An Investigating the effect of financing, market power, bank liquidity creation channel on the monetary policy of the Iranian economy

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Abstract

According to Dong and Hayon's study in 2022, in order to improve monetary policy, banks may use indicators that can be used to control their monetary policy; The indicators used in this study include financing, market power, liquidity creation channel; So there is a possibility that these indicators have a role on monetary policy. In order to analyze the hypotheses of the research, the statistical population was selected from 2016 to 2021 and for 6 years and included commercial banks and financial institutions admitted to the stock exchange, and the statistical sample was selected using the elimination method and the number of 21 banks. The research method used is a descriptive-analytical method and historical research data was collected and classified by referring to financial statements and financial reports of commercial banks and financial institutions admitted to the stock exchange. The panel data method was used to analyze the statistical data; And in the analysis section, descriptive and inferential statistics and various related tests were performed and data analysis was done using Eviews version 9 software. According to the regression model analysis, the findings of the research show that bank financing, market power and the bank's liquidity creation channel have a positive and significant effect on the monetary policy of commercial banks and financial institutions admitted to the Tehran Stock Exchange, so that in this research, based on the statistics t The degree of effectiveness of special hypotheses was determined that bank financing, liquidity creation channel, and market power affect monetary policy, respectively.

Keywords

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1. Introduction

Investment plays a vital role in developing companies and creating value for investors. The company's investment policies are related to a wide range of various factors, including general economic conditions, macro monetary policies, capital market and company operations (Richardson, 2006). Also, from the economic point of view, with the assumption of the rationality of people's behavior, it is assumed that everyone seeks to increase their interests in the first place. Managers are no exception to this rule. Managers are interested in presenting a favorable picture of the financial status of the business unit to the shareholders and other interested parties, in order to maximize personal benefits, social welfare and stabilize their job status. Investigating managers' overconfidence in the financial framework is a developed behavior. The basis of behavioral finance is the cognitive psychology literature which believes that people are generally overly optimistic (Huang and Kischen, 2013). The scientific literature has provided two definitions of overconfidence. First, managers overestimate their abilities, and second, they see an event as more certain than it really is. Overconfidence is such a strong psychological phenomenon that even experience cannot eliminate it (Khosh Taynet and Nadi Qomi, 2018). According to Rolle in 1986, overconfidence is a common type of irrational behavior and company managers tend to exhibit this behavior when making business decisions. Past research has shown that overconfident managers make investment decisions in a way that results in overinvestment and underinvestment problems (Lee et al., 2014). By covering changes in assets, liabilities and off-balance sheet activities, creating liquidity is considered superior to bank lending in the overall state of bank output (Berger et al., 2019). Past literature has shown that the creation of bank liquidity is a critical determinant of economic development and stability. In particular, the creation of bank liquidity may support economic growth (Berger and Sedono, 2017). At the same time, it may increase the probability of bank failures and lead to financial crises, or adequately predict future recessions (Chattaraj, 2018). In sum, this new banking channel suggests that monetary policy easing can increase liquidity generation, which is one of the main functions of financial intermediation. It is likely that bank financing, market power and liquidity creation channel have a role on monetary policy; So that each of these indicators can create fluctuations in the monetary policy and cause changes in the implementation of banking activities. Therefore, this study tries to measure the effect of bank financing, market power and bank's liquidity creation channel on monetary policy.

2. Theoretical foundations and an overview of research background

In a 2022 study, Dong and Hayone analyze the effects of bank financing structure and market power on the bank liquidity creation channel in an emerging market as well as the extent of monetary policy transmission. In their study, using a panel of Vietnamese banks during 2007-2019, they found that after the central bank adjusts its monetary policy by reducing policy interest rates or injecting money into the market, banks may create liquidity more aggressively. expand more. Further analysis shows that not all banks are equally affected by monetary policy changes. First, greater market power weakens the transmission of monetary policy through bank liquidity creation channels. Second, banks that rely less on customer deposits or have more diversified funding models may be less sensitive to monetary policy shocks while creating liquidity. These findings are still valid in all alternative measures of liquidity creation (with and without off-balance sheet items) and various monetary policy indicators (based on quantitative and interest instruments). Theories believe that monetary policy changes can widely change banks' balance sheets. Monetary policy adjustment lowers funding costs and encourages banks to use greater leverage on the debt side (Valencia, 2014). On the asset side, lower interest rates

stimulate yield-seeking objectives; And therefore, banks tend to keep less liquid assets and replace them with more profitable investments (Rajan, 2006). It is worth noting that the seminal study of Bernanke and Blinder (1988) shows that amid changes in monetary policy, there is a strong relationship between deposits and lending: a monetary contraction may reduce deposits as the main source of loanable funds, and banks Inability to replace the deficit of loanable funds, they are forced to reduce their loan portfolio. In this regard, many empirical papers have been conducted with bank data to investigate the existence and performance of the bank lending channel. However, instead of simultaneously considering deposits and other bank items in response to monetary policy adjustments, this stream of literature has focused only on the change in loan supply as the only variable studied. The study of Dang and Haione examines the response of bank liquidity creation to monetary policy changes in Vietnam from 2007 to 2019. More importantly, they focus on how bank market power (obtained through the Lerner index) and funding structure (derived from the share of deposits and diversity of funding sources) channel bank liquidity creation in monetary policy for A comparison is made with the bank lending channel, which has been widely discussed in the literature. Given the recent focus on the transformation of financing structure and market power that banks have experienced and their conditioning roles in the bank lending channel, it is necessary to examine how the relationship between monetary policy and liquidity creation is driven by the financing structure and market power of banks. . They conduct their study using the new approach of Berger and Bowman (2017) with some modifications suggested by Berger et al. (2019) and Dang (2020) to appropriately measure liquidity creation by banks in emerging and low-income markets. They also consider the various monetary policy tools the central bank uses to paint a clearer picture. Their study is one of the first studies that investigated the existence and performance of the bank liquidity creation channel. Their argument contributes to studies related to liquidity creation and bank lending channel (Dang and Hayone, 2022). In a recent study, Berger and Bowman (2017) have investigated how monetary policy causes bank liquidity, and as a result, the so-called channel of bank liquidity causes monetary policy transmission. In practice, bank operations are inevitably linked to the creation of liquidity to strengthen the economy. By using cash liabilities to finance non-liquid assets, banks create liquidity on the balance sheet and off the balance sheet through credit commitments (Thakur, 2005). Therefore, Berger and Bowman (2017) show that the channel of creating bank liquidity exists when following a more complex one that allows for all on- and off-balance sheet items, as a result monetary policy as a facilitator may increase bank liquidity. To increase loanable funds and loan supply. Off balance sheet, banks may extend more liabilities to their customers due to more loanable funds which are also cheaper (Kashiap et al., 2002). Hence, it seems ideal to study the bank liquidity creation channel, complete and expand the transmission of monetary policy through the bank lending channel, and provide multiple enlightening implications for the regulation of bank production and economic growth. However, the understanding of the bank liquidity creation channel is still very limited. As previously mentioned, in the study by Berger and Bowman (2017), the authors analyzed a sample of credit card and commercial banks in the United States. They find that policy shocks have minor effects on small bank liquidity, but weak and ambiguous effects on small, medium, and large banks. It is worth noting that although the authors confirm the existence of the bank liquidity creation channel, they still do not conclude that monetary policy seems to be an effective tool in changing the core performance of banks in general. In addition, there are some empirical papers that do not focus on channel transfer of bank liquidity creation, but instead introduce monetary policies. The indicators in the regression model create liquidity and lead to mixed patterns (Chattaraj, 2015).

Considering this context, more works are needed to expand the literature on the bank liquidity creation channel, so there is little claim or opposition regarding the previous findings and the advancement of knowledge on the current topic. The purpose of this study is to expand the field and scope of the research topic through (1) investigating the channel of creating bank liquidity. in an emerging market, where the central bank usually combines different policy instruments to achieve monetary objectives, and (2) analyzing the power of monetary transmission determined by the bank's funding structure and market power. The first fact of this research-motivated topic is that the implementation of monetary policy in advanced economies is different from monetary policy in emerging markets. For example, in more advanced economies, central banks typically use interest rates as the main policy instrument, while some non-interest rate instruments are commonly used in emerging economies to supplement monetary policy. Act on the interest rate (Chen et al., 2017). In addition, the effectiveness of the transmission of different monetary policy instruments is also heterogeneous, which is observed in multi-instrument markets (Warlik and Broment, 2017). Therefore, it seems necessary to examine the effect of bank financing, market power and the bank's liquidity creation channel on the monetary policy of banks admitted to the Tehran Stock Exchange; In the following, we will get acquainted with the variables of the research.

Bank financing: production financing is one of the main priorities of the banking system. With the implementation of the production chain financing plan, the need for units' liquidity will decrease, and as a result, the pressure on the banking system will decrease and we will witness the improvement of the banks' balance sheets. A policy that will rely on credit instruments instead of focusing solely on liquidity, and at the same time prevent the diversion of bank resources in non-productive and speculative markets and direct credit in production. The advantage of this plan is to reduce non-current claims of banks. In the discussion of non-current claims, we will definitely see a reduction in non-current debts and claims in the banking network due to the systematization of granting facilities and its monitoring, while the cost of the product will decrease with the implementation of the chain financing plan. Of course, it is necessary to emphasize that in order to achieve this goal, it is necessary for the validation system to prevail in the banking network with more and more progress so that customers' validation can also be achieved while guiding the credit (Dang and Hayone, 2022). Financing of banks in Iran has four main paths: deposits, capital, debt to the central bank or other banks, and depositing, which is one of the main sources of financing. In recent years, the trend of customers towards deposits without specific maturity dates that can be withdrawn at any time has created problems for banks and financial institutions (Tehrani et al., 2018).

Market power: Industrial economists believe that the market power of the banking industry affects how banks function as monetary intermediaries. Barriers to entry, integration, obtaining exclusive privileges, cooperation and coalition, differences in final cost, banks having economies of scale affect the flow of banks' activities. Determining the level of monopoly and evaluating market power, as the most important methods of studying the structure of any industry, enables the company to increase the price of its goods without losing the bulk of sales. One of the approaches to understand the market power is the parametric calculation of the Lerner index, which can be used to determine the degree of deviation and lack of competition in industries. based on the company's behavior in the market and based on optimization. Measuring monopoly power at the level of a bank (firm) over time is one of the other advantages of this index. Another important structural feature of the banking industry that has become more prominent in the country in recent years is the monopoly and market power that banks have in this industry and

the competition that they are able to have with each other in different ways. In the following, it will be discussed how this structural feature can affect the balance of the economy. The issue of how the structure of the bank credit market affects the effectiveness of monetary policy was first investigated by Aftalion and White in 1987 and Ben Huss in 1985. They showed that the structure of the banking market can have an important effect on the choice of appropriate monetary policy tools and objectives for policy makers. After that, the attention to these theories intensified, and experimental and theoretical bases were compiled on the effects of banking structure on monetary policies (Sharifinia et al., 2019).

Liquidity creation channel: Controlling the growth of a certain amount of banks' balance sheets is considered a solution to prevent banks from creating liquidity. As mentioned earlier in the news, the balance sheet growth for commercial banks is two percent per month and for specialized banks is 2.5 percent per month. The central bank also monitors this issue on a monthly basis, and banks that do not comply with this issue will face an increase in legal deposits. Therefore, one of the things that should be monitored and controlled is the control of money creation by banks, which is considered one of the important issues for curbing inflation. Of course, if the credit institution violates the limits set in the aforementioned rules, the CEO and the members of the board of directors will be introduced to the banks' disciplinary board. Also, the legal deposit rate of illegal banks is also increased due to non-compliance with the rules governing the control of some assets of the banking network. On the other hand, besides this, the control of banks' overdrafts is also considered a key factor in controlling the creation of liquidity by banks. Credit tools that replace focusing solely on liquidity can be considered a suitable solution for creating liquidity. A missing link in Iran's economy, which can, while boosting the economy, actually reduce the need for liquidity, and at the same time improve the banks' balance sheets and hit the target of facilities. Another tool by which the Central Bank has improved its supervisory scope is the Samat system. In other words, the central system and the use of modern technologies can prevent the creation of liquidity by banks. This system, as a comprehensive information bank of facilities and obligations, collects relevant information and shares it again among the banking network, based on this, access and inquiry from the mentioned system has been established for all branches across the country. Therefore, before providing facilities and commitments, banks are required to inquire about the credit status of customers in the Samat system, and if the customer is known to be bad credit based on the relevant regulations, they are not allowed to provide facilities and commitments to them. One of the reports obtained from this system is "supervisory reports" containing the list of debtor groups and their debt status based on the latest update of the system by the banking network. These analytical reports examine the total debt balance of banking network customers, the Riyal equivalent of principal of payment facilities, the debt balance of non-current facilities and the ratio of non-current facilities, the examination of economic sectors and the place of use of facilities, the source of providing facilities and the purpose of receiving them, as well as the analysis of the ratios of the items mentioned in The level of the banking network pays. The importance of this system is in validating customers and controlling the ratio of non-current bank debt and reducing the credit risk of banks (Dang and Hayone, 2022).

Bank monetary policy: Banks are one of the most important financial institutions that, in addition to transferring funds from surplus units to deficit units, have a unique role in transferring the effects of monetary policy through the bank lending channel. The bank lending channel affects the effects of monetary policy on the supply of credits and Banking facilities are concentrated. When banks are faced with a contractionary policy, they cannot fully replace their lost loanable

funds, these banks are forced to reduce their lending behavior and reduce their loan supply. This reduction in the supply of loans will increase the cost of obtaining credit for companies and households that are dependent on banks, and will adversely affect the real activities of the economy. In fact, if borrowers are unable to resort to the capital market as an alternative solution, then investment, employment and production will be adversely affected. In this way, it can be claimed that the bank's lending channel is one of the channels for transferring monetary policy to the real sector of the economy. In the last decade, due to the policy of supporting the downsizing of the government and implementing the privatization of state banks on a large scale, as well as the establishment of private banks, the country's banking industry has experienced significant changes in its competitive conditions. It is expected that this change in the competitive conditions of the banking industry, as well as the recent policies to reduce the interest rate of loans, have influenced the lending behavior of banks and, as a result, the mechanism of transferring monetary policy through the lending channel (Nazarian et al., 2013).

3. An overview of experimental research results in Iran and the world

Monfared et al. (2022) investigated the role of financial development in the efficiency of Iran's monetary policy in determining production and inflation. The estimation results of the first two models showed that with the improvement of financial development indicators, the effectiveness of monetary policy in influencing economic growth will decrease. The estimation results of two other models also showed that the effect of financial development indicators on the effectiveness of monetary policy in influencing inflation was negative and statistically significant. Based on the results, it is suggested that the economic policy maker in Iran should give more freedom of action to the banks in the deposit and loan sectors so that they can function more appropriately in the free economy, although this behavior still increases the instability and variability of the variables; But it can improve the real performance of monetary policy for both the household and the producer.

Jalai Esfandabadi and Iranmanesh (2021) did a comparative study of the effect of monetary policies and supply side policies on the production of agriculture, services, industry and mining sectors in Iran's economy. The results show that monetary policy has three different effects in three economic sectors. In the short term, monetary policy is able to increase the added value of the agricultural and service sectors, but in the long term, it can only increase the added value of the service sector and has no effect on the added value of the agricultural sector; However, the application of monetary policy, both in the long and short term, can have a negative effect on the added value of the industry. On the other hand, the effect of supply side policy in all three sectors and in both short and long term is positive, significant and noticeable.

Tavaklian (2021) investigated the systematic and unsystematic monetary policy in Iran's economy. The results show that in addition to the systematic monetary policy obtained from the current model, the success of the monetary policy maker in controlling inflation is not only due to the mere control of inflation, but also due to non-systematic reasons such as accompanying fiscal policy through fiscal discipline and managing oil revenues through two policies. It is a monetary and financial transition that does not fit into the framework of systematic monetary policy.

Dang and Hayone (2022), investigated the effect of bank financing, market power and bank liquidity creation channel on banks' monetary policy. The results showed that each variable of bank financing, market power and liquidity creation channel can influence the bank's monetary policy and monetary policy has a facilitating role in banking activities.

Park et al. (2021) show that the unsystematic monetary policy in the United States, which they refer to as monetary policy uncertainly, causes an increase in exchange rate variance and has heterogeneous effects on Asian economies. In this regard, the unsystematic changes in the interest rate of the Federal Reserve are considered as the basis of monetary policy uncertainty, and it is shown that the effect of the unsystematic monetary policy in the United States on the variance of exchange rates in Asian countries can have adverse effects on international trade.

Kazorzi et al. (2020) seek to investigate the international transfer of systematic and unsystematic monetary policies of the European Central Bank and the Federal Reserve. By separating pure monetary shocks in the form of non-systematic monetary policies, they show that these policies have global spillovers in a hierarchical manner, so that the Federal Reserve's policies have a significant impact on the financial markets and the real sector of the Eurasian region. Also, the monetary policies of the Federal Reserve have a significant impact on monetary policies and financial and real variables in other parts of the world.

According to the study of Dong and Hayoune (2022), the main and special assumptions are compiled as follows:

Main hypothesis: financing, market power and liquidity creation channel have a significant effect on the monetary policy of commercial banks and financial institutions admitted to the stock exchange.

The first sub-hypothesis: financing has a significant effect on the monetary policy of commercial banks and financial institutions admitted to the stock exchange.

The second sub-hypothesis: market power has a significant effect on the monetary policy of commercial banks and financial institutions admitted to the stock exchange.

The third sub-hypothesis: the liquidity creation channel has a significant effect on the monetary policy of commercial banks and financial institutions admitted to the stock exchange.

4. Methods Research

The method used is the type of post-event semi-experimental research in the field of accounting proof research, which was carried out using multivariate regression and econometric models. Research hypotheses have been tested based on panel data. Based on the selected topic, the research method is descriptive-analytical and applied. Based on the purpose of this topic, the correlation research method has been used because it seeks to investigate the effect of financing, market power, bank liquidity creation channel on the monetary policy of the Iranian economy.

The statistical population selected in this research includes all commercial banks and financial institutions admitted to the Tehran Stock Exchange between 2016 and 2021. Therefore, in order to determine the sample size, they must have the following conditions:

1-   The financial information of the banks should be available in the period under review.
2-   At least 2 years have passed since their membership in the stock exchange.
3-   If there is a stoppage of activity in the desired period of time.

Table 1 - Determining the statistical sample

All observations related to the statistical sample from 2016 to 2021	126
The financial information of the banks was not available or was incomplete.	(47)
Banks are not members of the stock exchange during the research period or 2 years have not passed since their membership.	(53)
In the desired period, there is a suspension of activity.	(5)
Selected sample	21

The regression model adapted from the model of Dong and Hayone (2022) is as follows:

$$MP = \beta_0 + \beta_1 \, BF_{it} + \beta_2 \, BMP_{it} + \beta_3 \, BLCC_{it} + \beta_4 \, Size_{it} + \beta_5 \, BC_{it} + \varepsilon$$

The dependent variable:

- Monetary policy (MP) i in year t

Independent variables:

- Bank financing (BF)i in year t
- Bank market power (BMP)i in year t
- Bank liquidity creation channel (BLCC)i in year t

Control variables:

- Bank size (Size) i in year t
- Bank Capital (BC) i in year t

5. The method of measuring research variables

The dependent variable; Monetary policy (MP): To measure the monetary policy in the bank, the legal reserve rate is used that is proposed in the banks (Dang and Hayone, 2022).

Independent variables; Bank financing (BF): To measure this index, it is obtained from the ratio of accumulated profit to total bank assets (Dang and Hayone, 2022):

Bank market power (BMP): To measure market power, the Lerner index has been used, which is as follows:

$$L = P - MC/P$$

Where P is the production price and C is the final production cost. The higher the value of this index, the higher the degree of market power. Estimating the market power index using the above function is difficult and can be done by a simpler method. In estimating the Lerner index as a structural index of market power, Translog's marginal cost function is used to calculate the final cost, which only includes operating costs. This function does not take into account the costs of attracting deposits (financing) and the price of deposits, and only physical inputs such as labor and capital and their costs are included in the analysis, because to carry out transactions and collect financial documents to Physical inputs are required. The cost function used is the following relationship (Dang and Hayone, 2022; Sharifinia et al., 2019):

$$C = f(x) + v + u$$
$$C = f(D, L, W_l, W_k) + v + u$$

In the above function, C is the operating cost of the bank, which is extracted from the set of personnel costs, depreciation, administrative and other costs from the banks' profit and loss statements, L is the loan and facilities granted, D is the deposit amount, Wl is the labor price, which is from the cost ratios. Personnel in each bank's profit and loss statement is extracted from the banking industry's performance report every year, and the total assets of each bank are obtained. Wk is the capital input price, V is a random error component with normal distribution, U is an inefficiency error component, a non-negative random variable and an indicator of inefficiency (Dang and Hayone, 2022; Sharifinia et al., 2019).

Bank Liquidity Creation Channel (BLCC): To measure this index, it is calculated from the ratio of liquid assets to total assets at the bank level.

Control variables:

Bank size (Size): obtained from the natural logarithm of assets.

Bank capital (BC): obtained from the ratio of shareholders' equity to total assets.

6. Findings Research

Table 2- Descriptive statistics of variables

Variable name	Average	Middle	maximum	minimal	standard deviation	Elongation	crookedness
monetary policy	0.47	0.43	0.97	0.01	0.49	1.17	1.05
Bank financing	0.61	0.59	0.93	0.12	1.28	1.19	1.99
Market power of the bank	0.58	0.54	0.77	0.07	0.49	1.12	1.01
Bank liquidity creation channel	0.45	0.41	0.86	0.11	0.35	1.98	0.93
Bank size	0.79	0.74	0.98	0.24	1.48	1.76	1.43
Bank capital	0.88	0.86	0.81	0.19	0.28	1.84	1.11

In Table 2, it can be seen that the average is close to the median and this shows the normality of the distribution of the variables. In all cases, the standard deviation of the data is small and it also indicates the proper distribution of the data. Also, the skewness obtained according to the above table for all variables is shown with positive values, which indicates an asymmetric distribution towards higher values or positive skewness.

6-1. Pearson correlation test

Table 3- Correlation between variables using Pearson's correlation coefficient

	monetary policy	Financing	market power	Liquidity creation channel	Size	Fund
monetary policy	1.000 0.000					
Financing	-0.03 0.002	1.000 0.000				
market power	0.02 0.04	-0.008 0.48	1.000 0.000			
Liquidity creation channel	0.51 0.000	0.17 0.000	0.63 0.000	1.000 0.000		
Size	0.32 0.03	0.14 0.11	0.51 0.000	0.41 0.006	1.000 0.000	
Fund	0.13 0.02	0.15 0.09	0.26 0.11	0.35 0.05	0.13 0.06	1.000 0.000

In the above table, the degree of correlation is written in the first line and the significance of the correlation is written in the second line. If the significance is less than 0.05, the desired correlation is statistically significant.

6-2. Checking the model using Chow and Hausman tests

Table 4-Result of Chow

title of exam	Test statistics	Degrees of freedom	Significance level	Result
Regression model	4.01	(20 , 125)	0.000	Use of hybrid data model

To reject the null hypothesis and confirm the use of the combined data model, the significance level must be less than 0.05. As can be seen in Table 4, the significance level of Chow's test in both equations is less than $\alpha = 0.05$, so it is confirmed with 95% confidence that both models can be estimated using the combined data model. Considering that for both models, the null hypothesis of Chau's test based on the equality of the origin was rejected, in order to detect the presence of fixed effects or the presence of random effects, the Hausman test is used.

Table 5-Result of Hausmann

title of exam	Test statistics	Degrees of freedom	Significance level	Result
Regression model	0.000	5	1.000	Use fixed effects

As can be seen in Table 5, the significance level of the Hausman test has been examined for both equations, due to the equality of the significance level of the Hausman test for the second equation equal to 1.000, the Hausman test prob in this vote estimation equation Gives fixed effects to use; Because in the case of the level of significance of the Hausman test being equal to the number one, it is the only case that despite the significance level being more than 0.05, the result of the Hausman test cannot be trusted and random effects must be used.

6-3. Testing hypotheses

As can be seen in this table, the results obtained from the estimation of the regression model related to the main hypothesis show the confirmation of the effect of financing, market power, the bank's liquidity creation channel on monetary policy.

Table 6- Results of regression model fitting (fixed effects)

Response variable = monetary policy				
Independent variables	Coefficients Regression	standard deviation	Test statistic t	Level meaningful
Equation constant (α)	1.96	0.13	14.43	0.000
Bank financing	0.17	0.020	14.45	0.000
Market power of the bank	0.057	0.036	1.56	0.000
Bank liquidity creation channel	0.048	0.013	3.71	0.000
Bank size	0.026	0.033	7.87	0.000
Bank capital	0.108	1.003	3.47	0.000
Statistical test F = 79.19 Statistics D.W: 2.20		Significance level = 0.000 Adjusted coefficient of determination = 0.87		

As can be seen in table 6, bank financing, market power and liquidity creation channel of the bank have been tested on the monetary policy of commercial banks and financial institutions accepted in the Tehran Stock Exchange. According to the results, the significance level is: zero and Watson's camera statistic: 2.20 has been reported and since this number is between (1.5 and

2.5), it confirms the above hypothesis. Also, the adjusted coefficient of determination and the F test statistic are not ineffective in confirming the above hypothesis.

Table 7- The results of the Jarque test for the regression model

The residual of the regression model	Test statistics	Significance level	Result
	57.72	0.000	Non-normality of model residual distribution

According to the statistical distribution of chi-square in Jarak's test, it is based on the normality of the residual of the regression model, and considering that the significance level in all three models is less than 0.05, it can be concluded that the residual of the model is not normal.

6-4. Examining hypotheses at a glance

The final confirmation or rejection of the assumptions is summarized in the following table:

Table 7. The results of checking the hypotheses

Row	theories	Result
The main hypothesis	Financing, market power and liquidity creation channel have a significant effect on the monetary policy of commercial banks and financial institutions admitted to the stock exchange..	confirmation
The first sub-hypothesis	Financing has a significant effect on the monetary policy of commercial banks and financial institutions accepted in the stock exchange.	confirmation
The second sub-hypothesis	Market power has a significant impact on the monetary policy of commercial banks and financial institutions admitted to the stock exchange.	confirmation
The third sub-hypothesis	The liquidity creation channel has a significant impact on the monetary policy of commercial banks and financial institutions admitted to the stock exchange.	confirmation

7. Discussion and conclusion

According to the obtained results and analysis, it was found that bank financing, market power and the bank's liquidity creation channel have a positive and direct effect on the monetary policy of commercial banks and financial institutions accepted in the Tehran Stock Exchange, so that the increase of each One of the bank's financing indicators, the market power and the bank's liquidity creation channel can lead to the growth of the bank's monetary policy; Because it brings improvement of activities, investments, savings, customer attraction, performance growth, etc. Therefore, by increasing financing, the bank can apply a better monetary policy and lead to the improvement of its working process; Also, with the increase in market power, it leads to attract more depositors and investors and lead to the application of monetary policy, and as a result, it improves the working process of the bank, and finally, by increasing the creation of liquidity, it is possible to make the monetary policy benefited better and finally the banking activity will grow and lead to the improvement of the bank's performance.

The results of the research regarding the main hypothesis indicate that the effect of bank financing, market power and the bank's liquidity creation channel on the monetary policy of commercial banks and financial institutions admitted to the stock exchange was confirmed; According to the regression model analysis of bank financing, the market power and liquidity creation channel of the bank can influence the monetary policy of commercial banks and

financial institutions, so that according to the t-test in this research, the role of the independent variable is positive on the dependent variable. and it is direct; In other words, if any of the bank's financing indicators, market power and liquidity creation channel increase, it will increase monetary policy improvement; Because the higher the bank's financing indicators, market power and liquidity creation channel are, it causes the monetary policy to increase, thus leading to the improvement of banking activities and increasing the profitability of banks and financial institutions; These results are consistent with the research of Dong and Hayone (2022), Park et al. (2020), Monfard et al. (2022).

The results of the research regarding the first sub-hypothesis indicate that the effect of bank financing on the monetary policy of commercial banks and financial institutions admitted to the stock exchange was confirmed; According to the analysis of the regression model of bank financing, it can influence the monetary policy of banks, so that according to the t-test in this research, the role of the independent variable on the dependent variable is positive and direct; In other words, if the bank is financed, it makes it make better investments or improve its activities and benefit from a better monetary policy, which ultimately leads to more profitability of the bank; ; These results are in line with the research of Dong and Hayone (2022), Kazorzi and colleagues (2020), Jalai Esfandabadi and Iranmanesh (2021).

The results of the research regarding the second sub-hypothesis indicate that the influence of market power on the monetary policy of commercial banks and financial institutions admitted to the Tehran Stock Exchange was confirmed; According to the analysis of the regression model, the increase in market power can lead to an increase in monetary policy, so that according to the t-test in this research, the role of the independent variable on the dependent variable is positive and direct; In other words, if the power of the market increases, it will improve banking activities and increase its operations, as a result, monetary policies will also become more prosperous and ultimately lead to the improvement of the bank's performance; These results are consistent with the research of Dong and Hayone (2022), Gianone and colleagues (2019), Tavaklian (2021).

The results of the research regarding the third sub-hypothesis indicate that the effect of the bank's liquidity creation channel on the monetary policy of commercial banks and financial institutions admitted to the stock exchange was confirmed; According to the analysis of the regression model of the bank's liquidity creation channel, it can also influence the banks' monetary policy, so that according to the t-test in this research, the role of the independent variable on the dependent variable is positive and direct; In other words, if the bank's liquidity creation channel increases, it will also increase the monetary policy, which will also lead to the improvement of banking activities, and finally, its performance will grow, and by creating liquidity, the bank can invest. also improved; These results are consistent with the research of Dong and Hayone (2022), He et al. (2019), Sharifinia et al. (2019).

8. Practical suggestions for future researchers

According to the results of the main hypothesis, it can be suggested to the Tehran Stock Exchange Organization and the Central Bank to pay attention to bank financing, market power, and the liquidity creation channel in order to use monetary policy to improve the performance of banking activities, and to improve their activities. Based on the considered monetary policy, advance in this direction. Also, the central bank and the stock exchange organization can provide policies or policies regarding bank financing, market power and liquidity creation channel with monetary policy and provide them to commercial banks and financial institutions so that they can find better solutions with these processes. use to increase the efficiency and effectiveness of the

bank and lead to the improvement of the activities and performance of the bank and lead to attracting customers, increasing deposits, and improving operations.

According to the results of the first sub-hypothesis, it is possible to suggest bank managers to finance the bank in order to apply and use the monetary policy in order to improve the performance of banking activities and to advance their activities based on the considered monetary policy. Also, commercial banks and financial institutions can use the policies and policies provided by the central bank and the stock exchange organization regarding bank financing and monetary policy so that they can implement better solutions to increase the efficiency and effectiveness of the bank with financing. take and lead to the improvement of the activities and performance of the bank.

According to the results of the second sub-hypothesis, it can be suggested that banks should use the market power in order to use monetary policy in order to improve the attraction of customers and increase depositors, and in this regard, use the policies and policies designed by the central bank to It is possible to use better solutions and lead to the improvement of activities and attract customers to deposit more deposits and direct more shareholders to banks and investment, and with this process, they can lead to the improvement of the bank's performance and increase efficiency become it.

According to the results of the third sub-hypothesis, it can be suggested that banks pay attention to the liquidity creation channel in order to apply appropriate monetary policies in order to improve banking performance and its related activities, and in this regard, the policies and guidelines proposed by use the central bank so that, in addition to improving activities, they can deposit more deposits and cause customers to trust banks and their performance; Also, the credibility and value of the bank increases and as a result, it brings the continuity of banking activity and can strengthen the profitability and efficiency of the bank.

According to the results of the research, it can be suggested for future researchers:

• Investigate the effect of financing, market power and liquidity creation channel on banks' monetary policy with regard to the economic crisis, environmental factors and market uncertainty using fuzzy logic and compare the result with this research.

• The effect of financing, market power and liquidity creation channel on the monetary policy of banks should be evaluated with regard to government ownership and real ownership.

• Investigate the effect of financing, market power and liquidity creation channel on the monetary policy of banks with regard to the role of tax avoidance and evasion.

• Investigate the effect of financing, market power and liquidity creation channel on the monetary policy of banks according to the role of cultural factors and its application.

• The effect of financing, market power and liquidity creation channel on banks' monetary policy should be investigated with regard to the auditor's role and audit fees.

• The effect of financing, market power and liquidity creation channel on banks' monetary policy should be investigated with regard to the role of risk and returns of companies' shares.

• The effect of financing, market power and liquidity creation channel on banks' monetary policy should be investigated based on the structural equations approach.

• Evaluate the effect of financing, market power and liquidity creation channel on banks' monetary policy with regard to profit management and profit distribution.

• Evaluate the effect of financing, market power and liquidity creation channel on banks' monetary policy with respect to the credit and value of the bank.

• Measure the effect of financing, market power and liquidity creation channel on banks' monetary policy based on information asymmetry and investment efficiency.

• Evaluate the effect of financing, market power and liquidity creation channel on banks' monetary policy with regard to the probability of bankruptcy.

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