REVISTA DE MÉTODOS CUANTITATIVOS PARA LA ECONOMÍA Y LA EMPRESA (34). Páginas 177-190. Diciembre de 2022. ISSN: 1886-516X. D.L: SE-2927-06. www.upo.es/revistas/index.php/RevMetCuant/article/view/5537

The Impact of Oil Price Fluctuations on Bank Lending Power in Iran: An Application of GMM Approach

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ABSTRACT

The abundance of oil resources and the dependence of the state budget on crude oil exports have exposed Iran's single-product economy to oil price fluctuations and its consequences. On the other hand, according to the country's financial system and its being bank-centric, one of the sectors that are constantly affected by oil price fluctuations is the banking system and its performance. To this end, the present study investigated the impact of oil price fluctuations on lending power of specialized banks in Iran using seasonal data from 1999 to 2018 using by Generalized Method of Moments (GMM). The results of this study indicate that during the period under review, oil price fluctuations has been a negative and significant effect (coefficient of -0.01) on the credit growth of specialized banks. In addition, GDP growth and inflation have been, respectively, a positive and negative effect (coefficients of 0.09 and -0.09) on the lending power of specialized banks during the period under review.

Keywords: oil shock; bank lending power; Iranian economy; Generalized Method of Moments (GMM).
JEL classification: C23, E44, G21.
MSC2010: 91G70, 91G99.

Artículo recibido el 25 de diciembre de 2020 y aceptado el 10 de mayo de 2022.

El impacto de las fluctuaciones del precio del petróleo en el poder de préstamo bancario en Irán: una aplicación del enfoque GMM

RESUMEN

La abundancia de recursos petroleros y la dependencia del presupuesto estatal de las exportaciones de petróleo crudo han expuesto la economía de un solo producto de Irán a las fluctuaciones del precio del petróleo y sus consecuencias. Por otro lado, de acuerdo con el sistema financiero del país y su bancarización, uno de los sectores que se ve constantemente afectado por las fluctuaciones del precio del petróleo es el sistema bancario y su desempeño. Con este fin, el presente estudio investigó el impacto de las fluctuaciones del precio del petróleo en el poder de préstamo de los bancos especializados en Irán utilizando datos estacionales de 1999 a 2018 utilizando el Método Generalizado de Momentos (GMM). Los resultados de este estudio indican que durante el período bajo revisión, las fluctuaciones del precio del petróleo han tenido un efecto negativo y significativo (coeficiente de -0.01) en el crecimiento del crédito de los bancos especializados. Asimismo, el crecimiento del PIB y la inflación han tenido, respectivamente, un efecto positivo y negativo (coeficientes de 0,09 y -0,09) sobre el poder crediticio de los bancos especializados durante el período analizado.

Palabras clave: shock del petróleo; poder de préstamo bancario; economía iraní; Método de Momentos Generalizado.
Clasificación JEL: C23, E44, G21.
MSC2010: 91G70, 91G99.

1. Introduction

Nowadays, banks as financial mediators and credit facilitators in economics and the heartbeat of financial transactions and exchanges associated with economic activities play an effective and fundamental role in the different countries' economies and their role in financing realm and meeting the investment needs of business and marketing through lending loans to suppliants is quite obvious. Various internal factors of banks and environmental economic conditions and the financial system of countries influence the banks' liquidities and their lending capacity. Therefore, identifying the key factors in the banks' lending capacity seems noteworthy.

Noticing the role of oil as the most important income source and bank-based economy of Iran, one of the most crucial factors influencing the banking system of this country is the oil price and its fluctuations that would affect the functionality of banks and their lending behaviors. Since many economic sectors require receiving loans and facilities from banks, any change in the banks' lending behavior might confront them with many serious threats. The banks due to possessing significant information about their borrowers solve the financial problem of the society technically. Thus, a collapse in the lending capacity of banks leads to serious damages to the private sector. For instance, small enterprises with low efficiency in short-term periods or those that cannot gain the banks' trust to receive loans, may intensely be affected by banks' lending behaviors (Lashkari et al., 2015). Banks noticing their information about markets began to grant the loans; hence, banks' lending behavior is under the influence of current conditions and the immediate future of macroeconomics. According to Baum et al. (2005), with increasing ambivalence in an economic environment, the prediction of the rate of returning facilities granted by banks becomes difficult. A stable environment of macroeconomics can facilitate the prediction of the rate of a potential project; consequently, the facilities granted by banks are assigned to the projects with the highest rate of return prediction. Talavera et al. (2006) study has shown that banks in the economical bloom period and decrease of macroeconomics uncertainty, grant more loans and decrease granting loans in economics recession, instead.

Given that economic situation in Iran is heavily dependent on oil price and its price is in turn under the influence of global and regional phenomena, recognizing the relationship between oil price and banks' lending behaviors is considered noteworthy. For this purpose, in the present study after presenting a theoretical framework and reviewing previous literature, the effect of oil price fluctuations on the banks' lending capacity are scrutinized and appropriate implications and recommended policies are provided.

2. Review of literature

The Bank system is one of the fundamental underpinnings of economic systems and its proper performance can aid economic growth and prosperity. Banks are the most important organizations in the mobilization and allocation of financial and investment resources and playing this role has turned them into one of the important agents in economic growth and development (Foos et al., 2010). However, one should bear in mind that banks have a specific capacity for enriching revenue sources and allocating them to investment purposes. Regardless of being revenue sources for many countries or their economic policies, banks are interested in granting loans and aiding their clients with considering three function-directing principles that are profitability, liquidity, and ability to pay debts, though banks' decisions are affected by many factors (Olokoyo, 2011).

Oil price is one of the crucial factors that identify the economic condition of oil-importing and oil-exporting countries. Basher and Sadorsky (2006) reckoned oil as blood of the modern economy (Shayhaki Tash & Khorram Abadi, 2017). Based on economic theories, oil price fluctuations may affect economic activities both on demand side and supply side. The effects of the demand side are associated with the fact that oil is a vital input of production; therefore, any increase in oil price may decrease the demand for oil and the productivity of other factors meaning that every shock in oil price like a negative technological shock leads to economy depression (Finn, 2000). There is a noticeable amount of

experimental evidence that causally links oil price changes to the variables such as Gross National Product (GNP), stuck efficiency, and rate of interest (Hamilton, 1983).

Changes in oil price cause instabilities in macroeconomics policies and an increase in macroeconomic policies, in turn, leads to disruption in the market and emerging financial crises. Existing fluctuations raise the risk of investment and have a negative effect on national production and confronts the producers with many financial losses in order to repay these loans. Bank borrowers are forced to pay the costs of loses and interest rate due to the amount of fluctuation as well. As a result, it should be acknowledged that the argument over oil price considering its broad domination of direct and indirect effects on bank assets and debts is an important issue that should be examined carefully. Since banks do not work in vacuum, their lending behaviors in most cases are under the influence of environmental factors especially principles and agents of macroeconomics. Economic conditions are components of the economic risk that affect all the companies or financial enterprises. The overall economic performance of every country is identified by units of its macroeconomic such as GNP, level of employment, applied industrial capacity, inflation, providing the money, and exchange rate. Consequently, banks adjust their lending behaviors by responding to these signals. Positive/ negative signals encourage the banks to more/less lending. Banks' lending portfolios may also be affected by their expectations of economic performance (Sameti et al., 2012).

An increase in oil price causes higher government revenues and consequently, higher expenditures. This fact in turn leads to the improvement of companies' performance and banks' balance sheet and their stock value. The relation between macro-level of oil price and financial performance shows that through the period of oil price boom, the quality of banks' assets will be developed because the quality of banks' lending portfolios depends on the performance of other non-financial companies as banks customers. After falling off oil price, the weak performance of oil-exporting companies has a negative effect on their ability to fulfill financial obligations such as repaying loans. As a result, it is expected that adverse oil price fluctuations would affect the amount of banks' lending (Zomorrodi & Golshahi, 2017).

The higher oil price leads to higher internal demands that are associated with increasing banks' certainty for more lending. On the supply side, with increasing oil price the production capacity of oil-exporting countries would be increased that it would reinforce new public and private investments. In this atmosphere, financial institutions make considerable profits and financial stability will be acquired with the aid of persistent investments decreasing lost loan repertoires.

Noticing the effects of oil price changes on the oil-based economy countries, oil price fluctuations can indirectly be examined by other macroeconomic variables namely inflation. Rising oil price usually causes inflation and a decrease in investment level. Economists have introduced oil-based revenues as one of the important factors in inflation in Iran. Mehrara and Mojab (2010), Mehrara et al., (2013), and Hosseini and Rezagholizadeh (2011) have reckoned the oil incomes as a direct and crucial factor in inflation in Iran. Existing inflation in a period of time will intensify inflation expectations for the next upcoming periods. Banks due to continuing their activities are inevitably forced to absorb the investment from all society members and grant facilities in order to make profit and survival. If the interest on bank accounts is less than the inflation rate, the value of investors' money will collapse, and due to other markets' attraction and efficiency (i.e. housing, currency, or gold) the liquidity would exit from banks and enter the mentioned markets, the amount of timed deposit would be decreased and current account and the short-term deposit would be increased. Falling the timed deposits and rising current and short-term deposits means a decrease in investments' power. The effect of timed deposit growth on investments is more meaningful than visible investment growth and banks relying on timed deposits can grant timed facilities for financing the investment projects (Karimkhani & Forati, 2012).

Therefore, an advantageous strategy to gain customers' trust and encourage them to reinvestment and ignoring false markets by means of increasing interest rate in line with inflation rate that leads to rising total cost money. Growth of personnel and official costs caused by inflation and increase of doubtfulness to receipt demands are cases that increase non-operational costs and accordingly the total

cost of money. Apparently, in these situations where banks are encountered falling in their timed deposits that are considered as one of their income sources, providing facilities from cheap resources to increase applicants is risen. Even inflation changes can affect the number of cheap resources. On the one hand, with increasing the inflation and decreasing purchasing power, it is expected that the individuals' intention and ability to saving deposits decreases; on the other hand, when total money cost increases banks try to persuade individuals to open timed accounts instead of saving accounts. This strategy can decrease the bank cheap sources and subsequently can decrease mortgage facilities that with rising inflation and current depression are promising for production enterprises to meet their financial needs and survival (Heidari et al., 2017). Boyd et al. (2001) in their research on the relationship between the effects of inflation on the financial sector's performance claimed that in various situations (inflation intensity) there is a significant correlation between the rate of inflation and the amount of lenders' lending power. Chan and Kanatas (1985) stated that with increasing inflation rate, identifying the current market information has become very difficult and the value of received loans is unforeseeable. Thus, banks do not tend to grant loans in these conditions anymore.

Somoye and Ilo (2009) in a study explored the effects of macroeconomic variable instability on banks' lending behaviors in Nigeria with the aid of data collected from commercial banks and macroeconomic instabilities between 1955 and 2005. The results with the applying Vector Error Correction Model (VECM) showed that banks' lending is durably related to instability of macroeconomic variables. Hence, they suggested that banks should pay enough attention to specific characteristics related to lending activities in short/long term periods and their concerns about macroeconomics instabilities should also be limited to durable results of their lending behaviors.

Sameti et al. (2012) in their study searched the effects of macroeconomic instability on commercial banks' lending behaviors in Iran from 1974 to 2008. They hired the Co-integration model and Vector Error Correction Model (VECM). The results exhibited that there was a long-term relationship between banks' lending behaviors and macroeconomics instability. In other words, in a long-term period, any changes in macroeconomic instability were accompanied by a decrease in the lending capacity of commercial banks.

Said (2015) studied the effects of oil price on Islamic banks' efficiency noticing evidence gathered from the Middle East and North Africa (MENA) from 2006 to 2009. The results revealed that there was not a direct relationship between oil price and the level of Islamic banking efficiency in (MENA).

Xu and Xie (2015) examined the effects of oil price on bank profitability in Canada with the aid of Ordinary Least Squares (OLS). Using the data from 10 public banks between 1995 and 2015, they found that the relationship between oil price and banks profitability would differ in different eras (before and after the financial crisis of 2008) in such a way that before the crisis, a positive and meaningful relationship was obvious but there was no evidence to prove their relationship after the crisis.

Khandelwal et al. (2016) scrutinized the effects of oil price on the banking system in the Gulf Cooperation Council (GCC) from 2000 to 2014. In this study, they used Panel Vector Autoregressive (PVAR) method. In this research, the relation between oil and macroeconomics and financial systems of the Persian Gulf Cooperation Council (GCC) has been scrutinized. First, the performance of commercial and financial key indicators has generally been reinforced; in a bust period of oil price, these variables tend to be depressed. Second, the oil price has a significant impact on the quality of banks' assets.

Idris and Nayan (2016) explored the relationship between oil price shock and the arrears of OPEC members from 2000 to 2014. Applying the Panel Data method, they realized that oil price shock has a meaningful and negative impact on bank loans on 12 oil-exporting countries (OPEC members).

Alodayni (2016) using Generalized Method of Moments (GMM) studied oil price, credit risk in banks systems, and financial relationship among oil-exporting Persian Gulf countries from 2000 to

2015. The findings proved that macroeconomic variables (i.e. oil price, GNP nonprofit from oil, interest rate, stock value, housing costs) are main indicators of the ratio of Non-Performing Loans (NPL) among the banks of the countries that are members of the Persian Gulf Cooperation Council and subsequently financial stability of the entire region.

Lee et al. (2017) searched the dynamic relationship between oil price shock and risk in China. They analyzed monthly data between 1994 and 2014 by Structural Vector Autoregressive (SVAR) method. They concluded that oil price shock leads to a risk increase in the country and may cause a negative impact on banks' performance.

Khodadadi and Mehrara (2017) explored the effects of macroeconomic fluctuations on the lending behaviors of commercial banks in Iran. Employing Autoregressive Distributed Lag (ARDL), they proved that commercial banks' lending (the ratio of loan to asset) has a direct and long-term relationship with production fluctuations during trading periods. In the other words, in a long time period, improving economic conditions causes credit risk acceptance by banks and increasing the share of commercial banks' lending.

Saif-Alyousfi et al. (2018), using Generalized Method of Moments (GMM) examined the effects of oil and gas price shock on non-performing loans in Qatar from 2000 to 2016 and figured out that oil price shock can cause negative investment and has a significant impact on banks' Non-Performing Loans (NPL) that in turn put the banks at risk of loss.

Lee and Lee (2019) studied the effects of oil price on banking performance using extensive array comprising five features or significant financial indexes (i.e. capital sufficiency, the quality of the asset, management, profitability, and liquidity) in china from 2000 to 2014. Applying the Generalized Method of Moments (GMM), they founded that oil price has a considerable impact on banks' performance since any increase in oil price might diminish bank performance in terms of capital accumulation, management efficiency, monetization power, and liquidity.

3. Methodology

3.1. Research Model and Describing Variables

This section focuses on the theoretical framework and literature along with the model examining the effects of oil price fluctuation on banks' lending capacity and then based on seasonal statistics and data gathered from research variables through 1999 to 2018, the selected model considering econometrics requirements is estimated. The examined model in the present study is presented below:

$$RL_t = C + \beta_1 RL_t(-1) + \beta_2 VOIL_t + \beta_3 RGDP_t + \beta_4 INFLATION_t + u_t \qquad [1]$$

In the above equation:

The rate of growth of granted credits by specialized banks (RL_t): includes granted facilities by specialized banks such as Housing Bank, Agriculture Bank, industry and Mine Bank, Export Development Bank, Cooperative Development Bank, in the form of 14 Islamic contracts i.e. Qarz-al-Hasna, Mudarabah, Forward, Civil Partnership, Jo'aalah (Unilateral Contract), Installment Sale, Murabaha Purchase, Istisna (Manufacturing Contract), Debt Purchase…

The growth rate of Gross Domestic Production ($RGDP_t$): is one of the effective factors on banks' granted credit volume. It is expected that a positive relationship exists between these two variables, in such a way that with an increase in economic growth (with the fixed costs of 2004) the amount of granted credits by banks would be increased, too.

The inflation rate ($INFLATION_t$) was calculated using the Consumer Price Index (*CPI*). This index as a significant indicator is employed by economic planners for identifying the price conditions at different times and as a guideline for financial policies.

Oil price fluctuation ($VOIL_t$): the seasonal oil prices have been extracted from U.S. Energy Information Administration (*EIA*). The method of extracting data will be explained in section 3.3.

3.2. Unit Root Test of Variables

The first step of economic model estimation is reviewing the reliability of the variables. There are various tests to examine the reliability of variables. In the present study regarding the type of data, Augmented Dickey-Fuller (*ADF*) test was applied and the result was presented in Table 1.

Table 1. The Results of Unit Root Test.

Variable	Intercept		Trend and Intercept	
	Statistic	Critical Value	Statistic	Critical Value
RL	-4.89	-2.90	-5.27	-3.47
RGDP	-6.49	-2.90	-20.65	-3.47
INFLATION	-7.17	-2.90	-7.15	-3.47
OIL	-2.43	-2.90	-2.61	-3.47
VOIL	-2.43	-2.90	-2.61	-3.47

Source: Research calculations.

Considering the results of the Augmented Dickey-Fuller test, all the variables except for oil price (*OIL*) and oil price fluctuations (*VOIL*) are stationary in level; therefore, the Structural Break test is used for these two variables. Table 2 has briefed collected data from the Augmented Dickey-Fuller and Structural Break test for these two variables.

Table 2. The Results of Structural Break Test.

Variable	Break Time	Break Type	Statistic	Critical Value
OIL	$2014Q_2$	Intercept	-5.82	-4.86
VOIL	$2014Q_2$	Intercept	-5.82	-4.86

Source: Research calculations.

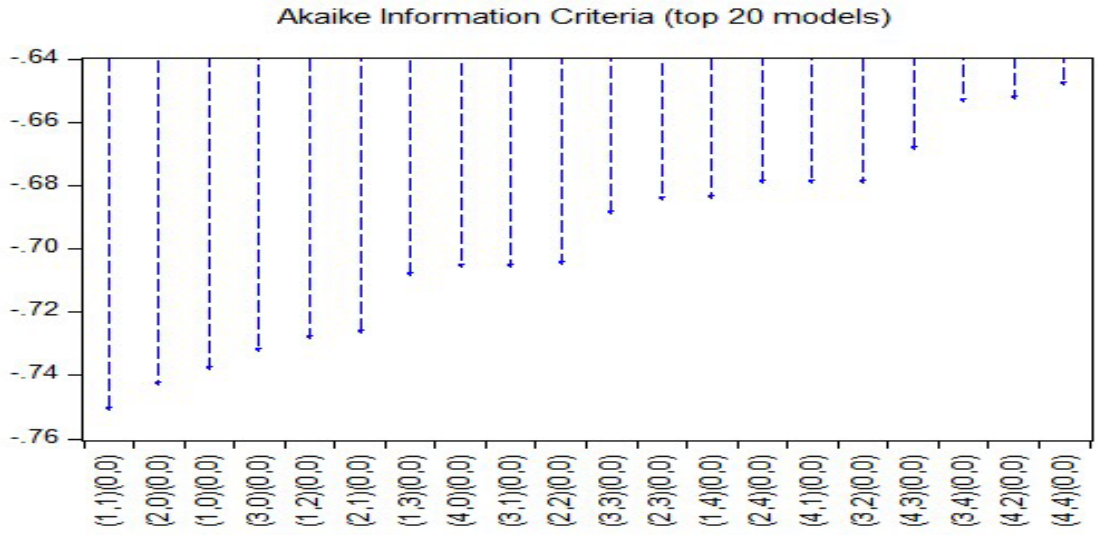
According to Table 2, the oil price variable (*OIL*) and oil price fluctuation (*VOIL*) are stationary in level considering structural break.

3.2. Extracting the Oil Price Fluctuation Variable

According to Box-Jenkins methodology, the first step of extracting oil price fluctuation variable is to examine its reliability. As can be seen in Table 2, oil price variable (*VOIL*) is in a reliable state. In the following, for extracting oil price fluctuations, fluctuating models were hired. For modeling the fluctuations with *ARCH* method, firstly the existence of ARCH effects in the best model based on

ARIMA should be examined. Therefore, initially oil price timed series was modeled by applying Akaike Information Criteria (*AIC*).

Figure 1. Determining the Optimal Degree of ARIMA Components for Oil Price.



Source: Own elaboration.

Noticing the information criterion that was selected, the model comprises a degree of autoregressive and moving average. In other words, the optimal model is in the form of ARIMA (1,1,1). After estimating the model, the existence of heteroscedasticity was investigated using ARCH-LM test and its results are provided in Table 4.

Table 3. Investigating the Existence of ARCH Effects in ARIMA Model

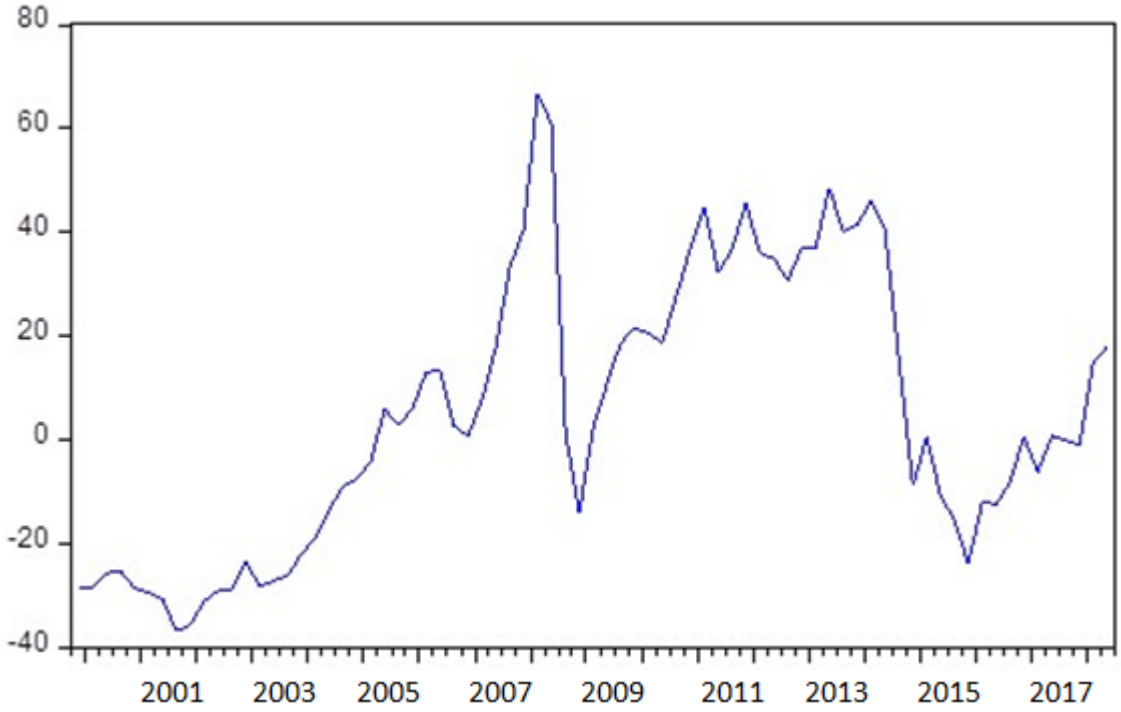
Statictic	H_0 Hypothesis	Probability	Result
F (2,70)= 4.77	Heteroscedasticity is rejected	0.01	H_0 hypothesis is rejected

Source: Research calculations.

Considering the test results, the error term of the optimal model contains *ARCH* effects. Thus, using *ARCH* group models, the time series of oil price fluctuation can be extracted. Consequently, after estimating different models, *GARCH (1,1)* was identified as the optimal model and any autocorrelation was not observed. Figure 2 illustrates the above-mentioned error term that was applied as an oil price fluctuation index.

According to Figure 2, the oil price fluctuation has an increasing trend by 2007, and after a sharp bounce, it continued its uptrend. The oil price downtrend since 2014 led to a bounce in this variable.

Figure 2. Time Series of Oil Price Fluctuation.



Source: Research calculations.

3.3. Generalized Method of Moments (GMM)

A determining factor in regular methods of estimation such as the Least Square Method and Maximum Likelihood is that these estimators are inconsistent with numerous observations and short-term periods. Moreover, some other regular assumptions in the regression model, such as explanatory variable correlations and error components, may not be true here. Thus, other methods namely instrumental variables that generally work based on differences are suggested. Since in a model the number of obtained estimators based on these variables for a parameter is normally high; therefore, the Generalized Method of Moments (GMM) is presented as an alternative method for estimating linear regression models (Greene, 2003). In the GMM, the lag of the dependent variable is inserted on the right side of the equation so that re-parametrizing might be accessible. In this situation, if distributed lags are inserted into the model, an Autoregressive Distributed Lags (ARDL) model would be available and this action provides the options of a more plentiful model. The estimators of Generalized Method of Moments with computing invisible specific effects in the model (that is done with inserting dependent variable with lags as an explanatory variable in model) provides better control on all endogenous variable of models. GMM is a rigorous estimator that unlike the Maximum Likelihood Method, it does not need any detailed information about the distribution of error terms. When the dependent variable appears as the lag on the right side, then Ordinary Least Square (OLS) will be inconsistent (Arellano & Bond, 1991; Baltagi, 1995) and a Two-Stage Least Squares (2SLS) or GMM should be employed.

The estimator of the GMM is used whenever the θ parameters are over-intensified by moment conditions. In this case, the following system of the equation $E\left(f\left(x_t,\theta\right)\right)=0$ represents q equation for p unknown that it is solvable by θ_0 (Assuming that we have a sample of observations including $\{x_t : t=1,...,T\}$ while we want to estimate an unknown parameter as $p*1$ of θ vector with its real value θ_0. We assume that $f\left(x_t,\theta\right)$ is a continued $q*1$ vector and a function of θ and $E\left(f\left(x_t,\theta\right)\right)$

exists and for all the t, θ is definable. According to this assumption, moment condition will be: $E\left(f\left(x_t,\theta_0\right)\right)=0$).

If in certain cases the process continued to find an estimator, then:

$$F_T(\hat{\theta}_T)=0 \quad [2]$$

Since there are more equations compared to unknowns, when we have q equation for p unknown, we cannot identify one $\hat{\theta}_T$ vector that establishes $F_T(\theta)=0$ conditions. However, we are able to find a $\hat{\theta}_T$ vector that aggresses $F_T(\theta)$ to zero as much as possible. The vector can be identified by the following definition:

$$\hat{\theta}_T=\arg\min_{\theta} Q_T(\theta) \quad [3]$$

where:

$$Q_T(\theta)=F_T(\theta)'A_T f_T(\theta) \quad [4]$$

and A_T is a positive and random p*p weighted matrix. This point is noteworthy that $Q_T(\theta)\geq 0$ and $Q_T(\theta)=0$ only if $F_T(\theta)=0$. Therefore, $Q_T(\theta)$ could be Zero in some certain cases, only but it is positive for excessive positive cases. In the following are the results of the estimating model with the aid of this estimator presented.

3.4. Estimating Model and Data Analysis

The results gained by examining the effects of oil price on the lending capacity of specified banks in Iran by GMM method are shown in Table 4. As can be observed in this table, the obtained coefficient sign is compatible with the theory. Sargan Test, which is conducted to investigate the validity of instrumental variables in the model and the over identifying restrictions test, demonstrates that in the estimated model, instrumental variables do not correlate with remaining components of the model; thus, in this regard, the model is considered reliable. Statistics related to the normality test reveals that the error term is distributed normally and the classic hypothesis was accepted.

Table 4. The Results of Estimating the Model.

Variable	Coefficient	Standard Deviation	t- statistic	Probability
Intercept	1.75	0.24	7.17	0.00
RL(-1)	0.75	0.06	13.17	0.00
VOIL	-0.01	0.004	-2.1	0.04
RGDP	0.09	0.05	-2.86	0.00
INFLATION	-0.09	0.03	7.17	0.00
Prob.(Normality) = 0.06		J-statistic = 0.78	Prob.(J-statistic) = 0.9	

Source: Research calculations.

The results obtained from relation [1] showed that:

- The growth of granted credits of specified banks in Iran highly tends to keep stability and persistence. The coefficient related to the first lag of this variable is 0.75 and significantly differs from zero value from a statistical point of view. Hence, it can be claimed that the lending capacity of specified banks in Iran is under influence of previous values and vice versa.

- The gained coefficient for oil price fluctuation is about -0.01, that significantly differs from zero value from the statistical point of view. Therefore, the higher the oil price fluctuation, lending power of specialized banks decreases. This fact proves that oil price fluctuations by disrupting the macroeconomic environment might negatively affect investment situation. Therefore, on the demand side, credits would negatively be affected by oil price fluctuations.

Regarding the effects of oil price fluctuations on banks' lending capacity, it is likely to be true that oil is put in the discussion as a production input. Therefore, an investor due to investing and beginning the production needs to investigate costs functions and profit margin of their economic activity. However, since oil price fluctuations lead to unawareness about costs and safe profit margin of an economic project the investor's intention to economic activity will be diminished and this issue, in turn, causes an increase in banks' lagged lending. As a result, the amount of banks' lending capacity would fall due to the amount of default risk of unreturned granted facilities (Behzadi, 2015).

Economic growth has a positive and meaningful effect on the growth of granted credits of specified banks. In such a way that with one unit increase in economic growth, the granted credits would be increased by 0.09 units. It means that across economic growth, existent enterprises in Iran would have a better condition of repaying bank loans, thus banks would provide more facilities to loan applicants.

The obtained coefficient for inflation of the Consumer Price Index is almost -0.09. Since this value meaningfully differs from zero value, it can be claimed that if inflation increases one unit, the growth of banks' facilities would decrease by 0.09 units. The cause of this effect can be justified as follows: with an increase in the inflation rate, the economic condition is unstable; hence, banks encounter some kind of uncertainty and become more cautious about granting facilities. Examining the various aspects of inflation effects on banks' performance demonstrated that with increasing the rate of inflation and decreasing the rate of deposit interest, the combination of short-term and long-term accounts is altered so that investors would be more intended to transfer their assets into other markets and save their purchasing power. Any changes in deposit combination on the side of short-term accounts put the banks at the risk of liquidity; on the other hand, it restricts the banks' lending capacity to grant long-term facility to production sectors (Karimkhani & Forati, 2012).

4. Conclusion

Banks play very important role in financial market and since this market encompasses the main part of the economy (in bank-based economies), their participation has become more noticeable than before and their activities have a noticeable effect on the economies of the societies. Nowadays, banks' role in the financing realm and meeting the investment' trading needs is apparent. This performance of banks is accomplished by lending to the loan applicant. Furthermore, lending is reckoned as the most important revenue source for all the banks. Hence, identifying the effective factors on lending is considered an important issue.

Iran is one of those countries that their economic basis is underpinned by drilling and exporting crude oil. Consequently, due to being dependent on this product and being a single-product economy, oil price fluctuation has many effects on its economic state. On the other hand, its economy is a bank-based one that nearly 90% of the financing of enterprises is supplied by bank credits. Given the

importance of this issue, the present study explored how oil price might affect specified banks' lending capacity.

The results of estimating the model showed that oil price fluctuation has a negative and meaningful impact (with a -0.01 coefficient) on the growth of specified banks' credits. Moreover, the growth of GDP and inflation rate has shown to be effective negatively and positively (with 0.09 and -0.09 units) on specified banks' lending capacity.

The results of the study emphasized the necessity of macro-prudential policies, developing other economic sectors, decreasing dependency to oil, and improving business conditions to attract exterior investments specifically developing financial system in line with global standards that decrease the negative impacts of oil price shocks on the function of economic enterprises and subsequently on financial system. Additionally, providing facilities for an adequate macroeconomic atmosphere (falling inflation and rising the rate of economic growth) might diminish the effects of oil price fluctuation. Furthermore, financial policymakers should regularly monitor the instabilities of macroeconomic and prevent permeating the national bank system. Reforming banking system could also be effective in reducing the vulnerability of banks. With improving liquidity management and banks' credit risk, the capacity of their lending would be increased.

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