

## An Analyzing of The Power of Providing Credit by The Iranian Banking System In the Event of Financial Frictions in The Framework of Macro Structural Econometric Model

Abbasgholi Nezhad Asbaghi, R.<sup>1</sup>, Noferești, M.<sup>2\*</sup>

### Abstract

Given the bank-centered nature of the financing market in the Iranian economy, the performance of the banking system is very influential in the level of production and cost of goods, and the fluctuation in access to bank credits and increase in the cost of access to them provide a good basis for economic disruptions. One of the problems facing the banking system, especially in recent years, is financial friction, which is evident in indicators such as the ratio of non-performing loans, the ratio of fixed assets to total assets and government debt accumulation. In this article, by developing a structural macroeconomic model in the period of 1967-2015, the effect of financial frictions on the banks' power of providing credit was investigated. At the same time, the effect of reducing financial frictions was compared with the effect of the expansionary monetary policy on the power of providing credit by the banking system. Finally, the effect of expansionary monetary policy on the reduction of financial friction was compared with the effectiveness of expansionary monetary policy. The dynamic simulation results from the model show that the power of providing credit by the banking system increases by an average of 16 percent with the reduction of financial frictions annually by one standard deviation. Also, the effect of reducing financial frictions on the power of providing credit by the banking system is on average 10 percent higher than the effect of expansionary monetary policy. In addition, the effectiveness of the expansionary monetary policy in the power of providing credit by the banking system in the event of a reduction in financial frictions as much as one standard deviation is on average 17 percent higher than when fiscal frictions are not reduced.

**Keywords:** The Power of Providing Credit by The Banking System, Expansionary Monetary Policy, Financial Frictions, Macro Structural Econometric Model.

**JEL Classification:** G01, E52, E51, C53, C52.

### 1. Introduction

Financial frictions refer to the factors that arise from asymmetry of information and Non convex Transaction costs. These factors can increase the cost of receiving loans (external financing) for the investor and reduce economic growth. Empirical

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1. Master of Science (Economics), Shahid Beheshti University

**Email:** ra.asbaghi@gmail.com

2. Associate Professor of Economics, Shahid Beheshti University

**Email:** m-noferești@sbu.ac.ir

studies show that the financial crisis, as a result of increased non-performing loans, leads to the failure of the credit market to finance the units of the economy. For example, Cucinelli (2015) found that credit risk arising from the ratio of non-performing loans has a negative effect on banks' lending and earnings. In addition, other empirical studies (e.g., Christiano et al., 2010 Pirozhkova, 2013) indicate that the frictions of financial and credit markets play a significant role in exacerbating economic fluctuations.

One of the problems facing the Iranian banking system, especially in the recent years, is the financial frictions including assets and properties that are known as Frozen Assets. Frozen bank assets, which are classified into three categories of non-performing loans, non-financial assets (fixed assets) and government debt accumulation, have gradually frozen a part of the banks' balance sheet. These financial frictions have led to a reduction in the efficiency of the credit market, a reduction in the power of Providing Credit by the banking system and, as a result, firms' exposure to credit constraints. Exacerbating credit constraints in two dimensions of reducing access and increasing the cost of credits is an important barrier to achieving sustainable economic growth.

So, given the importance of discussing fiscal frictions and their destructive effects on the power of banks to provide credits, now these questions arise; 1) how much the power of providing credit by the banking system will increase in the event of a decrease in fiscal frictions?, 2) what changes happen in the power of providing credit by the banking system at the time of reducing fiscal frictions compared to the time when the monetary expansion policy is implemented? 3) how much does the effectiveness of monetary policy increase in the event of a reduction in fiscal frictions simultaneously compared to the conditions in which these frictions do not change? This study attempts to provide an answer to these questions by developing a macro structural econometric model.

## **2. Macro Structural Econometric Model Developed**

To achieve the objectives of the present paper, a macro-econometric model was proposed in accordance with the specific structure of the Iranian economy. This model consists of four markets: the market for goods and services, the money market and credit, the foreign exchange market and the labor market.

The model has a total of 27 pairs of (54) behavioral equation, eight communication equations and 74 union equations. Also, the behavioral equations of the model are estimated using the ARDL method and time series information in the period of 1346-1394. The results of model validation using RMSPE and Tile inequality coefficient index (U) indicate that the model has good structural stability. As a result, the regulatory model is an appropriate tool for analyzing the power of providing credit by the banking system by considering the effect of financial frictions.

### 3. Conclusion

The dynamic simulation results from the model show that the power of providing credit by the banking system has increased by an average of 16 percent due to the reduction of each of the financial friction indicators by one standard deviation. Also, due to the reduction of fiscal frictions, positive effects in the real sector of the economy will be created by increasing the banks' ability to provide credits in a way that the rates of utilization of production capacities, investment, employment and, ultimately, gross domestic product, have increased by an average of 1.8, 4.8, 1.2 and 1.7 percent, respectively.

Also, the results indicate that the effect of reducing fiscal frictions by one standard deviation is 10.2% higher than the effect of monetary expansion policy (increasing the banks' annual debt to the central bank by one standard deviation) on the power of banking system's crediting. With the greater effect of reducing fiscal frictions on increasing banks' power in providing credits, real macroeconomic variables also have a higher upward trend compared to expansionary monetary policy. As a result, the rates of utilization of productive capacities, investment, employment and gross domestic product, have increased 1.1, 3, 0.8 and 1 percent more on average. Moreover, the effect of expansionary monetary policy on the power of providing credit by the banking system in the event of reduction in fiscal frictions by one standard deviation is on average 17.2 percent, more than when fiscal frictions are not diminishing. As a result, real macroeconomic variables are also more likely to increase in this case. As a result, the rates of utilization of production capacities, investment, employment, and gross domestic product, more have increased by an average of 2, 5.2, 1.3, and 1.9 percents, respectively.

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