journal of Economic Studies* 45: 442–58. [CrossRef]

Alhadab, Mohammad, Modar Abdullatif, and Israa Mansour. 2020. Related party transactions and earnings management in Jordan: The role of ownership structure. *Journal of Financial Reporting and Accounting* 18: 505–31. [CrossRef]

Alokaily, Jihad. 2014. Financial Reporting Quality, Auditor Remuneration and Corporate Governance: UK Evidence. Doctoral dissertation, Durham University, Durham, UK.

Altman, Edward I. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance* 23: 589–609. [CrossRef]

Altman, Edward I., Małgorzata Iwanicz-Drozdowska, Erkki K. Laitinen, and Arto Suvas. 2017. Financial distress prediction in an international context: A review and empirical analysis of Altman's Z-score model. *Journal of International Financial Management & Accounting* 28: 131–71. [CrossRef]

Amzaleg, Yaron, and Ronen Barak. 2011. Ownership Concentration and the Value Effect of Related Party Transactions. Available online: https://ssrn.com/abstract=1959557 (accessed on 5 January 2022).

Andreou, Panayiotis C., Christodoulos Louca, and Andreas P. Petrou. 2017. CEO age and stock price crash risk. *Review of Finance* 21: 1287–325. [CrossRef]

Andreou, Christoforos K., Panayiotis C. Andreou, and Neophytos Lambertides. 2021. Financial distress risk and stock price crashes. *Journal of Corporate Finance* 67: 101870. [CrossRef]

Anetoh, John Chidume, and Vivian Chioma Anetoh. 2016. Effect of Financial Leverage on Company Performance: A Study of Selected Quoted Companies in Nigeria. *CARD International Journal of Social Sciences and Conflict Management* 1: 1–40.

Ashbaugh-Skaife, Hollis, Daniel W. Collins, William R. Kinney, Jr., and Ryan LaFond. 2008. The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review* 83: 217–50. [CrossRef]

Ashrafi, Majid, Ebrahim Abbasi, Seyed Ali Hosseini, and Mahjoobeh Poor Etemadi. 2020. The Effect of Related Parties Transactions On The Firm Value: Moderating Role Of Audit Committee. *Iranian Journal of Finance* 3: 25–43. [CrossRef]

Assad, Nedal Fawzi, and Muhammad T. Alshurideh. 2020. Investment in context of financial reporting quality: A systematic review. *Waffen-Und Kostumkunde Journal* 11: 255–86.

Baum, Christopher F., and Mark E. Schaffer. 2013. *A General Approach to Testing for Autocorrelation*. Boston: Boston College.

Behmanesh, Mehraneh, Sedigheh Totianisfahani, and Nilofar Mirsepasi. 2020. The investigation of the association between CEO financial expertise and financial policies in firms enlisted Tehran Stock Exchange. *Journal of Business Management* 12: 267–90.

Bell, Andrew, Malcolm Fairbrother, and Kelvyn Jones. 2019. Fixed and random effects models: Making an informed choice. *Quality & Quantity* 53: 1051–74. [CrossRef]

Benmelech, Efraim, Eugene Kandel, and Pietro Veronesi. 2010. Stock-based compensation and CEO (dis) incentives. *The Quarterly Journal of Economics* 125: 1769–820. [CrossRef]

Bharath, Sreedhar T., and Tyler Shumway. 2008. Forecasting default with the Merton distance to default model. *The Review of Financial Studies* 21: 1339–69. [CrossRef]

Black, Fischer, and Myron Scholes. 2019. The pricing of options and corporate liabilities. In *World Scientific Reference on Contingent Claims Analysis in Corporate Finance: Volume 1: Foundations of CCA and Equity Valuation*. Singapore: World Scientific Connecting Great Minds, pp. 3–21. [CrossRef]

Brooks, Chris. 2008. RATS Handbook to accompany introductory econometrics for finance. In *Cambridge Books*. Cambridge: Cambridge University Press.

Burgstahler, David, and Michael Eames. 2006. Management of earnings and analysts' forecasts to achieve zero and small positive earnings surprises. *Journal of Business Finance & Accounting* 33: 633–52.
Callao, Susana, José I. Jarne, and José A. Laínez. 2007. Adoption of IFRS in Spain: Effect on the comparability and relevance of financial reporting. *Journal of International Accounting, Auditing and Taxation* 16: 148–78. [CrossRef]
Campa, Domenico. 2015. The impact of SME's pre-bankruptcy financial distress on earnings management tools. *International Review of Financial Analysis* 42: 222–34. [CrossRef]
Campbell, Linda, Linxiao Liu, and Kasey Martin. 2015. Accrual earnings management prior to delisting. *Journal of Accounting and Finance* 15: 53.
Campello, Murillo, John R. Graham, and Campbell R. Harvey. 2010. The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics* 97: 470–87. [CrossRef]
Chang, Sea Jin, and Unghwan Choi. 1988. Strategy, structure and performance of Korean business groups: A transactions cost approach. *The Journal of Industrial Economics* 37: 141–58. [CrossRef]
Charitou, Andreas, Neophytos Lambertides, and Lenos Trigeorgis. 2007. Earnings behaviour of financially distressed firms: The role of institutional ownership. *Abacus* 43: 271–96. [CrossRef]
Chen, Feng, Ole-Kristian Hope, Qingyuan Li, and Xin Wang. 2011a. Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review* 86: 1255–88. [CrossRef]
Chen, Jean Jinghan, Peng Cheng, and Xinrong Xiao. 2011b. Related party transactions as a source of earnings management. *Applied Financial Economics* 21: 165–81. [CrossRef]
Chu, Alex GH, Xingqiang Du, and Guohua Jiang. 2011. Buy, lie, or die: An investigation of Chinese ST firms' voluntary interim audit motive and auditor independence. *Journal of Business Ethics* 102: 135–53. [CrossRef]
Claessens, Stijn, Joseph Fan, and Larry Lang. 2006. The benefits and costs of group affiliation: Evidence from East Asia. *Emerging Markets Review* 7: 1–26. [CrossRef]
Coase, Ronald H. 1937. *The Firm, the Market and the Law*. Chicago: University of Chicago Press.
DeAngelo, Harry, Linda DeAngelo, and Douglas J. Skinner. 1994. Accounting choice in troubled companies. *Journal of Accounting and Economics* 17: 113–43. [CrossRef]
Ding, Yuan, Hua Zhang, and Junxi Zhang. 2007. Private vs. state ownership and earnings management: Evidence from Chinese listed companies. *Corporate Governance: An International Review* 15: 223–38. [CrossRef]
Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2008. The law and economics of self-dealing. *Journal of Financial Economics* 88: 430–65. [CrossRef]
Doyle, Jeffrey, Weili Ge, and Sarah McVay. 2007. Accruals quality and internal control over financial reporting. *The Accounting Review* 82: 1141–70. [CrossRef]
d'Udekem, Benoit. 2021. Agency Conflicts and Dividend Persistence. *Journal of Financial Services Research* 60: 207–34. [CrossRef]
Du, Xingqiang. 2021. The Preference of Signing Auditors toward Spicy Cuisine and Financial Reporting Quality. In *On Informal Institutions and Accounting Behavior*. Singapore: Springer, pp. 411–50. [CrossRef]
Du, Xingqiang, and Shaojuan Lai. 2018. Financial distress, investment opportunity, and the contagion effect of low audit quality: Evidence from china. *Journal of Business Ethics* 147: 565–93. [CrossRef]
Du, Xingqiang, Jingwei Yin, Jiayu Han, and Qiao Lin. 2020. The price of sinful behavior window dressing: Cultural embeddedness on cigarette packages and financial reporting quality. *Journal of Accounting and Public Policy* 39: 106776. [CrossRef]
El-Helaly, Moataz. 2016. Related party transactions and accounting quality in Greece. *International Journal of Accounting & Information Management* 24: 375–90. [CrossRef]
El-Helaly, Moataz, Ifigenia Georgiou, and Alan D. Lowe. 2018. The interplay between related party transactions and earnings management: The role of audit quality. *Journal of International Accounting, Auditing and Taxation* 32: 47–60. [CrossRef]
Fan, Shuangrui, and Cong Wang. 2019. Firm age, ultimate ownership, and R&D investments. *International Review of Economics & Finance* 76: 1245–64. [CrossRef]
Fan, Yun, Abhijit Barua, William M. Cready, and Wayne B. Thomas. 2010. Managing earnings using classification shifting: Evidence from quarterly special items. *The Accounting Review* 85: 1303–23. [CrossRef]
Fonseca, Luis Miguel, and José Pedro Domingues. 2018. Empirical research of the ISO 9001: 2015 transition process in Portugal: Motivations, benefits, and success factors. *Quality Innovation Prosperity* 22: 16–45. [CrossRef]
Friedman, Eric, Simon Johnson, and Todd Mitton. 2003. Propping and tunneling. *Journal of Comparative Economics* 31: 732–50. [CrossRef]
Ghannad, Mostafa, Mohammad Reza Abbaszadeh, and Behzad Kardan. 2018. Related Party Transactions and its Relationship with Effective or Opportunistic Behavior of Earnings Management. *Monetary & Financial Economics* 25: 105–34.
Gordon, Elizabeth A., and Elaine Henry. 2005. Related Party Transactions and Earnings Management. Available online: https://ssrn.com/abstract=612234 (accessed on 5 January 2022).
Gordon, Elizabeth A., Elaine Henry, and Darius Palia. 2004. *Related Party Transactions and Corporate Governance*. Bingley: Emerald Group Publishing Limited. [CrossRef]
Gotti, Giorgio. 2016. Discussion of Segment Disclosure Quantity and Quality under IFRS 8: Determinants and the Effect of Financial Analysts Earnings Forecast Errors. *The International Journal of Accounting* 51: 452–63. [CrossRef]
Graham, John R., Campbell R. Harvey, and Shiva Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3–73. [CrossRef]

Habib, Ahsan, Borhan Uddin Bhuiyan, and Ainul Islam. 2013. Financial distress, earnings management and market pricing of accruals during the global financial crisis. *Managerial Finance* 39: 155–80. [CrossRef]

Haga, Jesper, Henrik Höglund, and Dennis Sundvik. 2018. Stock market listing status and real earnings management. *Journal of Accounting and Public Policy* 37: 420–35. [CrossRef]

Hajiha, Zohreh, and Adeleh Azadzadeh. 2020. Related Party Transactions and Accounting Information Quality: Opportunistic Behavior of Managers. *Empirical Research in Accounting* 10: 187–212. [CrossRef]

Hassan, Shehu Usman, and Abubakar Ahmed. 2012. Corporate governance, earnings management and financial performance: A case of Nigerian manufacturing firms. *American International Journal of Contemporary Research* 2: 214–26.

Healy, Paul M., and James M. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13: 365–83. [CrossRef]

Hendratama, Tifanny Dwijaya, and Zuni Barokah. 2020. Related party transactions and firm value: The moderating role of corporate social responsibility reporting. *China Journal of Accounting Research* 13: 223–36. [CrossRef]

Hosseini, S. M., and Z. Rashidi. 2013. Bankruptcy Prediction of Companies listed Corporations in Tehran Stock Exchange by Using Decision Tree and Logistic Regression. *Journal of Financial Accounting Research* 5: 105–28.

Huang, Mengjie. 2016. Financial Reporting Quality in Corrupt Firms: Evidence from the Foreign Corrupt Practices Act. Doctoral dissertation, University of Rochester, Rochester, NY, USA.

Iatridis, George, and George Kadorinis. 2009. Earnings management and firm financial motives: A financial investigation of UK listed firms. *International Review of Financial Analysis* 18: 164–73. [CrossRef]

Ilaboya, Ofuan J., and Izien F. Ohiokha. 2016. Firm age, size and profitability dynamics: A test of learning by doing and structural inertia hypotheses. *Business and Management Research* 5: 29–39. [CrossRef]

Izadinia, Naser, Gholamreza Mansourfar, and Musa Rashidi Khazaee. 2015. Financial Distress as a Risk Factor for the Occurrence of Earnings Management. *Financial Management Strategy* 3: 25–47. [CrossRef]

Jaafar Nodeh, Ali, and Mehdi Safari Gerayli. 2020. Political Connections and Related-Party Transactions: Evidence from Iranian Firms. *Advances in Mathematical Finance and Applications* 5: 319–30. [CrossRef]

Jacoby, Gady, Jialong Li, and Mingzhi Liu. 2019. Financial distress, political affiliation and earnings management: The case of politically affiliated private firms. *The European Journal of Finance* 25: 508–23. [CrossRef]

Jaggi, Bikki, and Lili Sun. 2016. *Financial Distress and Earnings Management: Effectiveness of Independent Audit Committees*. Newark: Wihtcomb Center for Research in Financial Services (WCRFS).

Jamalikazemini, Bahman, Hossein Tarighi, Elahe Farmanbar Fdafan, and Mahdi Saravani. 2020. Board Compensation and Related Party Transactions: Evidence from Iran. *Journal of Banking and Finance Management* 3: 1–17. Available online: https://www.sryahwapublications.com/journal-of-banking-and-finance-management/volume-3-issue-2/1.php (accessed on 10 August 2021).

Järvinen, Tuukka, and Emma-Riikka Myllymäki. 2016. Real earnings management before and after reporting SOX 404 material weaknesses. *Accounting Horizons* 30: 119–41. [CrossRef]

Jerry, Musa, and Sani Saidu. 2018. The impact of audit firm size on financial reporting quality of listed insurance companies in Nigeria. *Iranian Journal of Accounting, Auditing and Finance* 2. [CrossRef]

Jian, Ming. 2003. Earnings Management and Tunneling through Related Party Transactions: Evidence from Chinese Corporate Groups. Ph.D. thesis, Hong Kong University of Science and Technology, Hong Kong, China.

Jian, Ming, and Tak Jun Wong. 2010. Propping through related party transactions. *Review of Accounting Studies* 15: 70–105. [CrossRef]

Jin, Li, and Stewart C. Myers. 2006. R2 around the world: New theory and new tests. *Journal of Financial Economics* 79: 257–92. [CrossRef]

Johnson, Simon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2000. Tunneling. *American Economic Review* 90: 22–27. [CrossRef]

Khanifah, Khanifah, Pancawati Hardiningsih, Asri Darmaryantiko, Iryantika Iryantik, and U. Udin. 2020. The effect of corporate governance disclosure on banking performance: Empirical evidence from Iran, Saudi Arabia and Malaysia. *The Journal of Asian Finance, Economics, and Business* 7: 41–51. [CrossRef]

Kim, Jong Hae. 2019. Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology* 72: 558. [CrossRef]

Kim, Jeong-Bon, Yinghua Li, and Liandong Zhang. 2011. CFOs versus CEOs: Equity incentives and crashes. *Journal of Financial Economics* 101: 713–30. [CrossRef]

Kothari, Sabino P., Susan Shu, and Peter D. Wysocki. 2009. Do managers withhold bad news? *Journal of Accounting Research* 47: 241–76. [CrossRef]

Kuan, Linvani, Greg Tower, Rusmin Rusmin, and JL W. Mitchell Van der Zahn. 2010. Related party transactions and earnings management. *Jurnal Akuntansi dan Auditing Indonesia* 14. Available online: https://journal.uii.ac.id/JAAI/article/view/2255 (accessed on 5 January 2022).

Kumari, Prity, and Jamini Kanta Pattanayak. 2017. Linking earnings management practices and corporate governance system with the firms' financial performance: A study of Indian commercial banks. *Journal of Financial Crime* 24: 223–41. [CrossRef]

Lashgari, Zahra, and Abdulrahman Gawradar. 2015. Internal Control Weakness and Accruals Quality in Companies Listed on Tehran Stock Exchange. *Procedia-Social and Behavioral Sciences* 207: 454–61. [CrossRef]

Lenard, Mary Jane, Karin A. Petruska, Pervaiz Alam, and Bing Yu. 2016. Internal control weaknesses and evidence of real activities manipulation. *Advances in Accounting* 33: 47–58. [CrossRef]

Leuz, Christian, Dhananjay Nanda, and Peter D. Wysocki. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69: 505–27. [CrossRef]

Li, Yuanhui, Xiao Li, Erwei Xiang, and Hadrian Geri Djajadikerta. 2020. Financial distress, internal control, and earnings management: Evidence from China. *Journal of Contemporary Accounting & Economics* 16: 100210. [CrossRef]

Marchini, Pier Luigi, Tatiana Mazza, and Alice Medioli. 2018. The impact of related party transactions on earnings management: Some insights from the Italian context. *Journal of Management and Governance* 22: 981–1014. [CrossRef]

Mashayekhi, Bita, and Mohammad S. Bazaz. 2008. Corporate governance and firm performance in Iran. *Journal of Contemporary Accounting & Economics* 4: 156–72. [CrossRef]

Mensah, Emmanuel. 2020. The effect of IFRS adoption on financial reporting quality: Evidence from listed manufacturing firms in Ghana. *Economic Research-Ekonomska Istraživanja*, 1–16. [CrossRef]

Metzker, Zdenko, and Anna Siekelova. 2021. Explanatory Power of Earnings Management Models. In *SHS Web of Conferences*. Les Ulis: EDP Sciences, vol. 92. [CrossRef]

Moradi, Mahdi, Mahdi Salehi, Seyed Javad Habibzadeh Bighi, and Masome Najari. 2012. A Study of relationship between board characteristics and earning management: Iranian scenario. *Universal Journal of Management and Social Sciences* 2: 12–29.

Moradi, Mahdi, Mahdi Salehi, Hossein Tarighi, and Mahdi Saravani. 2020. Audit adjustments and corporate financing: Evidence from Iran. *Journal of Accounting in Emerging Economies* 10: 521–43. [CrossRef]

Moradi, Mahdi, Andrea Appolloni, Grzegorz Zimon, Hossein Tarighi, and Maede Kamali. 2021. Macroeconomic Factors and Stock Price Crash Risk: Do Managers Withhold Bad News in the Crisis-Ridden Iran Market? *Sustainability* 13: 3688. [CrossRef]

Muljono, Danella Rachel, and Kim Sung Suk. 2018. Impacts of financial distress on real and accrual earnings management. *Jurnal Akuntansi* 22: 222–38. [CrossRef]

Nobakht, Younes, and Melek Acar. 2021. Effect of Accrual-based and real Earnings Management on Firm Value: A Case Study of Companies listed on the Tehran Stock Exchange. *Financial Research Journal* 22: 568–93. [CrossRef]

Notbohm, Matthew, Katherine Campbell, Adam R. Smedema, and Tianming Zhang. 2019. Management's personal ideology and financial reporting quality. *Review of Quantitative Finance and Accounting* 52: 521–71. [CrossRef]

Ohlson, James A. 1980. Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research* 18: 109–31. [CrossRef]

Peng, Winnie Qian, John Wei, and Zhishu Yang. 2011. Tunneling or propping: Evidence from connected transactions in China. *Journal of Corporate Finance* 17: 306–25. [CrossRef]

Pergola, Teresa M., and Daniel A. Verreault. 2009. Motivations and potential monitoring effects of large shareholders. *Corporate Governance: The International Journal of Business in Society* 9: 551–63. [CrossRef]

Pizzo, Michele. 2013. Related party transactions under a contingency perspective. *Journal of Management & Governance* 17: 309–30. [CrossRef]

Pozzoli, Matteo, and Marco Venuti. 2014. Related party transactions and financial performance: Is there a correlation? Empirical evidence from Italian listed companies. *Open Journal of Accounting* 3: 41981. [CrossRef]

Qawqzeh, Hamza Kamel, Wan Anisah Endut, Norfadzilah Rashid, and Mohammad Mustafa Dakhlallh. 2020. Impact of the external auditor's effectiveness on the financial reporting quality: The mediating effect of audit quality. *Journal of Critical Reviews* 7: 1197–208. [CrossRef]

Rafatnia, Ali Akbar, A. Suresh, L. Ramakrishnan, Dewi Fariha Binti Abdullah, Fazel Mohammadi Nodeh, and Mohammad Farajnezhad. 2020. Financial distress prediction across firms. *Journal of Environmental Treatment Techniques* 8: 646–51.

Raguseo, Elisabetta, Claudio Vitari, and Federico Pigni. 2020. Profiting from big data analytics: The moderating roles of industry concentration and firm size. *International Journal of Production Economics* 229: 107758. [CrossRef]

Rahmat, Mohd Mohid, Balachandran Muniandy, and Kamran Ahmed. 2020. Do related party transactions affect earnings quality? Evidence from East Asia. *International Journal of Accounting & Information Management* 28: 147–66. [CrossRef]

Rakshit, Debdas, and Ananya Paul. 2020. Earnings management and financial distress: An analysis of Indian textile companies. *NMIMS Journal of Economics and Public Policy* 5: 40–53.

Ramezanzadeh Zeidi, Abbas, Khosro Faghani Makarani, and Ali Jafari. 2021. The Role of Earnings Management in Theoretical Development and Improving the Efficiency of Accounting-Based Financial Distress Prediction Models. *Advances in Mathematical Finance and Applications* 6: 1–18.

Ranjbar, Samin, and G. Amanollahi. 2018. The effect of financial distress on earnings management and unpredicted net earnings in companies listed on Tehran Stock Exchange. *Management Science Letters* 8: 933–38. [CrossRef]

Ravenstein, J. 2012. Effect of Audit Quality on the Relation between Internal Control and EarningsManagement. Doctoral dissertation, University of Amsterdam, Amsterdam, The Netherlands.

Rodriguez-Ariza, Lázaro, Jennifer Martínez-Ferrero, and Manuel Bermejo-Sánchez. 2016. Consequences of earnings management for corporate reputation: Evidence from family firms. *Accounting Research Journal* 29: 457–74. [CrossRef]

Rosner, Rebecca L. 2003. Earnings manipulation in failing firms. *Contemporary Accounting Research* 20: 361–408. [CrossRef]

Ross, Stephen A. 1973. The economic theory of agency: The principal's problem. *The American Economic Review* 63: 134–39.

Salehi, Mahdi, and Mahmoud Mousavi Shiri. 2016. Different bankruptcy prediction patterns in an emerging economy: Iranian evidence. *International Journal of Law and Management* 58: 258–80. [CrossRef]

Salehi, Mahdi, Hossein Tarighi, and Malihe Rezanezhad. 2017. The relationship between board of directors' structure and company ownership with corporate social responsibility disclosure: Iranian angle. *Humanomics* 33: 398–418. [CrossRef]

Salehi, Mahdi, Hossein Tarighi, and Samaneh Safdari. 2018. The relation between corporate governance mechanisms, executive compensation and audit fees: Evidence from Iran. *Management Research Review* 41: 939–67. [CrossRef]

Salehi, Mahdi, Hossein Tarighi, and Malihe Rezanezhad. 2019a. Empirical study on the effective factors of social responsibility disclosure of Iranian companies. *Journal of Asian Business and Economic Studies* 26: 34–55. [CrossRef]

Salehi, Mahdi, Mahmoud Mousavi Shiri, and Seyedeh Zahra Hossini. 2019b. The relationship between managerial ability, earnings management and internal control quality on audit fees in Iran. *International Journal of Productivity and Performance Management* 69: 685–703. [CrossRef]

Salehi, Mahdi, Mahmoud Lari Dasht, Bayaz, Somayeh Hassanpour, and Hossein Tarighi. 2020. The effect of managerial overconfidence on the conditional conservatism and real earnings management. *Journal of Islamic Accounting and Business Research* 11: 708–20. [CrossRef]

Sari, Nur Astri, Rusma Nailiah, Achmad Suhaili, and Fitria Handayani. 2021. Relationship of Related Party Transactions and Earnings Management. *AFEBI Accounting Review* 5: 28–35. [CrossRef]

Sarlak, Narges, and Mina Akbari. 2014. Relationship between related party transactions and earnings management. *Accounting and Auditing Review* 20: 77–92. [CrossRef]

Savin, Nathan E., and Kenneth J. White. 1977. The Durbin-Watson test for serial correlation with extreme sample sizes or many regressors. *Econometrica: Journal of the Econometric Society* 45: 1989–96. [CrossRef]

Schipper, Katherine, and Linda Vincent. 2003. Earnings quality. *Accounting Horizons* 17: 97–110. [CrossRef]

Shleifer, Andrei, and Robert W. Vishny. 1997. A survey of corporate governance. *The Journal of Finance* 52: 737–83. [CrossRef]

Shumway, Tyler. 2001. Forecasting bankruptcy more accurately: A simple hazard model. *The Journal of Business* 74: 101–24. [CrossRef]

Shuraki, Mojtaba Golmohammadi, Omid Pourheidari, and Masoud Azizkhani. 2020. Accounting comparability, financial reporting quality and audit opinions: Evidence from Iran. *Asian Review of Accounting* 45: 100415. [CrossRef]

Singhal, Rajeev, and Yun Ellen Zhu. 2013. Bankruptcy risk, costs and corporate diversification. *Journal of Banking & Finance* 37: 1475–89. [CrossRef]

Sovaniski, Tim. 2020. Influencing of International Accounting Reporting Standards on Quality of Financial Reports. Available online: https://ssrn.com/abstract=3665457 (accessed on 5 January 2022).

Strakova, Lenka, and Lucia Svabova. 2021. Jones' Model and Its Modifications in the Conditions of the Slovak Republic. In *SHS Web of Conferences*. Les Ulis: EDP Sciences, vol. 91. [CrossRef]

Subastian, Levina Ulfa, Ari Kuncara Widagdo, and Doddy Setiawan. 2021. Related Party Transactions, Family Ownership, and Earnings Management in Indonesia. *Jurnal Keuangan dan Perbankan* 25: 688–700. [CrossRef]

Sudarsanam, Sudi, and Jim Lai. 2001. Corporate financial distress and turnaround strategies: An empirical analysis. *British Journal of Management* 12: 183–99. [CrossRef]

Tarighi, Hossein, Mahdi Moradi, and Malihe Rezanezhad. 2019. Does Religiosity affect Audit Fees and Corporate Tax Avoidance in an Inflationary Market? *Asian Journal of Social Sciences Review (AJSSR)* 3: 133–47. [CrossRef]

Tarighi, Hossein, Mohammad Sadegh Sadeghi, Saeed Zarif Agahi Dari, and Mahdi Saravani. 2020. Corporate Ownership Structures and Audit Risk. *Asian Journal of Economics and Finance* 4: 369–84.

Tarighi, Hossein, Andrea Appolloni, Ali Shirzad, and Abdullah. 2022a. Corporate Social Responsibility Disclosure (CSRD) and Financial Distressed Risk (FDR): Does Institutional Ownership Matter? *Sustainability* 14: 742. [CrossRef]

Tarighi, Hossein, Mahdi Salehi, Mahdi Moradi, and Grzegorz. 2022b. Social Capital, Intellectual Capital, and Audit Fee: Conflicting Evidence from Iran. *Economies* 10: 39. [CrossRef]

Thomas, Wayne B., Donald R. Herrmann, and Tatsuo Inoue. 2004. Earnings management through affiliated transactions. *Journal of International Accounting Research* 3: 1–25. [CrossRef]

Thompson, Christopher Glen, Rae Seon Kim, Ariel M. Aloe, and Betsy Jane. 2017. Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. *Basic and Applied Social Psychology* 39: 81–90. [CrossRef]

Thorburn, Karin S. 2000. Bankruptcy auctions: Costs, debt recovery, and firm survival. *Journal of Financial Economics* 58: 337–68. [CrossRef]

Tong, Yan, Mingzhu Wang, and Feng Xu. 2014. Internal control, related party transactions and corporate value of enterprises directly controlled by Chinese central government. *Journal of Chinese Management* 1: 1–14. [CrossRef]

Tykvová, Tereza, and Mariela Borell. 2012. Do private equity owners increase risk of financial distress and bankruptcy? *Journal of Corporate Finance* 18: 138–50. [CrossRef]

Zhang, Wenfang, and Abraham Lincoln Ayisi. 2020. Earnings Management and Corporate Performance: An Empirical Evidence from Ghana. *Research Journal of Finance and Accounting* 11. [CrossRef]

Williamson, Oliver E. 1975. Markets and Hierarchies: Analysis and Antitrust Implications: A Study in the Economics of Internal Organization. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. Available online: https://ssrn.com/abstract=1496220 (accessed on 5 January 2022).

Yazdanfar, Darush, and Peter Öhman. 2015. The impact of credit supply on sales growth: Swedish evidence. *International Journal of Managerial Finance* 11: 329–40. [CrossRef]

Zang, Amy Y. 2012. Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review* 87: 675–703. [CrossRef]

Zimon, Grzegorz, and Halina Chlodnicka. 2019. Innovation in Financial Reporting: The Aspect of the Capital Group. *Marketing and Management of Innovations* 2: 33–41. [CrossRef]

Zimon, Grzegorz, and Dominik Zimon. 2020. Quality Management Systems and Working Capital SMEs in GPO—A Case of Poland. *Administrative Sciences* 10: 76. [CrossRef]

Zimon, Grzegorz, Andrea Appolloni, Hossein Tarighi, Seyedmohammadali Shahmohammadi, and Ebrahim Daneshpou. 2021. Earnings Management, Related Party Transactions and Corporate Performance: The Moderating Role of Internal Control. *Risks* 9: 146. [CrossRef]

Zmijewski, Mark E. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22: 59–82. [CrossRef]