Evaluating the effects of the financial crisis on the cash holding policies of listed companies in Tehran Stock Exchange

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Abstract

In this study, the relationship between the financial crisis and foreign exchange and policies of cash holdings will be evaluated in companies listed in Tehran Stock Exchange. This is a non-laboratory and descriptive research. In this study, two model of multivariate linear regression has been used for testing hypotheses. The statistical method used for first model is the panel method with fixed effects and the Panel method with random effects has been used for second method, also the Targeted deletion method (systematic) has been used in sampling. The population of this study is companies listed on the Tehran Stock Exchange for the period of six years, ending to 2013 and 99 companies are the number of samples after the screening. The regression results between the variables indicate that there is a significant relationship among financial crisis and dividend payout policy and operational cash flow of listed companies in Tehran Stock Exchange. The result of the research shows that investors in times of financial crisis will be deficit of operational cash flow and because of the recession (Decreasing productions and increasing the general level of prices) and increase in cost of capital and transactions (The cost of equity and debt securities), they take action to prevent exorbitant costs and also dividend more.

Keywords: Financial crisis (foreign exchange), cash holdings, dividend, cash flow, Tehran Stock Exchange.
Introduction:

Problem statement:

The financial crisis, which in recent years has occurred in most countries, on the one hand, leads to reduce in sales and profitability of many companies and on the other hand it has created many financing problems for companies, as a result, managers must make the right decision in relation to the more or less distribution of own distributed profits to prevent major problems for the company and to maintain continuity of activity and try to prevent company from reduce in productivity.

Usually, natural occurrence of currency crises in countries returns to imbalance equilibrium or balance of their payments. This means that the imbalance in the balance or the balance of payments is underlying natural occurrence of currency crises. The two main components of the balance of payments "current account "and" capital account "have been established. Current account consists of trade balance, services balance, income balance and the balance transfer. The trade balance is one of the most important components of the current account in the balance of payments, which includes the entry and exit of goods. The balance of "capital account" is also related to the payment of foreign debt and international obligations. According to the notes aforesaid, whenever the table or balance of payments equilibrium between 2012-2010 is reviewed, the below point is achieved:

The balance of payments increase of about 22 billion US dollars in 2011 compared to 2010, an increase of $ 13 billion in 2012 compared to 2010.

The following table shows the situation (Central Bank of the Islamic Republic of Iran, 2012):

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Account</td>
<td>27554</td>
<td>59383</td>
<td>26271</td>
</tr>
<tr>
<td>Total account</td>
<td>37330</td>
<td>67069</td>
<td>30975</td>
</tr>
<tr>
<td>Account Services</td>
<td>-10040</td>
<td>-8432</td>
<td>-6293</td>
</tr>
<tr>
<td>Income account</td>
<td>79</td>
<td>323</td>
<td>1037</td>
</tr>
<tr>
<td>The current transfers account</td>
<td>185</td>
<td>423</td>
<td>552</td>
</tr>
<tr>
<td>Financial and capital account</td>
<td>-25242</td>
<td>-16538</td>
<td>-9835</td>
</tr>
<tr>
<td>other</td>
<td>-3259</td>
<td>-21409</td>
<td>-4224</td>
</tr>
<tr>
<td>The total balance</td>
<td>-947</td>
<td>21436</td>
<td>12212</td>
</tr>
</tbody>
</table>

As seen in the table above, total balance or balance of payments in 2011 and 2012 has been positive. The main question is that despite the country's balance of payments in the years of study has been positive and in a good condition; Why the exchange rate have increased significantly, and the country is experiencing a currency crisis?
The currency crisis of 2011 begins as mild, so that in the second 6-month average exchange rate between the official and free market is about 420 Toman. In the 2012 currency crisis reaches its climax stage, so in the second 6 months of this year, the average exchange rate between the official and free market matures around 1850 Toman. So considering that the balance of payments situation in the country was positive and good, but the gap between the official and free market exchange rate also increased. The answer to that conflict must be sought in other important variables that are involved in the onset of a currency crisis in 2012. Considering that the exchange rate in Iran in 2011 has a significant increase compared to previous years and it has increased from £ 11.050 to £ 21.500, so it can be concluded that the year 2011 as the year of the financial crisis (Atefi Manesh and Setavarz 2012).

Due to the critical situation that occurred, policies of cash holdings have a special place to enjoy of some of the stakeholders of the company by means of identity and tangibility. In fact, actual and potential users of financial information are keen to aware of ability to create cash and partly its distribution among the shareholders. In fact, the main challenge of this study is to estimate the relationship between critical situations during the years 2011 to 2013 on the policy cash holdings in listed companies in Tehran Stock Exchange. And According to the above, the main problem with this study is explained as follows: Is there any significant relationship between the financial crises occurred in the years 2011-2012 with the cash holding policies of listed companies in Tehran Stock Exchange?

Theoretical principles and objectives of the study:

Currency crisis:

Currency crisis is a sudden drop in the value of the national currency. Currency crisis, also called the balance of payments crisis. Currency crisis always has huge economic costs for countries, including: reducing production and increase unemployment and even the collapse of the banks (Abdeh Tabrizi, 2003).

Money supply:

Money supply is equal to the amount of the money stock plus non-visual deposits (The same savings deposits and deferred) that are extracted and accounted according to the information released by the central bank. It should be noted that the money stock is equal to currency in circulation and sight deposits (deposits that must be in cash, such as checks) (Raei and Telangy, 2004, 48).

The aim of study:

The main objective of this study was to investigate the relationship between financial crises occurred in the years 2011-2012 and the cash holding policies of listed companies in Tehran Stock Exchange. The specific objectives of this study are the following:
1. Review the relationship between the financial crisis and currency occurred in the years 2010-2012 and expansion and contraction dividend policies of companies listed on the Tehran Stock Exchange.

2. Review the relationship between the financial crisis and currency occurred in the years 2011 to 2012 and cash flow of companies listed on the Tehran Stock Exchange.

**Research hypotheses:**

**Main hypothesis of research:**
There is a significant relationship between financial crisis occurred in 2011-2012 and the policies of the cash holdings of listed companies in Tehran Stock Exchange. To evaluate the basic hypotheses, two sub- hypotheses were used in this study which is tested in the following:

**First hypothesis:** There is a significant relationship between financial crisis occurred in 2011-2012 with the dividends of listed companies in Tehran Stock Exchange.

The second hypothesis: There is a significant relationship between financial crisis occurred in 2011-2012 with the cash flow of companies listed in Tehran Stock Exchange.

**The first part:** the causes of the currency crisis of 2012

In general the currency crisis can be divided into three main factors in 2012:
1. The reduction of currency supply
2. The increase in currency demand
3. The difference between domestic and foreign inflation rates

1. **Reducing the supply of currency**

There were fundamental disruptions in currency supply process by tougher sanctions. Range of sanctions was very broad and in one hand directed on the oil embargo and on the other hand had returned to financial sanctions.

a. Oil sanctions and declining oil exports

   Restrictions on buying oil from the Europe Union, South Korea and other oil-importing countries from Iran such as China and India are influenced by pressure from the United States of America, Iran's foreign exchange earnings impaired.

   As a result of oil sanctions, oil exports are reduced and consequently, Iran's oil revenues are reduced since late 2011 and especially in 2012. Due to the high share of oil revenues in foreign exchange earnings, the main source of currency supply in the Iran's economy was faced with wide constraints (Izadi, 2011).

**Financial institutions and central bank sanctions**

Function of financial sanctions intensification variable by blocking UAE payment order since 2010 began and with central bank sanctions, disrupting the process of transferring foreign
exchange earnings to the country intensified. The central bank sanctions and other restrictions are the causes of the currency crisis in the country.

2. Increase in currency demand

In parallel with the decline in currency supply, falsely increasing was created in demand section that includes the following areas:

a. Increased speculative activity

The actual demand for imports was not brought enormous pressure on the currency demand and supply situation in currency crisis of 2012, but after the announcement of a boycott of the Central Bank, there was a sharp increase in speculative activity and heavy and uncontrollable psychological atmosphere prevailing in the foreign exchange market. This leads to an imbalance in the foreign exchange market and increases the price of the currency's rise and builds critical situation (Central Bank of the Islamic Republic of Iran, 2013).

b. Increase motivation to exchange the national currency into the foreign exchange

The central bank psychological shock sanction, increasing inflation rate and … are created great incentives among people for converting national currency to the foreign exchange. By the emergence of psychological shock to economic factors, usually sections of society want their savings into valuable and powerful assets with high liquidity. One of the markets that could supply these demands and have these features was the foreign exchange market. This means that currency and coins from one hand could play a greater role in maintaining public assets and on the other hand the liquidity has to be higher than other items. This leads to the formation of heavy and uncontrolled demand towards the foreign exchange that had a major role in increasing the price of the currency exchange market (Haman Sarem, 2010).

c. Central bank monetary policy (lower interest)

Central bank with policies such as the reduction in interest rates and deposits, ban bonds redeemed before maturity by operating banks, low interest rate for bonds that were adopted at the beginning of 2011, were the cause of the stagnant of bank deposits. This leads a significant transfer of resources and the liquidity of the bank to other markets, such as currency market. Increase liquidity in the foreign exchange market led to a false demand and then increase exchange rate (ibid, 2013).

3. Difference between domestic and foreign inflation rates

Another factor of currency crisis is the quality of policies of policymakers in return. Including policies that policymakers had always desired, to fix the official exchange rate. If the fixed official exchange rate accompanied with domestic inflation rate differences with international rate, it creates fragile pressure to change the exchange rate.

Part II: theoretical issues related to the level of cash holdings

Theory of information asymmetry

According to information asymmetry theory, reduce information asymmetry (For example by increasing the quality of financial reporting) can lead to a reduction in cash holdings by the
companies. This theory refers to the state that one of the parties of the transaction has an informational advantage over others. In this case, the economy is said that information is asymmetric. In general it can be said information asymmetry, plays an important role in the cost of external financing (Ahmad Pour and Rasaiian, 2006).

Representation theory
The conflicts that led to the identification of agency costs can be used by management to justify the behavior of cash holdings. About the size of the enterprise, It can be said whatever the greater enterprise, the management authority will be greater. Therefore, the probability of surplus cash holdings increases. On the other hand, companies with low debt are expected to be kept more cash because low debt causes capital markets are less regulated and more the management authority over. Companies that have valuable investment opportunities and high cost of external financing are expected to hold more liquid assets, because in case of shortage of funds, the company will lose more valuable projects (Ditma et al., 2003).

Theory, balance
According to this theory, companies are set their optimum cash rate by establishing a balance (equilibrium) between the benefits and costs of cash holdings (Rasaiian et al., 2010). Cash holdings reduce the likelihood of financial crisis and as an assured storage are encountering unexpected losses (Opler et al, 1999). The important point in this theory is that there is an appropriate level of cash for companies where management makes decisions with active approach, based on analysis of the cost-benefit ratio of cash holdings (Johnny, 2004).

Financing hierarchy theory
In terms of financing, this theory states a hierarchy that the company financing investment first retained earnings, then debt and finally with equity. The purpose of observing this way is reducing the cost of information asymmetry and other financing costs (Ferreira et al., 2004) But based on the theory of hierarchical companies prefer internal resources to external resources, therefore they have desire to accumulate cash, so the relationship between cash flow and cash balances, anticipated to be positive.

Free cash flow theory
This theory states that more internal cash flow allows administrators to avoid market control. In this case, they do not require the approval of shareholders and they are free to make decisions about investments in their possession. Managers are not willing to pay cash (Including dividends); they are motivated to invest, even when there is no investment with a positive net present value (Izadinia and Rasaiian, 1388). However, the administrator may make investments that have a negative effect on shareholder wealth (Ferriera and Veylla, 2004).

Part III: theoretical foundations related to dividend policy
The amounts of company's profits are not guaranteed existence of the cash. The company may have receivables or cash have become other assets during the period or even their debts are paid by these assets. However, after the meeting concluded that sufficient funds
are available for payment of dividends on the company, its distribution is decided. Distribution of cash dividends leads to reduce total assets of company and thus reduce equity capital.

One of the major challenges in financial economics is to recognize the company's dividend policy. While is obvious full market capitalization dividend decisions is irrelevant (Miller and Modigliani, 1961); In addition, research findings suggest that:

1. When managers making decisions regarding capital structure, considered remarkable weight for financial flexibility (Graham and Harvey, 2001).
2. Managers prefer to redeem stock instead of paying dividends because they considered it more flexible instruments (Bravo et al., 2005).

There are generally two views in relation to the dividend:
The first view is included representation theory and signaling theory. According to the representation theory, there is a conflict of interest between the manager and the owner. Dividend payment may help to reduce agency costs and conflict of interest because cash dividends:
A. Cash dividends compelling management to create enough cash flow to pay dividends to the track.
B. Cash dividends compelling management go to the capital market to finance their projects and consequently offer more information to the market.
C. Cash dividend is reduced cash flow surplus and wastage of it (Laporta and others, 2000).

According to signaling theory, the dividend for the market contains new information and administrators can use dividends to signal and convey the good news to their shareholders. In other words, dividend information content and transmit the important financial information.

**Dividend theories**

1. **The remaining dividend theory**

Theory remaining dividend was introduced for the first time by Printerj in1932. According to this theory dividend policy of the company is a direct consequence of its investment policy, which means that the funds available to projects with positive net present value of cash flows remaining surplus(If there are) will be distributed to the shareholders as dividends. Therefore, such a policy makes future dividends very difficult to predict and will be used only if investors are indifferent to fluctuations dividends.

2. **Signaling theory**

Infrastructure of signaling hypothesis is the information content of dividends and reduction of information asymmetry through the hidden information contained in the unexpected changes in dividends; this means that dividend and especially its unexpected changes are as a sign that transmitted new news in the market.
3. Representation theory

A branch of dividend theories have reviewed this issue from the perspective of relations agencies that resulted in separation of management and ownership interests in the companies created and to analyze the conflicts of interest between the parties regarding the representation refers to so-called agency problem (Jensen, 1986). The basic assumption of this theory is that people act to maximize their own interests, and because the utility functions of people do not necessarily always coincide, managers do not always seek the maximum benefits for the owners. In the role of dividends in reducing agency problems, various theories have been proposed, including: agency cost, hypothesis of minimum cost profit sharing, management bonuses and consequences and succession assumptions.

Maturity theory
Maturity theory (Also called financial life cycle theory) first has been proposed by Grullon et al (2000) and based on that the optimal policy dividend stems from the need to distribute free cash flow. This theory is in fact a mixture of elements of representation theory proposed by Jensen (1986) and the pattern of gradual changes in the company's investment opportunities at different stages of their life cycle that was introduced by Fama and French (2001). According to this theory, companies with respect to changes in investment opportunities and free cash flow adjusted their own dividend policy in optimal way (Denis and Osobo, 2008).

Catering theory
Another emerging theory to explain the dividend, catering theory was considered by Baker & Wurgler (2004) and assuming capital markets incomplete. The core of catering theory is that managers identified investors demand and respond to it as appropriate in each case or, to be catering according to investors' preferences, and also capital market with understanding the value of the shares of these companies show a positive reaction (Baker & Wurgler, 2004).

Tax hypothesis
On assumption of the effects of taxes on dividends with the help of market failure (incomplete market) and different taxes to dividends and capital stock (arising from transactions and revaluation of stocks) the dividend issue will be discussed from the perspective of shareholders. The impact of taxes on dividends in various legal systems is different. For years not far, in most legal systems statutory tax the cash dividends were higher in comparison to capital gains tax. For example, in America dividend tax was 40%, while the maximum rate of capital gains tax was 20% (Bravo et al., 2005); Accordingly, while company have investment opportunities with yields equal to or greater than the cost of capital (The projects with positive net present value) shareholders logically preferred not distributed any dividends. Private investors that they are higher dividend taxation of capital gains, may prefer a lower dividend payout ratio (Tao, 2003), and in return they research their investment in capital gains instead of cash profit which have lower tax burden for them. The different attitudes of shareholders to dividend shares for tax purposes, so-called theory of "tax clients" refers.
The necessity of research
Currency crisis that dominated on the country's economic climate during past few years was such a rare occurrence over the past three decades had never experienced such an event. The crisis was so big and important that lead to a recession in most parts of the macro and micro economic, Including the serious effect on reducing the amount of deposits of individuals in banks subsequently reduce the volume of construction activities, reduce the size of the people investing in the stock market, the downturn in the housing market and ... the main reason could be the changing nature of transaction items such as foreign exchange and gold as a high-yield capital goods named that lead to further stagnation in the manufacturing sector and the stimulus of the country;

Therefore the assessment of how the crisis formed and its impact on amount of investment of individuals and policies of cash holdings and the assessment of the sequence of events that leads to such crises in the country, could lead to sum up experiences and subsequently accumulation of knowledge to prevent such challenging incidents in the country.

Research background:

External research:
Gilchrist and colleagues (2015) began a study as the dynamics of inflation in a financial crisis and analyze the reasons for the financial crisis and thus concluded that one of the main reasons for the financial crisis in 2008 was this position that many companies with limited cash resources increased their products prices significantly. In fact according to the finding, results showed that lack of transparency in financial markets led companies in response to the unlimited demands and financial shocks increase the prices of their goods for no reason and this leads to the occurrence of bubbles in financial markets and transfer it to the real market.

Bassett et al (2014) studied a research as the impact of financial investments in SME exchange. They were used a new set of data from the Netherlands private companies in the long period of time (2004 to 2012). The results show that the financial crisis had no significant impact on SME investments. Even the effects of internal financing (cash flows) and external financing (banks debt) were differentiated.

Anderson et al (2014) stated that how the financial and economic crisis had an impact on the scope of manipulate earnings and value associated with reported financial numbers for companies that have been audited by a Big 4 auditor. Analyses of listed companies in Portugal, Ireland, Italy, Greece and Spain have been carried out. The evidence and the findings showed that Portugal, Italy and Greece are trying participation in the management profit to improve their low profitability and liquidity with steady growth and higher debt. Ireland is less evidence of earnings manipulation, while the results from Spain are somewhat conflicting results have shown. In addition, the financial reports of companies in Portugal and Greece, which were audited by a Big 4 auditor, higher quality offered before the crisis. In contrast, Irish, Italian and Spanish companies reports more financial value during the crisis have been reported.
Chiara (2013) is examined demand for debt and equity, before and after the financial crisis. He used the firm-level data to evaluate the characteristics of the applicant companies for foreign investment before and after the financial crisis, combined with the characteristics of successful applicants is conducted. Despite the change in credit conditions, the salient features of external financing in demand throughout this period, including ownership, structure of assets, age and size, has survived. Inability to secure debt in earlier period, the company owners is not preventing from applying for a loan in subsequent periods. His findings showed that more distressed companies suffered more from the consequences of the credit crunch.

**Internal investigations:**
Khobre (2013) investigated the effects of the global financial crisis on foreign direct investment: he paid a case study for Iran. In his study, he examined the 2007 financial crisis. For this purpose, the determinants of foreign direct investment with considering the varying financial crisis as well as other control variables during the period 69-91 was estimated. The results show a significant negative impact of global financial crisis on foreign direct investment in Iran. Crisis causes the shortage of capital is not compensated in the country to increase production capacity and reducing economic growth, this, in turn, reduces competitiveness and communicates with the international economy. Therefore, the ultimate solution of this research is for developing countries to deal with the devastating effects of the financial crisis to facilitate the entry situation for foreign direct investment.

Fahimi Davab (2010) reviewed certain behavioral factors on the decision to buy ordinary stock investors. The researcher, who studied comparing Tehran and Mashhad stock exchanges, reached the conclusion that the decision by investors to buy shares in Stock Exchange of Tehran and Mashhad is influenced by cultural factors and cultural factors in Mashhad Stock Exchange is stronger.

**Research methodology**
In general, research methods in the behavioral sciences and social sciences according to two criteria can be divided to research aim and how to collect data. This paper is a classification based on objective, of applied research. The aim of applied research is the development of practical knowledge in a particular field. The present research in terms of method and nature is methodology and the nature of ex post facto correlational research. The study aimed to determine the relationships between them. For this purpose, according to the scale of measurement variables, appropriate indicators being selected. Measurement scale of data is relative scale.

Due to the fact that the correlational nature of the test is kind of Correlation (retrospective), the multivariate regression analysis has been used to determine the impact of independent variables on the dependent variable. To analyze the information collected by descriptive statistics, inferential statistics and tables are used. Descriptive statistics were used to summarize collected data and a better understanding of the population studied was done, because the purpose of descriptive statistics is description and extraction of basics and combining the information with the help of language of numbers. Generally, the purpose of inferential statistics is drawing inferences about population parameters by means of analyze the information in sample data and also the assessment of uncertainty which exists in the understanding.
In this regard, the initial implementation of the first model using Chow and Hausman to determine the appropriate model statistics regression analysis (Panel or panel data with fixed and random effects) and using statistics such as Eim and boys and Shim and Lin and Levine of the variables studied. Then in the second run regression model, the classical hypothesis of normal distribution of variables, independent dispensing errors, the normal distribution of errors, Volatility and independence of the independent variables was investigated. Finally, in the final implementation model due to the significance of entire model and also significance of individual coefficients, the final model has been extracted.

**Statistical population**
The statistical population included all listed companies active in the Tehran Stock Exchange during the period 1387 to 2013 which are based on the Tehran Stock Exchange has been equal to 437 companies by the end of 2013. The size of sample is selected by targeted elimination method (systematic) and based on the following criteria:
The final sample size according to the screening method and base on above criteria is 99 companies.

<table>
<thead>
<tr>
<th>number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>437</td>
<td>The number of listed companies in Tehran Stock Exchange by the end of 2013</td>
</tr>
<tr>
<td>(118)</td>
<td>The number of companies that have been out of stock in the time domain research</td>
</tr>
<tr>
<td>(32)</td>
<td>The number of companies that have been entered in the stock Exchange in the time domain research</td>
</tr>
<tr>
<td>(71)</td>
<td>The number of companies does not end their fiscal year on 29/12 in the time domain research</td>
</tr>
<tr>
<td>(56)</td>
<td>The number of companies to investment and financial intermediaries involved in the time domain research</td>
</tr>
<tr>
<td>(61)</td>
<td>The number of companies with incomplete information and is not used in the model</td>
</tr>
<tr>
<td>99</td>
<td>The number of companies surveyed</td>
</tr>
</tbody>
</table>

The research model and operational definition of variables:
Model of the study to evaluate the first and second assumptions of the study:
We used regression models for evaluation of the main hypothesis of this study (Huang et al., 2014).

The following model will be used to evaluate the first sub-hypothesis:

\[ DI_{it} = \alpha_0 + \alpha_1 \times FC_{it} + \alpha_2 \times \text{Size}_{it} + \alpha_3 \times \text{Lev}_{it} + \alpha_4 \times \text{G}_{it} + \varepsilon_{it} \]

In above equation, DIit indicates the dividend in respect of the Company, FCit indicates the measure of financial crisis, Sizeit indicates the size of the company, Levit indicates the financial leverage, Git indicates the growth and \( \varepsilon_{it} \) indicates the error component model.

The following model will be used to evaluate the second sub-hypothesis:

\[ CO_{it} = \alpha_0 + \alpha_1 \times FC_{it} + \alpha_2 \times \text{Size}_{it} + \alpha_3 \times \text{Lev}_{it} + \alpha_4 \times \text{G}_{it} + \varepsilon_{it} \]

COit indicates the cash flow model in above equation.

(A) The independent variables are:

In the present study the financial crisis currency (FC) is independent variable which is a dummy variable whose value (0 and 1) this means that number 1 is placed for critical years 90 to 92 and zero placed for the remaining years (87-89).

(B) Dependent variables:

1. The ratio of dividends (DIit), which is calculated by dividing the amount of approved dividends by number of issued shares.
2. The operating cash flow (COit), which is calculated by dividing the operating cash flow by total assets.

(C) Control variables:

1. The Size of Enterprises (Sizeit): the natural logarithm of the total assets of the company.
2. The financial leverage ratio (Leviti): it is calculated by dividing total liabilities to total equity.
3. Growth of the Company (Git): is equal to the percentage change in the company's assets at end of the year compared to the beginning of the year.

**Statistical tests of hypotheses**

In this research using panel data and cross-sectional multivariate regression is used. To analyze the data and test hypotheses descriptive and inferential statistical methods will be used which is initially using descriptive statistics to explain and describe the demographic data and then to estimate parameters and testing the research hypotheses, classical regression assumptions are examined. The software EViews is used to analyze the data and hypothesis testing and regression model.
Structural analysis of combined data

In this study, according to the type of data and available statistical analysis methods, the sectional panel data is used for estimating model parameters and review the test hypothesis. According to the existing literature and the nature of the hypothesis in this study used pooling data and panel data. Using cross-sectional data may be associated with problems of inefficiency and incompatibility of estimating the models. The difficulties in estimating the models to pooling data and using methods such as fixed effect model, random effect models, seemingly unrelated regression model and pooled data model, would not exist. In the study of cross-sectional and time-series, if multiplier effects of cross-sectional and time-series not significant, can be combined with all of data and estimated by ordinary least squares regression. This way also called data integration.

Test hypotheses:

The first hypothesis test:

The results of the first fitted regression equation

<table>
<thead>
<tr>
<th>Significance level</th>
<th>T-statistic</th>
<th>Coefficient</th>
<th>The coefficient</th>
<th>Variable name</th>
</tr>
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<tbody>
<tr>
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<td>0.729943</td>
<td>102772.9</td>
<td>α0</td>
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<td>LEV</td>
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<td>α4</td>
<td>G</td>
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<td></td>
<td>F statistic</td>
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<td>The coefficient of determination</td>
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<td>2.276</td>
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<td></td>
<td>62.2%</td>
<td>Adjusted coefficient of determination</td>
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Test hypotheses:

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<td></td>
<td></td>
<td>F statistic</td>
</tr>
<tr>
<td>0.0003</td>
<td></td>
<td></td>
<td>63.9%</td>
<td>The coefficient of determination</td>
</tr>
<tr>
<td>2.276</td>
<td></td>
<td></td>
<td>62.2%</td>
<td>Adjusted coefficient of determination</td>
</tr>
</tbody>
</table>
After the test regression assumptions and ensuring from establishing them, the above results of the fitted regression equation have been presented for manufacturing companies in the first fitted regression equation table. The statistic F (15.946) showed that the total regression model is significant. As it has been shown at the bottom of the table, the coefficient of determination and adjusted coefficient of determination of the above model are 63.9% and 62.2% respectively. Therefore, it is concluded that the regression equation, only about 62.2 percent of the variation in the ratio of the company's dividend explained by the independent variables and the firm's control.

According to the findings of the first fitted regression was observed that the effect of the financial crisis a significant level coefficient (FC) is smaller than the level of error in the first 0.05 estimated (p-value =0.042) and, therefore, It can be accepted that the financial crisis and foreign exchange in the 90 to 92 on the dividends of listed companies in Tehran Stock Exchange has been significant. Also, due to the positive effect of regression coefficient (401.99) it concluded that the financial crisis and currency had a positive and direct effect on the dividend. In other words, it can be concluded that at the time of financial crises and currency crises and the absence of a favorable investment conditions, companies are moved more towards expansionary policies along with the dividend distribution, and thus the amount of dividends distributed between owners of capital in times of financial crises will increase and therefore the first research hypothesis is accepted.

The second hypothesis test:

The results of the second fitted regression equation

<table>
<thead>
<tr>
<th>Significance level</th>
<th>T-statistic</th>
<th>Coefficient</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0409</td>
<td>2.049401</td>
<td>0.226101</td>
<td>α0</td>
</tr>
<tr>
<td>0.0129</td>
<td>-3.520507</td>
<td>-0.072236</td>
<td>FC</td>
</tr>
<tr>
<td>0.3909</td>
<td>-0.85862</td>
<td>-0.006972</td>
<td>α2</td>
</tr>
<tr>
<td>0.9631</td>
<td>0.046329</td>
<td>0.001242</td>
<td>α3</td>
</tr>
<tr>
<td>0.0121</td>
<td>-2.516663</td>
<td>-0.0005</td>
<td>α4</td>
</tr>
<tr>
<td>23.470</td>
<td>F statistic</td>
<td>%71.3</td>
<td>The coefficient of determination</td>
</tr>
<tr>
<td>0.0063</td>
<td>Significantly(P-Value)</td>
<td>%70.7</td>
<td>Adjusted coefficient of determination</td>
</tr>
<tr>
<td>1.697</td>
<td>Durbin-Watson statistic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

http://www.ijhcs.com/index.php/ijhcs/index
After the test regression assumptions and ensuring that they are established, the above results of the fitted regression equation is presented for manufacturing companies in the second fitted regression equation table. The statistic $F (23.47)$ showed that the total regression model is significant. As it has been shown at the bottom of the table, the coefficient of determination and adjusted coefficient of determination of the above model are 71.3% and 70.7% respectively. Therefore, it is concluded that the regression equation, only about 70.7 percent the variation in the ratio of company's operating cash flow explained by the independent variables and the firm's control.

According to the findings of the second fitted regression was observed that the effect of the financial crisis a significant level coefficient (FC) is smaller than the level of error in the first 0.05 estimated ($p$-value =0.042) and, therefore, It can be accepted that the financial crisis and foreign exchange in the 90 to 92 on the dividends of listed companies in Tehran Stock Exchange has been significant. Also, due to the negative effect of regression coefficient (-0.072) it concluded that the financial crisis and currency had a negative and inverse effect on the company's operating cash. In other words, it could be concluded that in companies listed on the Tehran Stock Exchange and Iran OTC in the event of a financial crisis and currency crisis operating cash reduced and as the first assumption, in times of crisis due to the fluctuations and the absence of a favorable investment conditions, the company's operation mainly facing with stagnation and decline, resulting in a reduction of cash from operational activities. Therefore, the second hypothesis will also be accepted.

So in the end, it is noteworthy that the main hypothesis will be accepted.

**Conclusion**
The main objective of the study was to investigate the effects of the financial crisis on the liquidity holdings and dividend policy of companies listed in the Tehran Stock Exchange. Currency crisis that dominated on the country's economic climate during past few years was such a rare occurrence over the past three decades had never experienced such an event. The crisis was so big and important that lead to a recession in most parts of the macro and micro economic, Including the serious effect on reducing the amount of deposits of individuals in banks subsequently reduce the volume of construction activities, reduce the size of the people investing in the stock market, the downturn in the housing market and ... the main reason can be named the changing nature of transaction items such as foreign exchange and gold as a high-yield capital goods that lead to further stagnation in the manufacturing sector and the stimulus of the country. Finally, it is noteworthy that results of the test between the variable of financial crisis and foreign exchange rates and the amount of operational cash flow and dividend policies of listed companies in Tehran Stock Exchange, shows that there is a positive and significant relationship between financial crisis and cash dividend policy and also in financial and currency crisis due to the downturn in the manufacturing sector, the negative correlation between the financial crisis and currency and operating cash is confirmed. This concept can be inferred from the results that in the times of financial and currency crises in the country due to the decrease in predictive power in the short-term conditions and the price fluctuations in the short term, more management have desire to more
distribution of profits and this Theoretically is acceptable and confirmation of the results of previous studies such as Fasbrg (2013) and Chiara (2013)
References (Persian and Latin):


2. Etemadi-H., Rastegarmoghdam-H., 2012, the importance of the quality of accounting information in times of financial crisis, the first national conference on accounting and management.


9. Atefi manesh-R and Setavartz-AR, 2012, at the developments in Iran and world financial markets during 2011, the economic journal - Address the issues of economic policies, numbers 7 and 8, pages 113 to 130.


