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Investigation of the Effect of Economic Adjustment Policies on Iran's Economic Growth Fluctuations

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Abstract Expanded

1- INTRODUCTION

Developments and fluctuations in economic growth will cause significant changes in the economy and its variables. Therefore, examination of the cause of fluctuations and instability in economic growth can eliminate or improve their impact. During the last 4 decades, economic adjustment policies - which have been proposed by the international community to various countries with the aim of stablization of the economy in the short run and changing the structures of the economy in the long run - have been implemented in Iran. This study was conducted to investigate the compatibility of economic adjustment policies in Iran.

2-THEORETICAL FRAMEWORK

Economic growth of a country is the change in production of a country compared to the previous year. Therefore, a change in any of the components of a

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country's GDP causes a change in economic growth and, consequently, causes fluctuation or instability in it.

Oil revenues as one of the most important export revenues from natural resources, depending on the type of use (in current consumption or investment) affect economic growth or instability. On the one hand, oil wealth can accelerate the pace of development due to the level of financial development and increase national income, on the other hand, long-term economic growth will be damaged due to imbalances in different sectors of the economy.

Financial liberalization on the one hand, citing neoclassical theories and the free flow of capital from high-capital economies to low-capital economies, life cycle models and increasing private savings and attracting investment in the portfolio, increases project returns. on the other hand, some countries were affected by the implementation of financial liberalization and faced severe financial crises, followed by economic instability.

Trade liberalization due to the transfer of knowledge and technology to a country can improve economic growth. Trade also allows producers to access larger markets. Improved productivity through the use of untapped resources, more distinctive products with higher quality and lower prices, and ultimately increased production and surplus consumer welfare. Despite the positive effects of trade liberalization, this policy will destabilize economic growth in developing countries that have few products to offer to the world market.

Privatization is a fundamental structural change of ownership, which is transferred from the public sector to the private sector, and this change of ownership leads to fundamental changes in the basic incentives and motivations of owners and managers of enterprises and the goals of those enterprises. the effect of privatization on economic growth can be demonstrated through microeconomics theories, the theory of new institutional economics, the theory of public choice and the theory of representation.

In the empirical literature, the importance of the role of government is how it can provide a stable environment for economic growth. Examination of the issue of government spending (as an indicator of its size) and GDP growth, there are conflicting results, and the relationship between government spending and economic growth depends on the sources of financing government spending and government performance. Thus, if government spending is financed through borrowing, the relationship between government spending and economic growth is negative, and if government spending is financed through taxes, the relationship between government spending and economic growth is positive.

3- METHODOLOGY

In this study by using the vector auto regressive model (VAR), the relationship between economic adjustment policies on fluctuations and instability of economic growth during the period 1981 to 2019 has been investigated. the annual fluctuations of economic growth were selected by using the exponential conditional variance (EGARCH) model with intervals 1 and 2 to show the variance inequality and the effects of the three policies of privatization, trade liberalization and financial liberalization were measured. The variables of trade intensity, volume of assets transferred to the private sector and the amount of foreign assets of the banking system are considered as indicators of trade liberalization, privatization and financial liberalization policies, respectively.

4- DISCUSSION

Out results showed that the variables of financial liberalization have the lowest (0.6%) and the variables of commercial liberalization have the highest (21%) share in the volatile changes of economic growth. Also, financial liberalization only increases in the short run and does not affect instability in the long run. The trade liberalization variable will reduce economic instability, while the surge in oil revenues will increase instability in economic growth. The government expenditure variable in this study has a dual behavior, so that in the short run will reduce instability and in the long run will increase the instability of economic growth. Privatization policies have the most short-term (0.0173) and long-term (0.0052) effects on economic growth instability and will increase economic growth instability.

5- CONCLUSION & SUGGESTIONS

Examination of the results of the instability response to various variables shows that not only economic adjustment policies incompatible in terms of their impact on growth fluctuations, but also not compatible with government policies. In the short and long term, privatization and financial liberalization policies will increase and trade liberalization policies will reduce instability. While the government's fiscal expansion policy (increase spending) will reduce instability in the short run and increase economic growth instability in the long run. Thus, the simultaneous implementation of trade liberalization policies and increased government spending (financial expansion) will reduce instability in the short and long term. Because both policies are compatible with each other and their results in the short-term and long-term will reduce the instability of economic growth. Therefore, it is recommended to adopt trade protection policies (both in terms of imports and exports) because these policies will not only improve the trade balance and increase the level of trade liberalization, but also the instability of economic growth. and will also reduce production.

Keywords: Volatility, Privatization, Financial liberalization, Trade liberalization, Economic growth

JEL Classification: H3, H5, E3, E5, O17, O43

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The Impact of Corporate Governance Principles on The Credit Risk of Private And Public Banks in Iran

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Abstract Expanded

1-INTRODUCTION

This study aimed to estimate and compare the effect of applying some principles of corporate governance on credit risk of selected private and public banks in Iran during 2011-2018. In the present study, after calculation of the credit risk by using the Basel Committee's proposed model for each bank, the relationship between shareholder rights and board size as two variables representing corporate governance principles, bank size and return on assets as control variables on the credit risk has been estimated. The results of the study indicate that in both groups of public and private banks, shareholder rights have no significant effect on credit risk. Increasing the size of the board of directors in public banks reduces credit risk more than private banks. Increasing the size of banks increases the credit risk in both groups of public and private banks. In private banks, increase in return on assets reduces credit risk, whereas in public banks, return on assets has no significant effect on credit risk.

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2-THEORETICAL FRAME WORK

Banks are encountered with numerous risks, including liquidity risk, reputational risk, market risk, exchange rate risk, and credit risk, in their business process, which are posed by several factors in the banking system. Credit risk is one of the main financial market risks, which has long been a hotbed for debates and leads to the bankruptcy of financial institutions such as banks Nowadays, high credit risk is considered as one of the major causes of bank bankruptcy The term ‘bankruptcy’, however, can not be easily defined, and each financial institution can define a situation in which bankruptcy occurs. Generally, this concept can be defined as follows: A delay in repaying the debts or the interests of the loans. Moody (2005) defines bankruptcy as a failure or delay in repaying bank debts or their interest. In another definition, it is referred to as borrower’s failure or unwillingness to repay debts. According to the guidelines of the Basel Committee, as a subcommittee of the International Settlement Bank and the supreme international body involved in banking supervision, credit risk involves three main parameters:

1) Probability of Default (PD): The probability of failure in a customer to fulfill his commitments regarding repaying debts.

2) *Loss* Given *Default* (LGD): Amount of loss (in assets) caused by bankruptcy and not compensated by the party of the contract.

3) Exposure at Default (EAD): This term indicates the maximum risk tolerated and accepted during bankruptcy.

3-METHODOLOGY

As maintained, corporate governance principle is one of the main variables, whose critical impact on the credit risk has been of concern over the last two decades. According to the OECD (2004), corporate governance encompasses a series of relations among managers, board members, shareholders, and other stakeholders. It provides a framework through which the organizational goals are identified. Appropriate corporate governance provides extensive and efficient monitoring in achieving the goals. Corporate governance contains the method of defining the strategic objectives of the company, the means of achieving such objectives, and the methods of monitoring the performance and relations in the company. The corporate governance aims at transparency and effective use of resources to modify the relationships among stakeholders. It also promotes the credibility and belief of shareholders and stakeholders, attracts more investment, and protects existing investments as well. Furthermore, it offers a system for controlling and balancing the enterprises. The guidelines of the Basel Committee highlight the need to apply corporate governance principles to improve the credit risk management process.

The method proposed in this study to estimate the credit risk of the banks was based on the Basel Committee's proposal on credit risk management. For this purpose, each bank's credit risk was estimated as an internal and unique variable for the same banks.

4-RESULTS

The most significant finding of this study deals with the return on assets in the private and public banks. According to the findings, while increasing the return on assets in the private banks reduces credit risk, an increase in the return on assets in the public banks has no significant impact on their credit risk. This might be due to the lack of transparency in the data and financial statements and its components by the public banks as these banks publish statistics based on the expectations of their performance rather than the reality of the performance. In other words, they submit manipulated financial statements with some unreal rows, which makes our rational assumptions underpinned by some theoretical foundations on the inverse relationship between return on assets and credit risk not be observed in Iran's public banks. To put it in other words, the return on assets presented by the public banks is often the result of unreal revaluations of assets, regardless of depreciation, but not the actual increases in the return on assets.

5-CONCLUSIONS & SUGGESTIONS

Throughout the last two decades, credit risk has been the most important challenge with which the banks have been tackling as such they have always sought to identify and manage effective variables to minimize

losses. The studies over the past two decades have highlighted the impact of corporate governance on the stability and risk decrease in financial institutions. This study aimed to estimate the credit risk in private and public banks listed in stock exchange and to analyze and compare the impact of board size and shareholder rights (as a corporate governance proxies) along with the size of the banks, and their return on the credit risk of these two groups. According to the findings and as a practical recommendation, there should be legal requirements for the banks to homogenize the dissemination of their data and information. Furthermore, providing the grounds to clarify the performance of the banks in terms of their assets and liabilities and to disseminate realistic information in the relevant communities would lead the findings of the studies on the banking system toward reliable theories and make them closer to the real world.

Keywords: Credit risk, corporate governance, Private banks, public banks, Shareholder rights, Board size

JEL: Classification: G3, E6, E5

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Development of Earning Manipulation Prediction Model Applying Hybrid Neural Network and Cosmology Based Algorithms

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Extended abstract

1- INTRODUCTION

Accurately predicting earning manipulation in order to detect and identify manipulation of financial statements has always been one of the most fundamental challenges ahead of financial reports users. Because of increasing financial reporting fraud, this fact resulted in investor distrust of capital markets in recent years. The purpose of this study is to answer the questions whether it is possible to detect earning manipulation in financial statements based on the Beneish model? is it possible to detect earning manipulation in financial statements based on the proposed model? and does the proposed model predict better than the Beneish model in detecting earning manipulation? The findings of this research can be concidered by investors, creditors, auditors, regulators and other users to help them in making decisions and offering appropriate solutions. In order to detect earning

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manipulation and enhance the predictive accuracy of the earning manipulation model, it has been designed and presented a developed model based on Beneish model (1999). this study uses corporate governance variables i.e., audit committee structure, legal inspector and independent auditor, board of director's structure and corporate ownership structure requirements.

2- THEORETICAL FRAMEWORK

Benish (1999) investigated 74 earning-manipulator companies applying probit analysis during 1982-1992. He assigned the number 1 to the manipulative companies and the number zero to the non-manipulative companies and calculated the coefficients of the independent variables. The cut-off point of this model was -1.78. Therefore, if the M-score is greater than -1.78, it is likely that the company is earning manipulator. The overall accuracy of the model was confirmed at 76%.

By using eight accounting variables in its model, Beneish showed that the probability of earning manipulation increases with unusual increase in receivables, decrease in gross profit margin, decrease in asset quality, sales growth and increase in accruals. But what is hidden from view in this model, is the attention to the control of mechanism to reduce transaction and agency costs. Studies conducted to develop the Beneish model have also been based solely on accounting data and have ignored the implications of control mechanisms in model development. Therefore, in order to improve the predictive power of the beneish model, corporate governance system can be considered as a deterrent factor from earning manipulation.

3- METHODOLOGY

The data of this study are drawn from the annual financial statements and reports of a sample of 81 non-financial listed companies on TSE over the period 2012-2018 i.e., 567 firm-year observations and analyzed by the hybrid multi-layer perceptron (MLP) neural network and cosmology based algorithms i.e., black-hole based optimization (BHBO), big bang-big crunch (BBBC) and galactic swarm optimization (GSO). It has been applied feed forward net to design the initial and final neural network model by structure of 8-17-1-1 for Beneish model (1999) and of 25-17-1-1 for the proposed model. This study also compares models based on hybrid neural networks and cosmological algorithms and the best and weakest cosmological algorithms are determined in neural network training to detect earning manipulation.

4- RESULTS & DISCUSSION

The numerical value of the area under the curve (AUC) of the receiver operating characteristic gives an idea about the detection power which it has been in the rejected range of 0.74 to 0.55 for the Beneish model (1999) and in the accepted range of 0.97 to 0.75 for the proposed model. The best cut-off points and the best accuracy of the Beneish model (1999) have been estimated up to 0.4014, 63.49%, respectively, by the hybrid multi-layer perceptron neural network and big bang-big crunch algorithm (MLP-BBBC). The best cut-off point and the best accuracy of the proposed model have been estimated up to 0.4023 and 87.30 percent, respectively, by the hybrid multi-layer perceptron neural network and galactic swarm optimization algorithm (MLP-GSO). The estimated accuracy of the model by the hybrid methods of multi-layer perceptron neural network and galactic swarm optimization algorithm (MLP-GSO), hybrid multi-layer perceptron neural network and big bang-big crunch algorithm (MLP-BBBC) and hybrid multi-layer perceptron neural network and black-hole based optimization algorithm (MLP-BHBO) has been increased from 59.08, 63.49 and 57.5 percentages to 87.3, 79.72 and 74.25 percentages, respectively.

5- CONCLUSIONS & SUGGESTIONS

This evidence indicates that predictive power of the model has been enhanced in detecting earning-manipulator companies and training error of the network has been decreased up to 12.7 percentages by hybrid method of multi-layer perceptron neural network and galactic swarm optimization algorithm (MLP-GSO). Therefore, it can be concluded that the integration of corporate governance variables as non-accounting variables to the Beneish model (1999) has been more effective in detecting and identifying earning manipulation. This evidence is consistent with this fact that a significant reduction in mean square error (MSE) is up to 23.81% and as a result the predictive power of proposed model has been significantly improved. The area under the curve of the black-hole based optimization (BHBO) and big bang-big crunch (BBBC) algorithms is covered by the galactic swarm optimization (GSO) algorithm in the proposed model**.** Also the area under the curve of the black-hole based optimization (BHBO) and galactic swarm optimization (GSO) algorithms is covered by the big bang-big crunch (BBBC) algorithm in Beneish model(1999). Therefore, the best algorithms for training the multi-layer perceptron neural network belong to the galactic swarm optimization (GSO) algorithm in the proposed model by the 12.7% error and to the Big Bang- Big Crunch (BB-BC) algorithm in Beneish model (1999) by the 36.51% error compared to the other cosmological algorithms in this study to detect and identify of manipulator companies.

Keywords: Multi-layer perceptron neural network, Cosmology algorithms, Beneish model, corporate governance system.

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Channels of Transmition the Effects of Monetary Policies on Inflation in Iran's Economy by Using Markov Switching Vector Autoregressive Approach

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Extended abstract

1- INTRODUCTIO

In order to have an effective monetary policy, it is necessary for the monetary authorities to have sufficient information about the effect, the channels of start the effect, the duration of the effect and the time when the effect of the monetary policy effect peaks. Therefore, it is necessary to examine the intersection of credit channel, housing price channel, stock price channel and exchange rate channel in the nonlinear transmission mechanism of monetary policy on inflation in the Iranian economy. It has a structure in different regimes and the data of the central bank are used during the years1978-2017.

2- THEORETICAL FRAMEWORK

Monetary policy is a set of actions that the central bank (monetary authority) through monetary instruments affect many economic goals such as price stability, exit from recession, stimulation of economic growth and increasing employment. This effect of monetary policy on the set goals and improvement in macroeconomic performance will indicate the efficiency of monetary policy. Central banks, as monetary policy makers in most countries

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of the world, seek the effectiveness of their monetary policies and to better understand the structures governing their economic environment in order to implement appropriate and timely policies and put economic variables on the path of growth and development. In this regard, how to formulate monetary policy and use monetary instruments is of particular importance in macroeconomics.

3- METHODOLOGY

A novel feature of the Markov switching model is that the regime change mechanism in this model depends on a status variable. in other words, the recent value of the state variable just depends on the its value in previous periods. to calculate the unconditional probabilities in a model that include two regimes indicate the probability of being in each regime, we can consider the possibility of changing the parameters in different regimes, the linear VAR model transforme the MSVAR model:

$$y_t = \begin{cases} v_1 + A_{11}y_{t-1} + \cdots + A_{p1}y_t + \sum_{1}^{\frac{1}{2}} s_t & if \quad s_t = 1 \\ \vdots & \\ v_\mathrm{n} + A_{1n}y_{t-1} + \cdots + A_p y_{t-p} + \sum_{n}^{\frac{1}{2}} s_t & if \quad s_t = n \end{cases}$$

4- RESULTS &DISCUSSION

The role of the exchange rate channel in transferring money to inflation is positive in both regimes, meaning that it increases inflation. Given the structure of the Iranian economy and due to the high dependence on the price of finished products of domestic production to imported capital goods, it seems that the exchange rate will play a dominant role in determinayion the fate of inflation in the Iranian economy.

The role of housing price channel in transferring money to inflation in regime one increases inflation and negative effects on monetary policy in Iran’s economy, while in regime two, housing price channel in transferring money to inflation has played the largest share in reducing inflation.
The role of corporate credit channel in transferring money to inflation in the regime has a greater share than the second regime in transferring money to inflation. As a result, in economic policies, special attention should be paid to the inflationary effects if the granted facilities.
Stock price channel, support of the stock market should be one of the main priorities of officials. Because in the Iranian economy, which is always involved in high inflation, the stock market without inflationary effects can increase investment to increase production.

5-CONCLUSIONS & SUGGESTIONS

According to our results, it is suggested that to control inflation, policymakers should pay special attention to changes in currency price. At the same time, the policymaker can reduce the dependence of the country's industry on the import of capital goods and strengthen domestic financial instruments, such as the return on bank deposits, stock exchanges, etc. To strengthen other transfer channels so that it can rely on other channels to control inflation.

Keywords: Transfer channels, Monetary policy, Inflation, Iranian Economy, Markov Switching.

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Study the Role of Macroeconomic Stability Budgetary Indices on Financial Development-Economic Growth Nexus in Iran

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Abstract Expanded

1- INTRODUCTION

The development of the financial system in all economies is one of the challenging issues that has been raised by economists in different decades. According to the latest report of the World Economic Forum (2012), creating an efficient, resilient and fair international financial system can support customers and activate savings and investment, which in turn can lead to economic growth and the creation of jobs and businesses in the economy. In regard to the results of previous studies, a higher growth rate can be expected from any country that has a more efficient financial system. However, despite much evidence to support the positive impact of financial development on economic growth, there is still no consensus on the relationship between the

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two. In general, there are two main schools of thought on this subject. Proponents of the first school of thought argue that financial development is essential for economic growth (Levin, 1997; and McKinnon, 1973). In contrast, proponents of the second school of thought, who are predominantly neoclassical theorists, argue that the financial sector is not the main driver of growth (Robinson, 1952; Lucas, 1988 and Shan, 2005). Among some researchers such as Patrick (1966), the existence of a two-way causal relationship and others such as Singh (1997), Andersen and Tarp (2003), Ayadi et al. (2015) and Ductor and Grechyna (2015), have found an inverse relationship between financial sector development and economic growth.

2- THEORETICAL FRAMEWORK

Indeed, although most empirical studies in this area confirm the positive impact of financial development on economic growth and show a one-way relationship between financial sector development and the real sector of the economy, but by reviewing the existing literature, it can be inferred that the relationship between these two macroeconomic variables is not definite. According to the existing literature, different results on the causal relationship between these two key variables are affected by the financial development pillars (such as financial stability). Financial stability refers to situations in which financial crises do not generally disrupt the core functions of the financial system. This requires a disciplined government with a stable budget structure that can stabilize the macroeconomy and ultimately provide the conditions for financial stability in the economy.

3- METHODOLOGY

Therefore, the purpose of this article is to study the effect of budgetary stability indicators in the expenditure sector on the causal relationship between financial development and economic growth. For this purpose, first considering financial development as a multidimensional index and considering the bank-based financial system in Iran, seven indicators of financial development in the banking sector have been used and then the multidimensional index of financial development using principal component analysis technique (PCA) has been calculated. Then, the causal relationship between the multidimensional index of financial development and economic growth has been analyzed using the bi-variate causality technique based on the vector error correction model (VECM) during the period 1357-1397. Finally, the effect of macroeconomic stability budget indicators on the causal relationship between these two variables has been studied using the tri-variate causality test based on the above model.

4- RESULTS & DISCUSSION

The results of our estimation show a one-way causal relationship from financial development to economic growth. The findings also indicate that the causal relationship between financial development and economic growth is affected by budgetary stability indices. Although the ratio of government debt to central bank, government debt to banks and non-bank financial institutions ratio and current expenditure ratio to GDP, have been able to maintain this direct causal relationship, but in other cases the negative significant impact of these indicators on the causal relationship between these two variables has been confirmed.

5- CONCLUSION & SUGGESTIONS

The main results of this study show that the performance of government in the expenditure sector (except for three of these indicators) has led to the passivity of the financial sector to the real sector of the economy. Among the important reasons for such results are the short time horizon of governments' plans, lack of serious efforts to reduce dependence on oil revenues due to the existence of high rents for some stakeholders and the lack of use of new financing methods for the budget deficit.

Keywords: Financial development, Economic growth, Stability budgetary indices, Tri-variate causality VECM model

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Silent Life Hypothesis and Filter Theory in the Iranian Banking Industry

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Extended abstract

1- INTRODUCTION

One of the requirements of economic development is financial development or in other words, development of an efficient financial system to finance value-added activities. an efficient financial system is one of the most important determinants of achieving higher economic growth and development. this issue in the iranian economy is due to the high share of the banking system in financing productive activities more than other countries, and therefore the importance of the banking industry with optimal performance is an inevitable necessity to achieve economic development.

2- THEORETICAL FRAMEWORK

the hypothesis of a silent life is expressed by hicks (1935), who shows in his study that firms with market power enjoy a quiet life, and therefore the managers of such firms make no effort to increase the efficiency of the firm. based on the hypothesis of hicks (1935), berger and henan (1989) first examine such a relationship in the banking industry, they show that managers of firms with market power are able to make no effort to improve cost efficiency, earn high profits.

At the heart of filter theory is the fact that when the employer is only aware of whether or not the person being hired has a college degree and no longer has any information about the other characteristics of that person, it is clear that the level

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of education. it turns out that a college degree will only have the role of distinguishing workers from one another and, in fact, acting as a filter and basis for determining wages, rather than improving the productivity of individuals.

3- METHODOLOGY

Considering that the data used by 17 banks for the period of 2018-2019 have been collected, so they have a composite structure and for this reason, stationary is examined first. their significance has been confirmed by the levin-lin chou and im, sons and shin tests. the next step in modeling is to investigate the possibility of heterogeneity between banks using the f-limer test. in addition, the results of the hausmann test show that the fixed effects model is preferable to random effects.

4- RESULTS & DISCUSSION

The results of estimation of the models according to different levels of education show that the effect of the adjusted lerner index on profitability is positive and significant. since the increase in the lerner index means an increase in the market power of banks, so the entry of banks and the increase in competition between them in the slang sense implies a decrease in the profitability of banks. on the other hand, the herfindahl-hirschman concentration index has a negative and significant effect on banks 'profitability, and this implies the diversification of banks' income sources in order to optimally distribute risk among different types of income. it should be noted that the ratio of credits to assets has had two-way effects on profitability.

5- CONCLUSIONS & SUGGESTIONS

The results of the estimates show that the diversification of banks' revenue sources, the increase in the share of the labor force with a bachelor's degree and the increase in the competitiveness index and, in fact, the market power have increased profitability. However, the increase in the size and share of the labor force with postgraduate and higher education in recent years has reduced the profitability of banks. Therefore, improvement the quality of education, increasing the relationship between the real and financial sectors by reducing the volume of rental activities in the economy and finally monitoring the performance of banks in terms of interest paid on deposits and interest on facilities are among the effective policies to increase banking industry profitability.

Keywords: Profitability, Filter theory, Human capital, Iranian banking industry.

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