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Islamic Finance and the Fluctuations of Investment and Output: The Role of Monetary Policy

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The recent global financial crisis once again revealed the harmful effects of interest-based contracts in the conventional financial system. Islamic finance, as an alternative financial system, discourages interest rate and debt financing. This paper investigates the effects of two financial systems, namely the conventional and Islamic systems, on macroeconomic variables. To achieve this goal, a DSGE Model with two monetary rules, one for conventional financial system and the other for Islamic financial system, has been designed. Comparing the dynamics of the models, the results of this study show that, in response to different shocks, investment and output in Islamic finance are less volatile than those of conventional financial system. Moreover, the process of adjustment in Islamic system is faster than that of the conventional system. These results imply that promoting Islamic finance has a great role in macroeconomic stability and covering the effect of financial crises.

Keywords: Islamic Finance, Investment, Macroeconomic Stability, DSGE.
JEL Classification: C61, E12, E44, E63

1 Introduction

Generally, financial crises have been associated with huge losses in the economy and jeopardize investment, output and employment (Reinhart & Rogoff, 2009). The occurrence of several financial crises during the past three decades has provoked debates on the vulnerable structure of the conventional financial system (Acharya & Richardson, 2009). Due to this, Islamic finance, as an alternative financial system, has gained much more attention so far (Askari et al., 2012). Being based on the real sector of economy, Islamic finance promotes different modes of finance and discourages interest-based contracts which are prevalent in the conventional financial system.

In this paper, we survey the effects of financial systems on the overall performance of economy. In other words, the paper aims to examine the behavior of macroeconomic variables in response to different shocks in two financial systems, the conventional system and Islamic system. The main

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difference between these two financial systems is the foundation of financial contracts which is based on either interest rate or expected return of economic activities. Therefore, given an exogenous negative shock to the economy, we explore that which one of the financial systems is less affected and also returns back to the equilibrium more quickly. As a result, this study would have several implications for promoting a financial system which is more stable and resilient against adverse shocks in the economy.

To explore the effects of financial systems on macroeconomic variables we use advanced techniques in macroeconomic modeling. Of course, there has been some significant progress in the development of Islamic finance (El Qorchi, 2005; Kammer et al., 2015) that has elevated its status in academic centers. Nonetheless, given the dominance of conventional financial system in financial literature, to ensure the sustainability of Islamic finance development, it is necessary to enhance its analysis with modern approaches used by mainstream proponents. One of these frameworks, which is now widely applied by central banks to analyze the effects of different policies, especially monetary policy, is based on Dynamic Stochastic General Equilibrium (DSGE) models (Brázdik et al, 2012). While developing DSGE models in the conventional system is increasing, the number of studies in the realm of Islamic finance applying this approach is very rare. Hence, we intend to present our discussion within the context of DSGE models to enhance the analysis and also provide a benchmark for further studies applying this technique.

This paper is organized as follows. Section two reviews the principles of Islamic finance, and also the theoretical grounds and empirical works regarding its stability and performance in comparison with the conventional financial system. Section three introduces a standard DSGE model with alternative monetary rules for conventional and Islamic financial system. Then, in section 4, the effects of different shocks are evaluated and the results are compared within the two financial system. Conclusion and implications of the results are discussed in section 5.

2 Literature Review

Islamic finance is a unified system that complies with Sharia law or Islamic principles. Among the collection of these principles, the main feature which distinguishes an Islamic contract from a conventional one is the prohibition of usury (or Riba), which is the determination of a positive return in advance on a loan as a reward for waiting to be repaid (Zaher & Hassan, 2001). This prohibits interest-based contracts which are prevalent in the conventional

financial system. In comparison, to meet the growing demands of Muslim customers in their financial transactions, Islamic finance supports a wide range of financial contracts which are based on the economic activities in the real sector. This leads to less motivation for speculative activities and more stability of the Islamic financial system, as supported by various theoretical models and empirical evidence.

One of the main contracts in Islamic finance is Profit-Loss-Sharing (PLS) contract which is considered as the ideal mode of Islamic finance by some Muslim scholars (Moisseron et al., 2015). Being based on risk participation, PLS contracts are not only Sharia-compliant but also have a great role in the stability of Islamic financial system. According to the PLS principle, the creditor may earn a return on his funds provided that he participates in investment risk and bears a shared loss if the project fails (Aggarwal &Yousef, 2000). In other words, the important feature of PLS contracts is the pass-through of risk between creditor and entrepreneur. While interest-based contracts require borrowers to repay lenders a positive amount regardless of the outcome of financial contracts. PLS financing relates payment commitments as a function of contract returns. Therefore, PLS contracts absorb the realized losses in downturn period and distribute the net outcome between two parties (Hadian, 2016). Hence, PLS contacts are seen flexible enough to provide built-in stabilizers to the investment process (Chishti, 1985). As a consequence, we should expect a less volatile behavior for investment in the Islamic financial system which leads to lower vulnerability and higher stability of macroeconomic performance.

Moreover, Chapra (2007) argues that the PLS system ensures greater discipline by making the bankers more careful in lending and the depositors more vigilant about the health of their banks and, therefore, will further help by not allowing the debt to exceed the growth of the real sector of the economy. The introduction of such discipline carries the potential of greater stability but also greater efficiency and equity in Islamic financial system. Finally, in Islamic finance, the return of investment is dependent on its productivity in the real sector and, therefore, the allocation of funds is primarily based on the soundness and expected profitability of projects. As a result, allocative efficiency improves in this system (Tagel-Din, 1992; Guyot, 2011). In contrast, in the conventional system, interest rate is always determined in advance and therefore only those projects whose expected returns are higher than the interest rate are accepted and the others are rejected even with positive returns. Therefore, investment, output, and employment are impeded by a predetermined interest rate in the conventional financial system.

All in all, we can infer that in an Islamic financial system, from both sides of the demand and the supply of funds, the process of investment is related to the return of investment projects in the real sector and, hence, is away with speculative motivations (Muljawan, 2015). Nonetheless, in the conventional financial system, speculative motivations affect the investment decisions depending on the prediction of future interest rate set by monetary authorities. Therefore, in comparison with an Islamic economy, we should expect higher volatility of investment and GDP variables in a conventional economy (Hadian & Davoodi, 2016, a, b). This would be important especially when the economy faces negative shocks. The more volatile is the investment, the longer is the process of adjustment and also the more severe is the effect of shocks. Further theoretical studies that focus on the stability of the Islamic finance are Iqbal et al. (2010), Shafique et al. (2012) and Khan and Mirakhor, (2015) studies.

From a macroeconomic viewpoint, in order to assess the effect of financial contract on economic variables, it is necessary to incorporate the financial structure of funds between savers (households) and investors (firms) with monetary authorities. In this regard, most of the studies in Islamic finance during the 1980s and 1990s describe the properties of monetary policy. Ariff (1982) recognizes three main goals of Islamic monetary policy as follows: i) economic well-being with full employment and optimum rate of economic growth; ii) socioeconomic justice and equitable distribution of income and wealth and iii) stability in the value of money. This type of theoretical works provide Muslim scholars with the main directions for future studies. As a result, the subsequent studies in the 2000s focus mostly on the transmission of monetary policy mechanism and its effects on macroeconomic performance in an Islamic economy.

To evaluate the importance of Islamic banks in the monetary transmission process, Sukmana and Kassim (2010) apply co-integration test and variance-decomposition analysis over a sample of macro-financial data of Malaysian economy during 1994:1 to 2007:5. Their results show that both Islamic banks' financing and deposit are statistically significant in linking the monetary policy indicator to the real output. Comparatively, Ascarya (2012) applies Granger Causality and Vector Autoregression (VAR) methods on monthly data of Indonesian banks, over January 2003 to December 2009 to investigate the transmission channel and the effectivity of the dual monetary policies. The results show that the changes in the conventional interest rate, credit and interbank rate affect output and inflation negatively and permanently, whereas the shock of PLS financing and Islamic interbank PLS, interestingly, have

positive and permanent impacts on inflation and output. Moreover, using data from Pakistan, where Islamic and conventional banks co-exist, Farooq and Zaheer (2015) compare the behavior of Islamic and conventional banks during a financial panic. The results show that Islamic bank branches grant more loans during financial panics and that their lending decisions are less sensitive to changes in deposits. Their findings suggest that greater financial inclusion of faith-based groups may enhance the stability of the banking system.

In this section, we review the Islamic finance and its advantages for the economy. Moreover, the empirical studies supporting the resilience and stability of Islamic financial system are discussed. These studies, however, have not examined the effects of Islamic financial principles in a general equilibrium framework, including households, firms and a policymaker. The general equilibrium models allow us to survey the effects of various policies and shocks in a broader view. While the application of such models is prevalent in the conventional literature, there has been too little effort to develop these models by Muslim scholars. Today, general equilibrium is analyzed within dynamic stochastic models. Therefore, in order to fill this gap, we try to carry out our analysis in a Dynamic Stochastic General Equilibrium (DSGE) model. This will show the effect of financial systems on the overall performance of the economy.

3 Model

In order to assess the effects of financial systems on macroeconomic variables with regard to investment and output, a model within the context of micro-founded macroeconomic framework is presented. We try to avoid the unnecessary complexities and, hence, apply a very simple model with basic elements required for the analysis. Therefore, we consider a model economy with three main modules, i.e. households, firms and a central bank according to the standard New Keynesian Dynamic Stochastic General Equilibrium model. The model relies on Ireland (2001) and Walsh (2010, pp: 330-55) studies.

3.1 Households

The economy is populated by a unit measure of infinitely lived household indexed by i, whose preferences are over consumption, c_t, real monetary balances, m_t, and labor supply, n_t, according to the following expected utility function.

$$U_0^i = E_0 \sum_{t=0}^{\infty} {\beta_i}^t \left\{ \frac{(c_t^i)^{1-\sigma_c}}{1-\sigma_c} + \frac{1}{1-\sigma_m}\left(\frac{M_t^i}{P_t}\right)^{1-\sigma_m} - \frac{(n_t^i)^{1-\sigma_n}}{1-\sigma_n} \right\} \quad (1)$$

Where E_0 indicates rational expectations of agent formed at current period, t is time index, β is the discount factor, and σ_j for $j = c, m, n$ is the inverse of elasticity parameter related to each variable. Moreover, M_t is the nominal monetary balances and P_t is the general price level.

Household use their labor income ($w_t n_t$), capital rent ($R_t^k k_{t-1}$), net dividends of firms (Div_t), and the return on their financial assets, $R_t b_t$, to consume, invest, I_t, and buy financial assets, b_t. The representative household's intertemporal budget constraint in real prices is given by equation 2.

$$c_t + I_t + m_t + b_t = w_t n_t + (1 + R_{t-1})\frac{b_{t-1}}{\pi_t} + \frac{m_{t-1}}{\pi_t} + R_t^k k_{t-1} + Div_t \quad (2)$$

Where π_t denotes inflation and w_t indicates real wages. Also, R_t and R_t^k are the return on financial asset and physical capital, respectively. Moreover, as in Christiano et al. (2005), physical capital (k_t) is subjected to adjustment costs with changes in investment, and is described by the following law of motion for capital:

$$k_t = (1 - \delta_k)k_{t-1} + \left(1 - S\left(\frac{I_t}{I_{t-1}}\right)\right) I_t \varepsilon_t^I \quad (3)$$

Where δ_k is the depreciate rate of physical capital, and the function S captures the presence of adjustment costs in investment. In the steady state, $S = \acute{S} = 0$ and $\acute{\acute{S}} > 0$. ε_t^I is the investment shock which is a source of exogenous variation in the marginal efficiency of investment (MEI) with which the final good can be transformed into physical capital, and thus into tomorrow's capital input (Justiniano et al., 2010; 2011). ε_t^I follows an $AR(1)$ process as equation 4.

$$\log \varepsilon_t^I = \rho_I \log \varepsilon_{t-1}^I + u_t^I \quad , \quad u_t^I \sim N(0, \sigma_I^2) \quad (4)$$

Maximizing equation 1 with respect to equations 2 and 3 gives the relations for consumption, Investment, labor supply and money demand.

3.2 Firms

There are two categories of firms operating in this economy; final and intermediate good producers. The intermediate firms produce a differentiated

good, $y_t(i)$, renting capital and employing labor form households as inputs. They sell the output to a final good producer which uses a continuum of these intermediate goods in its production.

There is a continuum of intermediate goods producers, each of which is a monopoly supplier of its own good and is competitive in the markets for inputs. The other type of firm transforms the intermediate product into a homogenous final good, y_t, which is used for consumption and investment by the households. The production function of the final good firm takes the form

$$y_t = \left[\int_0^1 (y_t(i))^{\frac{\theta-1}{\theta}} di\right]^{\frac{\theta}{\theta-1}} \quad (5)$$

where θ is the elasticity of substitution among intermediate goods. The final good firm takes its output price, P_t, and input prices $P_t(i)$ as given. Profit maximization leads to determination of demand for each of intermediate goods and the price of the final good, according to equations 6 and 7.

$$y_t(i) = \left(\frac{P_t(i)}{P_t}\right)^{-\theta} y_t \quad (6)$$

$$P_t = \left(\int_0^1 (P_t(i))^{1-\theta} di\right)^{\frac{1}{1-\theta}} \quad (7)$$

Output of intermediate good firm $i \in (0,1)$ is given by a Cobb-Doglass production function:

$$y_{i,t} = a_t \left(k_{i,t-1}\right)^{\alpha} \left(n_{i,t}\right)^{1-\alpha} \quad (8)$$

Where a_t is a technology shock which has a univariate process as equation 9.

$$\log a_t = (1-\rho_a)\,\overline{\log a} + \rho_a \log a_{t-1} + u_t^a \quad , \quad u_t^a \sim N(0, \sigma_a^2) \quad (9)$$

The optimization of firms requires two steps. First, for a given amount of production, the cost of production is minimized. Second, given the demand function in equation 6, the price of its intermediate good is set in a way which maximizes its profit. The cost minimization problem facing the intermediate firm i yields demand for labor, physical capital and also the marginal cost function. Moreover, the price setting problem of the intermediate firms is similar to Smets and Wouters (2003) which follows Calvo (1983). Each intermediate firm faces a random probability $(1-\gamma)$ that it can reoptimize its

price in any period. Therefore, it maximizes equation 10 with respect to equation 6[1].

$$\underset{P_t(i)}{\text{Max}}\, E_t \sum_{k=0}^{\infty} (\beta\gamma)^k \frac{\lambda_{t+k}}{\lambda_t} \left[\frac{P_t(i)}{P_{t+k}} - mc_{t+k}\right] y_{t+k}(i) \tag{10}$$

3.3 Central Bank

By setting interest rate, the central bank regulates the interaction between savers and borrowers, and, hence, influences households' and firm's decisions and impacts macroeconomic variables such as consumption, saving, investment, output, and employment. In a conventional financial system, the central bank usually follows a Taylor rule in form of equation (11) for determination of benchmark rate (Walsh, 2010, p: 342).

$$\frac{R_t}{R} = \left(\frac{\pi_t}{\pi}\right)^{\delta} e^{u_t^R} \tag{11}$$

Where u_t^R is an exogenous shock to policy rate. R and π are interest rate and inflation in the steady state. Equation 12 is the log-linearized in the following form.

$$\hat{R}_t = \delta\hat{\pi}_t + u_t^R \tag{12}$$

It suggests that in response to inflation, the nominal interest rate should increase so that the output gap reduction would be sufficient to ensure a unique equilibrium. This means that for consistency and conversion of the economy, the related coefficient (δ) should be greater than one. Therefore, the real interest rate is usually a positive amount regardless of the condition of the real sector. In some countries, central banks responds to both inflation and the output gap ($\hat{y}_t$) according to a flexible Taylor rule (Walsh, 2010, 342) as equation (13).

$$\hat{R}_t = \delta_\pi\hat{\pi}_t + \delta_y\hat{y}_t + \nu_t \tag{13}$$

Nonetheless, even within this framework, real interest rate is still different from the return of activities in the real sector of economy. From an Islamic perspective, however, due to the abolition of *Riba*, the return of financial contracts should be a reflection of the expected return of projects in the real sector. According to Khan and Mirakhor (1994), monetary policy and central

[1] The derivation of optimal prices and the level of average prices can be found in Walsh (2010, pp: 334-5).

banking in an Islamic system are expected to facilitate the mobilization of savings and allocation of resources consistent with the economic development objectives of the system. In other words, in an Islamic financial system, the central bank should relate the policy rate to the return of projects (Hasin & Majid, 2015). Therefore, we may expect an increase in real interest rate when the economy is in boom and a reduction in real interest rate when the economy is in recession. To specify this behavior in an Islamic financial system Taylor rule should be modified. In this paper, we propose the following rule for the central bank in an Islamic financial system.

$$r_t = (\frac{y_t}{y})u_t^R \quad (14)$$

Where r_t is the real interest rate which is approximately nominal interest rate minus expected inflation according to Fisher equation.

It indicates that in an Islamic financial system the real interest rate is dependent on the condition of the real sector. When there is a boom period, in which the investment projects are profitable, the real interest rate should be positive proportionate to economic growth. In contrast, when there is a recession and investment projects are losing, the real interest rate should decrease to meet the reality of the real sector. Therefore, the main difference between the Islamic and conventional financial system in this model is the monetary policy rule specified in equations 11 which is for a conventional system and equation 14 which is for the Islamic system.

The last equation in every DSGE model is the aggregate resource constraint. It means that, in equilibrium, the final good market clears when the consumption and investment demands plus all adjustment costs (AC_t) can be met by the production of final good firm according to equation 15.

$$y_t = c_t + I_t + AC_t \quad (15)$$

4 Calibration and Results

In order to evaluate the dynamics of the model, we log-linearize the model equations around the steady state and, then, we seek a parametrization that is realistic and feasible as the benchmark. Therefore, as a starting point, we calibrate the model for Iran's economy. In this paper, we set structural parameters using established values in the literature focusing on Iran economy. Also, for steady-state ratios, the quarterly data from the Central Bank of Iran is used. The sensitivity of the analysis is then checked by using

a range of different values for calibrated parameters. Table 1 presents the values of calibrated parameters.

Table 1
Key Parameter Calibration

Parameter	Value	Description
α	0.41	Share of capital, domestic intermediate goods
β	0.98	Discount factor
γ	0.3	Probability of not adjusting the price
σ_c	1.5	Inverse of the elasticity substitution of intertemporal consumption
σ_m	1	Inverse of the elasticity of money demand
σ_n	2.2	Inverse of the elasticity of labor supply
δ_k	0.02	Capital depreciation rate
δ	1.5	Response of policy rate to inflation
$\bar{c}/\bar{y}$	0.7	Consumption-to-production ratio in the steady state
$\bar{\imath}/\bar{y}$	0.3	Investment-to-production ratio in the steady state

Source: Research Findings.

Now, we explore the effects of financial systems on investment and output. To evaluate the dynamic of macroeconomic variables in the two financial systems, i.e. Islamic and conventional systems, we consider unanticipated shocks, both from demand side and supply side of the economy. We characterize these scenarios as unfavorable shocks reflecting the commonly observed phenomenon of economic disorders. The dynamic of the model in response to these shocks shows in which system macroeconomic variables such as investment and output are less vulnerable. Moreover, it indicates that which financial system has the ability to return faster to the equilibrium following these shocks. Based on these responses, we may conclude that which financial system is less affected and converges faster and, as a result, is more resilient and stable in crisis.

4.1 Effects of Demand Shocks

To evaluate and compare the dynamics of the models in response to a demand shock, we consider a negative shock to the marginal efficiency of investment, ε_t^I. The result of impulse-response functions is summarized in Figure 1 both for the conventional and Islamic financial systems. The impulse-response function for every variables shows the percent of deviation from its steady state over 40 quarters following a given shock.

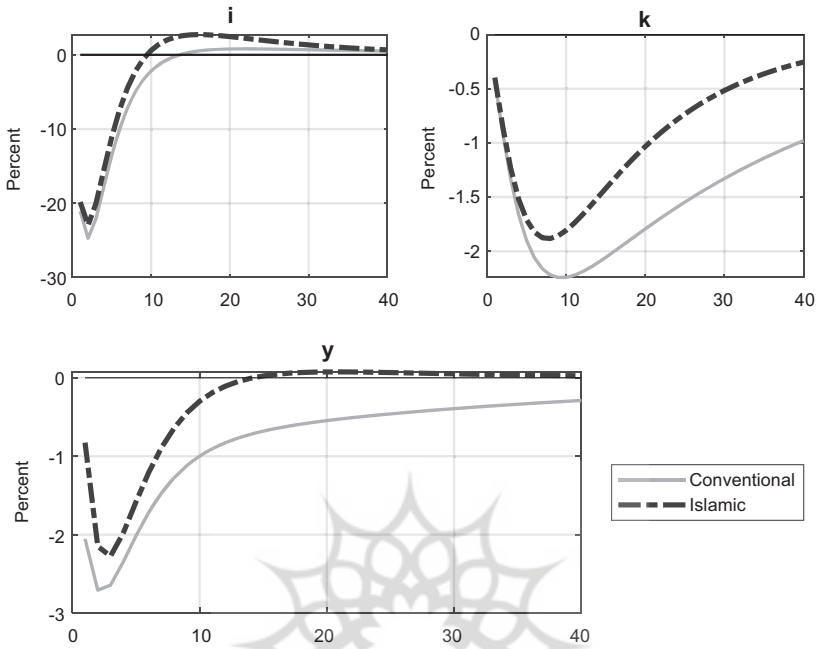

Figure 1. The effects of an exogenous decline in MEI.
Source: Research Findings.

As it is shown, following a decline in MEI, the demand for investment falls and, therefore, investment in both systems decreases to the same amount. However, over the adjustment process toward equilibrium, investment and output are less volatile in the Islamic financial system than those of conventional one. Moreover, following the disturbance, the adjustment and conversion of Islamic system are faster than those of conventional system.

These differences are stem from different rules for monetary policy. In Islamic finance, following a fall in the marginal efficiency of capital, the expected return of financial asset declines to capture the reality of the real sector. Therefore, the loss of project is shared between two parties and, as a result, investment will adjust more quickly toward its steady state. But, in the conventional system, in addition to be predetermined in financial contracts, the benchmark rate will respond solely to inflation. Therefore, following an unfavorable shock, the investors themselves should bear the loss of projects which prolongs the process of adjustment and conversion to steady state. Higher volatility of investment, along with its later adjustment, results in more

output loss. Thereby, as illustrated in Figure 1, in comparison with Islamic system, output loss is more persistent and is more severe in conventional system.

4.2 Effects of Supply Shock

In order to assess the effects of supply shock on macroeconomic variables, we consider a negative technological shock, u_t^a. The comparative results in conventional and Islamic financial systems are summarized in Figure 2. As presented, following a negative shock in supply side, the output falls and results to a decline in demand for production factors including investment. However, investment and output declines in the case of Islamic system are not considerable in comparison to those of conventional system. These differences could be justified by different rules for monetary policy in the two systems.

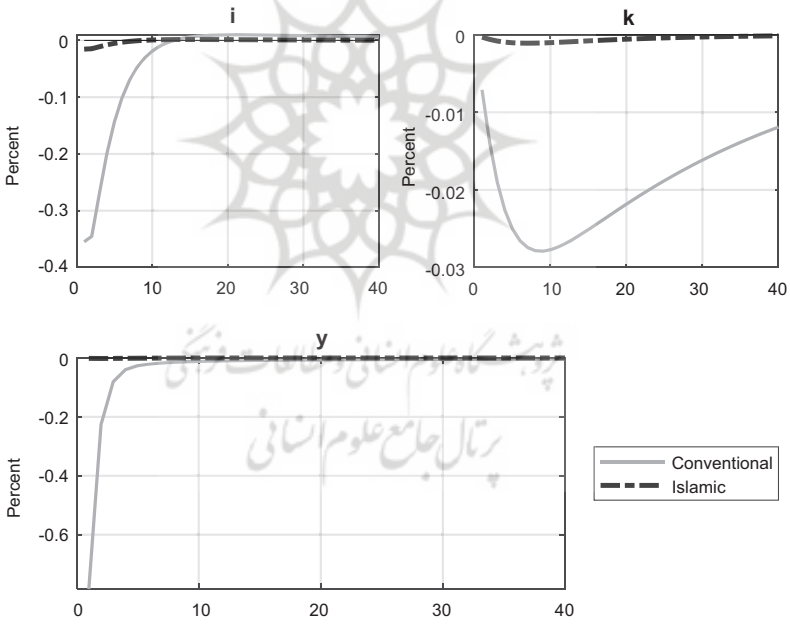

Figure 2. The effects of an exogenous decline in technology.
Source: Research Findings.

In Islamic system, following the output loss, due to the recession of the real sector, the expected return falls and, therefore, the losses of projects are shared between two parties of contracts. In contrast, in conventional system, interest rates do not change according to the reality of the real sector. Therefore, the investor should repay the principal and interest charges of borrowed money regardless of the economic conditions, which results in more decline in investment and prolongs its adjustment process. Consequently, as illustrated in Figure 2, in response to negative shocks, investment in Islamic system is less affected than that of conventional system. This leads to lower output loss and, also, faster conversion of the economy to steady state in Islamic finance in comparison with conventional system.

4.3 Robustness and Implications

In order to assess the sensitivity of the results, we consider a range of different values for all parameters. The results once again confirm that, in response to different shocks, the process of adjustment in an Islamic financial system is faster than that of the conventional one. Thus, the reported results are robust to changes in the initial conditions and we can draw its implications.

Moreover, from the diagrams of impulse-response functions, it can be seen that investment and output are less volatile in Islamic system. In other words, Islamic financial contracts lead to the reduction of macroeconomic volatilities and decrease its vulnerabilities in response to unfavorable shocks. We can also realize this from comparing the standard errors of macroeconomic variables in the two financial systems as presented in Table 2.

Table 2
Standard Errors of Variables in Conventional vs. Islamic Financial System

Variables	Conventional	Islamic	Islamic vs. Conventional
I (Investment)	48.7 %	43.9%	-10%
k (Capital)	11.4%	6.8%	-42%
y (GDP)	6.9%	4.4%	-36%

Source: Research Findings

The reduction in the volatilities of investment and output in Islamic finance, specified in the last column of Table 2, highlights the role of Islamic financial contracts in macroeconomic stability and containing the vulnerabilities of unfavorable shocks. In contrast, higher volatilities in the

conventional system indicate the harmful effects of interest-based contracts in the conventional financial system. These results can be interpreted as that creditors and investors share the outcome of projects in Islamic financial system and, hence, there is less motivation for speculative activities. On the other hand, in the conventional system, interest-based contracts stimulate speculation activities and lead to excessive borrowing in boom periods. Following a negative shock and materialization of systemic risks, borrowers themselves should bear all the losses and even pay interest charges which prolong the process of adjustment and returning to the equilibrium.

The results emphasize the economic rationale for prohibition of interest-based contracts in Islamic finance. As discussed, in the conventional system, the effects of shocks are more severe and persistent. Hence, the losses from negative shocks are much more in this system. Due to interest charges, following unfavorable shocks, default and liquidation rise, as many countries have experienced in the 2008 Global Financial Crisis. Since investors themselves should bear the entire costs, the process of adjustment in the conventional system will take longer than that of an Islamic system, which leads to higher costs of bankruptcy in society.

5 Conclusion

Given the repeated failure of the conventional financial system, and the need for a new structure of financial system, Islamic financial system, as an alternative system, has been the subject of recent academic studies. Based on various theoretical research, profit-loss-sharing principles, as one of the main pillars of Islamic finance, have a great role in the stability of financial system. Moreover, various empirical works show that Islamic financial institutions have been less affected by the 2008 Global Financial Crisis compared with their conventional counterparts which use interest-based contracts.

In this paper, the role of financial framework in key macroeconomic variables such as investment and output is investigated. To achieve this goal, a New Keynesian dynamic stochastic general equilibrium with different monetary rules is designed. In conventional financial system, central banks set benchmark interest rate based on a Taylor rule. In Islamic finance, however, due to the condemnation of interest-based contracts, this rule should be modified. In this paper, we recommend an instruction (modified Taylor rule) which relates the expected rate of return to the outcome of projects in the real sector according to the principles of financial contracts in Islamic finance.

The dynamics of the model for the two financial systems show that in response to exogenous negative shocks, investment and output are less

affected in Islamic system compared with the conventional system. Moreover, following these shocks, the process of adjustment, in terms of time required to return to equilibrium, in Islamic finance is faster than that of conventional financial system. The results imply that in order to lessen the magnitude of financial crises and also decrease their adverse effects, the principles of Islamic financial contracts should be adopted and promoted in financial system. Therefore, it is necessary to design financial structures including mechanisms and instruments in a way which facilitate the truly realization of these contracts.

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