

# The effect of exchange rate volatility and money reserve on banks capability to provide credit facilities: *The Case of Egypt from 2009 to 2017*

Shereen Wagdi Mahrous Georgi

Ashraf Salah

Yasmin Ramzy

Arab Academy for science, Technology and Maritime Transport, Egypt

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## Keywords

Exchange Rate Volatility, Money Reserves, Credit Facilities, Inflation Rates, Interest Rates.

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## Abstract

*This research aims at exploring the impact of exchange rate volatility on banks capability to provide credit facilities to firms through conducting a model for the effect of exchange rate volatility on credits facilities provided by Egyptian banks in the period of 2009 to 2017. This research aims also at examining the effect of money reserves on credit facilities provided by Egyptian banks. Inflation rates and interest rates are considered as moderating variables for the assigned relationships. Correlation and Regression analysis had been conducted and results show that there is a significant effect of both; exchange rate volatility and money reserves on banks capabilities to provide credit facilities. Also, a significant moderation role of inflation and interest rates had been proved.*

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## 1. Introduction

The banking industry is growing rapidly worldwide, due to the global competitive environment nowadays. This growth is expected to continue in future, however, its sustainability of performance is dependent upon continued macroeconomic stability, to verify that banking industry is consistent with regulations. Regarding the banking industry in Egypt, it could be claimed that the relative prices of currencies began to fluctuate dramatically after the Egyptian revolution that happened in year 2011. This phenomenon had been increasing with the economic instability happening as well as continuing to increase due to the consequence of revolutions in 2013. Thus, the exchange rate volatility becomes higher and continues to reach its peak in November, 2016 when the free-floating policy had been addressed as a policy to face the economic challenges happening in Egypt.

At this point, light is shed on exchange rate, where it was found that exchange rate is an important economic indicator in the international monetary market. Therefore, volatility in the exchange rate is a principal cause of instability in the global economy, which in turn influences firms and their decisions. This means that, exchange rate volatility influences assets, profits and firms net worth, currency value, international reserves and current account deficit of the country (Gupta and Kashyap, 2016).

It had been claimed that the traditional international trade theory on import and export trade depends on the import and export commodity prices and domestic income residents' abroad income. This high volatility has several implications on the Egyptian economy, as it was expected that the credit facilities provided by banks to Egyptian firms will be influenced; whether by the banks regulation due to lack of foreign currency liquidity, or by the firms themselves being unwilling to get credits according to the high exchange rates present nowadays (Wang et al., 2016).

Theoretical literature argues that exchange rate risk makes traders risk averse and compels them to reduce their trade due to uncertainty caused by volatility and make local trade more favorable than international trade, thus lessening the prospected benefits achieved through export trade to the world as a whole (Aftab et al., 2012; Demeza and Ustaoglub, 2012; Sharifi-Renania and Mirfatah, 2012). Credit risk has become one of the important risks that financial institutions have to face. According to Basel Committee on Banking Supervision (1999): "credit risk is defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms" (Lefcaditis and Tsamis, 2014).

Few researches considered the relationship between the exchange rate volatility and credit facility, while there is no research to study this relationship in Egypt for the periods of revolutions. Thus, this research comes to investigate such relationship. Thus, this research comes to explore the relationship between exchange rates volatility and credit facility provided by banks while considering the moderating impact of both; interest and inflation rates, as they might cause the investors unwillingness to get credit facilities from banks because they might not be sure if their revenues will cover such rates or not.

## 2. Literature Review

Exchange rate is the price at which the national currency is valued in relation to a foreign currency. It is of direct practical importance to those engaged in foreign transactions, whether for trade or investment, so the exchange rate affects the price of imports when expressed in domestic currency and price of exports when converted into foreign currency. It therefore has a link to inflation (Ahmed and Mustafa, 2012). Exchange rate was also defined as a measure for the economic performance of the state. It is a reflection of the case of its political stability and could be considered as a measure of the extent of the availability of a good climate for investment in the state, in addition to its important role in influencing the level of the competitiveness of the products of the state (El-Agroudy et al., 2015).

The floating rates system is the system in which the price of currencies is determined by supply and demand of money. Given the frequent changes of supply and demand influenced by numerous external factors, this system is responsible for currency fluctuations. These fluctuations expose companies to foreign exchange risk. Moreover, economies are getting more and more open with international trading constantly increasing and as a result companies become more exposed to foreign exchange rate fluctuations (El-Masry and Abdel-Salam, 2007).

Foreign exchange exposure is the sensitivity of changes in the real domestic currency value of assets, liabilities or operating incomes to unanticipated changes in exchange rate. Generally, companies are exposed to three types of foreign exchange risk: accounting (translation) exposure, transaction (commitment) exposure and economic (operational, competitive or cash flow) exposure. In practice, economic exposure is computed as the net sensitivity of some aggregate measure of firm value to currency fluctuations. By focusing on the net sensitivity, economic exposure includes the direct and indirect effects of currency fluctuations (El-Masry and Abdel-Salam, 2007).

On the other hand, under fixed exchange rate, local currency is either pegged against another currency or a basket of other currencies. The main goal of this system is to achieve stability in the value of currency through fixing it against a stronger and more stable currency (or currencies). The main advantage of this system is that the currency does not fluctuate according to market conditions, and therefore creates a stable and predictable business climate for investments and trade between the two currencies. However, the main drawback of pegged exchange rates is that it is very difficult for government to conduct independent monetary policy and to liberalize capital markets at the same time (Thirlwall, 2003).

After defining the exchange rate concepts and different regimes that could be followed for exchange rate, it could be claimed that exchange rate might have several consequences on the macro and the micro level. This leads the researcher to consider the exchange rate volatility as one factor that might affect the banks capability to provide credit facilities. Similarly, next section discusses legal reserves and define its concepts to be able to know if it might affect the banks capability to provide credit facilities. The nature of banking reserves depends on the legal and institutional structure of the banking system. Frequently encountered historical reserves include gold and silver coin or bullion, full-faith-and-credit securities of the US Treasury, coins and currency issued by the Treasury, and foreign currency and coins granted lawful-money status under applicable law. In countries with central banks, deposit accounts at the central banks are reserves of banks that hold those accounts (Todd, 2013).

The Legal Reserve (LR) was instituted in Brazil by the Forest Code (FC) in 1934 and has undergone changes to its dimensions and goals over time. The extensive legal framework on which it is based, after intense disputes within the National Congress, succeeded in consolidating it as an instrument of environmental conservation. At present, it establishes the percentage of native vegetation that needs to be maintained in rural properties to guarantee the sustainable economic use of natural resources, assists in

the rehabilitation of ecological processes, promotes the biodiversity conservation and protects the native fauna and flora (Paz-Bailey et al., 2017).

Despite its establishment as an instrument of environmental conservation, the Legal Reserve is still considered to be an area for conversion of forest into pasture or agriculture, as it was in the past. Landowners consider it a barrier against development (Lee et al., 2013); whereas, in the academic sphere, its environmental function is questioned, and the instrument is considered responsible for the loss of agricultural output competitiveness (Valverde, 2011) and incapable of resisting the pressure of markets (Arida, 2005). Conversely, it is believed that the weakening of this instrument would lead to irreversible loss of biodiversity (Pardini et al., 2010), reduction of ecosystem services that favor agricultural production (Carvalho et al., 2011), and undermining of the social achievement that this instrument represents (Ahrens, 2007).

During the review of the FC in 2012, arguments contrary to the establishment of the LR were put forward to justify and claim the reduction of protected areas situated within rural properties. The social context within which such reform occurred seemed to have favored the rupture of the development of LR as an instrument of environmental conservation. Once (1) there was a generalized deficit of areas for which the FC required protection; (2) agribusiness was highly valued at the time; (3) pressure exerted by groups and organizations linked to agribusiness influenced the decisions of the National Congress and finally (4) the Ministry of Environment did not have sufficient political clout to protect the natural resources under its guardianship (Canedo et al., 2012). It worth noting that any demand for a commercial bank loan necessarily results from a broader decision to seek credit. Consequently, there is much cause to proceed systematically from an individual demand for credit to an aggregate demand for commercial bank loans. Theoretically, it was found that the influence of permanent income on the demand for commercial bank loans is positive while that of transitory income is negative (Thaker et al., 2013).

There are several motivations for central banks to vary reserve requirements over the cycle. First, emerging countries are often reluctant to increase interest rates in response to credit booms financed through capital inflows: they fear that higher interest rates attract even more capital inflows and appreciate the currency. In this vein, reserve requirements are discussed as an alternative way to tighten domestic credit conditions (Geri et al., 2011). Since reserves are often not remunerated at market rates, an increase in reserve requirements acts as an implicit tax on the banking sector and widens the spread between the deposit and lending rates. The higher spread makes it less attractive for foreign investors to lend to domestic banks and at the same time makes it more expensive for the domestic sector to borrow from banks. The argument implies that reserve requirement increases may achieve a contraction in domestic credit, without attracting capital inflows and appreciating the currency. The Turkish central bank, for instance, considers the interest rate as the main instrument for price stability and reserve requirements as the main instrument for financial stability (Suleymanlar et al., 2010).

In this context, reserve requirements and reserve remuneration are explicitly used as a macroprudential tool. Other countries that adjust reserve requirements with a similar objective as Turkey are, among others, Brazil, Croatia, Columbia, Peru, and Russia (Neunert et al. 2011). An empirical evaluation of how reserve requirement changes affect domestic credit and external variables is to our knowledge still missing. Second, reserve requirement policy can also serve to stabilize inflation. An increase in reserve requirements reduces the money multiplier. If the monetary authority keeps the monetary base stable, a reserve requirement increase reduces broad money and raises the interest rate level, which should lower inflation.

Today, most countries have an interest rate or exchange rate target to which the monetary base adjusts endogenously. Under such a framework the effects of reserve requirement increase on inflation are therefore less clear from a theoretical perspective. Nonetheless, market observers perceive that some countries, for example China, use reserve requirement policy as a substitute for interest rate policy to contain inflationary pressures.<sup>2</sup> The implied argument is that reserve requirement increases may be able to cool down the economy and thereby also lower prices. But also, the opposite argument is made: a loosening of reserve requirements in response to capital outflows may be a way to stimulate the economy

without creating inflation (Montoro and Moreno, 2011). Again, an empirical evaluation of the relationship between reserve requirements, overall macroeconomic activity, and inflation seems to be missing (Glocker and Towbin, 2011).

The 1980s was a period of rising inflation, foreign exchange shortages, balance-of-payment deficits, declining growth and a massive foreign debt for Egypt. The 1985 was the year of high foreign debt with liquidity shortages. The only choice for Egypt was rescheduling. In 1987, the stand-by arrangement with the IMF resulted in progress in economic reform. Two months later, the Paris Club agreed to reschedule. After a promising start, the political will was not supportive enough to carry on the structural reform program. The result was a comprehensive Economic Reform and Structural Adjustment Program (ERSAP) in 1991, based on a fixed exchange rate regime. The program aimed to increase competitiveness of the economy through executing a sequence of structural adjustment measures, and to ensure that fiscal and current account deficits are brought under control.

Achieving exchange rate stability and fiscal discipline were at the heart of the stabilization program. On one hand, the program succeeded in bringing the inflation rate down to 2-4 percent, achieving a growth rate of about 5 percent during the mid-1990s, and reducing fiscal and current account deficits. During the period 1998-2000, the local currency came under notable pressure. In an attempt to defend the overvalued exchange rate, policymakers heavily relied on international reserves. Therefore, international reserves dropped by almost 25 percent. Consequently, a large amount of liquidity has been pulled out of the market. The situation was aggravated by the unfavorable external shocks in the late 1990s (Asian crisis in June 1997; Luxor incident in November 1997 and oil prices deterioration starting from late 1997). On the other hand, the authorities' attempt to defend the exchange rate peg resulted in an excessively overvalued real exchange rate. There was a justified fear of floating since it was not announced that the fixed exchange rate regime was a temporary arrangement and that it would be abandoned according to a careful exit strategy once inflationary pressures were contained.

The overvaluation of the Egyptian pound led to a current account deficit, albeit the rise in that deficit in the last three years of the 1990s was mainly due to an increase in investment rather than consumption. Moreover, although the current account deficit as a ratio of GDP was not considered too high by international standards, the fact that Egypt was unable to attract significant private capital flows made it difficult to finance a growing deficit. Excessive intervention to defend the exchange rate peg, coupled with external shocks, led to a severe credit crunch in late 1990s, forcing a severe slowdown in the domestic economy, starting from the fiscal year 1999-2000. To make things worse, the accumulation of non-performing loans in the banking system further shrank domestic liquidity and necessitated a massive bailout by the government. In an attempt to stimulate the economy, the government has allowed the budget deficit to increase to about 5-7 percent of GDP since the late 1990s. As the depletion of domestic liquidity continued to pose the risk of a prolonged recession, it became necessary to abandon the exchange rate peg. The Central Bank of Egypt slowly and gradually moved toward a more flexible exchange rate regime since July 2000. While this was the right path to pursue, the adoption of the policy change came too late, resulting in a massive depletion of foreign reserves and a prolonged recession.

Toward the end of 2002, the situation was characterized by an overvalued real exchange rate; a budget deficit of about 6 percent of GDP; a vulnerable current account situation (the current account still shows a volatile deficit once net exports of oil and private remittances are excluded); a critical level of international reserves; a fragile financial system, segmented consumption markets, and finally a protracted economic slowdown. As the system continued to deteriorate, the Prime Minister of Egypt announced the flotation of the pound on January 28, 2003. Following a period of overshooting, under a flexible exchange rate system, the value of the Egyptian pound stabilized, having lost more than 50 percent of its value relative to the US dollar. Growth picked up momentarily, rising to an estimated 2.7 percent in fiscal year 2004.

Economic growth was led by an increase in exports of goods and services, following the sharp decline of the pound that raised Egypt's export competitiveness. In fiscal year 2005, growth rose to an estimated 4 percent as the pound stabilized and business and consumer confidence strengthened following the appointment of the government of Mr Nazif. An increase in each of tourism income, remittances, and exports improved the current account position, resulting in an increase in foreign

reserves. As confidence was restored in the stability of the Egyptian pound, the focus of the new government has been on structural reform that would enhance private sector activity and stabilize an export-led growth of the Egyptian economy (Kandil and Dincer, 2008).

Egypt has the largest, most densely settled population among Arab countries. Egypt is not a self-sustained country in food production and remains one of the world's largest food importers. The Egyptian economy, particularly agricultural sector, has passed dramatic changes towards free market economy over the last two decades. Such reform policies include liberalization of input and output prices as well as foreign exchange rates of local currency and interest rate, besides privatization of almost all production sectors (Ahmed, 2012).

### 3. Research Methodology and Design

The current research aims at examining the effect of both; Exchange Rate Volatility and Legal Money Reserve on the Egyptian banks capability to provide credit facilities. This research considers the quantitative approach by collecting primary data regarding the research variables from the official website of the Central Bank of Egypt through the period 2009 to 2017. The exchange rate volatility was indicated by the exchange rate of the local currency to US dollars, while the money reserves was indicated by the net lending provided by the Egyptian banks. Data was collected on quarterly basis from the website through the study period.

Figure 1 shows the framework of the current research, where the independent variables are Exchange Rate Volatility and Legal Reserves, the dependent variable is the banks capability to provide credit facility, the inflation and interest rates are considered as the moderator variables.

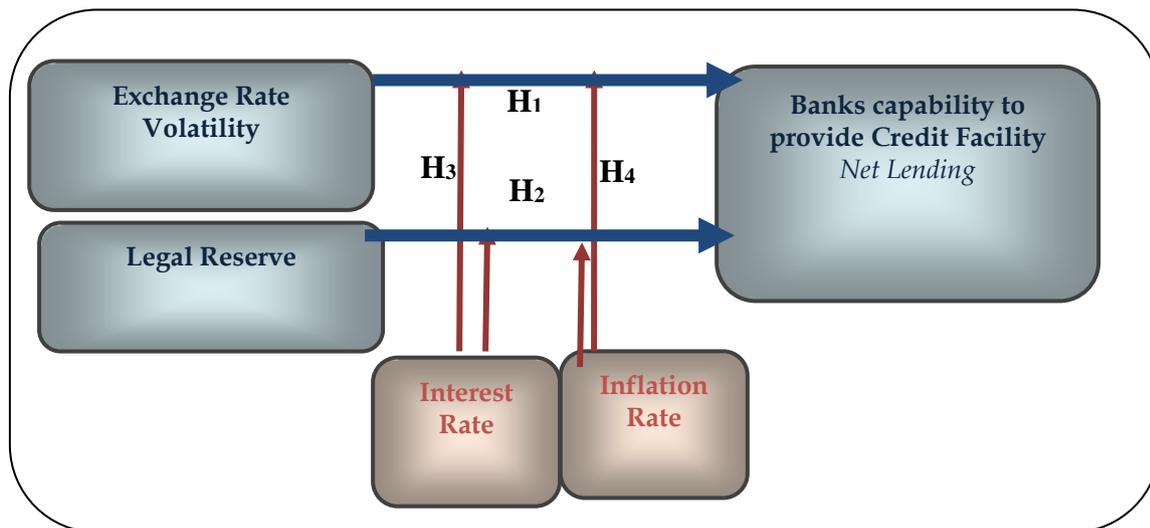


Figure 1 Proposed Research Framework

Accordingly, this research proposes the following hypotheses:

H<sub>1</sub>: There is a significant relationship between Exchange Rate Volatility and the Banks capability to provide Credit Facility.

H<sub>2</sub>: There is a significant relationship between Legal Reserves and Banks Capability to provide Credit Facility.

H<sub>3</sub>: Interest rate moderates the relationship between Exchange Rate Volatility and Legal Reserves and Banks capability to provide Credit Facility.

H<sub>4</sub>: Inflation rate moderates the relationship between Exchange Rate Volatility and Legal Reserves and Banks Capability to provide Credit Facility.

Data analysis is performed using descriptive statistics, then, a correlation matrix is observed to describe the relationships between the research variables. After that, a regression analysis had been conducted to examine the effect of the independent variable on the dependent variable. The following

section presents the results and findings observed by applying the mentioned techniques using SPSS and EVIEWS statistical programs.

#### 4. Results and Findings

To test the hypotheses mentioned above, the current research used correlation and regression analysis. As a preliminary step, the descriptive statistics are computed first for the research variables.

##### 4.1. Descriptive Analysis

Descriptive statistics are used to elaborate and understand the characteristics of a specific data set, by providing short summaries about the sample and measures of the data. The mean, standard deviation and variance are computed for the research variables. Table 1 shows the values of descriptive statistics for the research variables.

Table 1 Descriptive Statistics for the Research Variables

	N	Min	Max	Mean	Std. Deviation	Variance
Exchange Rate Volatility	108	-8.98	75.20	1.2910	7.57405	57.366
Inflation Rates	105	99	253	146.49	38.440	1477.631
Interest Rates	106	8.30	19.80	12.3500	2.46129	6.058
Money Reserve	108	5.23	5.83	5.4942	.16203	.026
Net Lending	108	4.53	5.74	5.1284	.35521	.126

##### 4.2. Testing the Relationship between Exchange Rate and Credit Facilities

Table 2 shows the correlation matrix between the independent variable; Exchange Rate Volatility and the dependent variable; Credit Facilities, where it was noted that the value of Pearson's correlation is 0.198 and P-value is 0.040. Hence, there is a significant positive but weak relationship between Exchange Rate Volatility and Credit Facilities, as P-value is less than 0.05.

Table 2 Correlation Matrix between Exchange Rate and Credit Facilities

		Exchange Rate Volatility	Net Lending
Exchange Rate Volatility	r	1	
	P-value		
	N	108	
Net Lending	r	.198*	1
	P-value	.040	
	N	108	108

Table 3 shows the regression model fitted for the effect of the independent variable; Exchange Rate Volatility on the dependent variable; Credit Facilities, where it was noted that the coefficient is 0.009 and P-value is 0.040. Hence, there is a significant positive effect of Exchange Rate Volatility on Credit Facilities, as P-value is less than 0.05. Also, R square is found to be 0.039, which means that Exchange Rate Volatility explains 3.9% of the variation in Credit Facilities.

Table 2 Regression Analysis of Exchange Rate on Credit Facilities

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R-Squared	F	P-value
	B	Std. Error	Beta					
(Constant)	5.116	.034		149.825	.000			
Exchange Rate Volatility	.009	.004	.198	2.083	.040	.039	4.338	.040

Therefore, the regression equation could be stated as follows:

$$\text{Net Lending} = 5.116 + 0.009 * \text{Exchange Rate Volatility}$$

Thus, the first hypothesis that there is a significant relationship between Exchange Rate Volatility and banks capability to provide credit facilities is supported.

##### 4.3. Testing the Relationship between Money Reserve and Credit Facilities

Table 3 shows the correlation matrix between the independent variable; Money Reserve and the dependent variable; Credit Facilities, where it was noted that the value of Pearson's correlation is 0.919

and P-value is 0.000. Hence, there is a significant positive but weak relationship between Money Reserve and Credit Facilities, as P-value is less than 0.05.

Table 3 Correlation Matrix between Exchange Rate and Credit Facilities

		Money Reserve	Net Lending
Money Reserve	R	1	
	P-value		
	N	108	
Net Lending	R	.919**	1
	P-value	.000	
	N	108	108

Table 4 shows the regression model fitted for the effect of the independent variable; Money Reserve on the dependent variable; Credit Facilities, where it was noted that the coefficient is 2.015 and P-value is 0.040. Hence, there is a significant positive effect of Money Reserve on Credit Facilities, as P-value is less than 0.05. Also, R square is found to be 0.845, which means that Money Reserve explains 84.5% of the variation in Credit Facilities

Table 4 Regression Analysis of Exchange Rate on Credit Facilities

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	R-Squared	F	P-value
	B	Std. Error	Beta	t				
(Constant)	-5.944	.461		-12.903	.000	.845	578.184	.000
Money Reserve	2.015	.084	.919	24.045	.000			

Therefore, the regression equation could be stated as follows:

$$\text{Net Lending} = -5.944 + 2.015 * \text{Money Reserve}$$

Thus, the second hypothesis that there is a significant relationship between Money Reserve and banks capability to provide credit facilities is supported.

#### 4.4. Testing the Moderation Role of Inflation Rate

Table 5 displays the data for the linear model that tests the moderation role of Inflation Rates between Exchange Rate Volatility and Net Lending. It was found that the model coefficient of determination (R Square) equals 72.3 %. The model as a whole is significant, as overall P-value = 0.000. Regarding the tested variables, there is a significant effect of Inflation rate, while there is an insignificant effect of the interaction effect (Exch.XInf), as P-value is 0.264 (P-value > 0.05).

Table 5 Regression Analysis of Inflation Rate Moderation between Exchange Rate and Credit Facilities

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	R-Squared	F	P-value
	B	Std. Error	Beta	t				
(Constant)	4.012	.081		49.398	.000			
Exchange Rate	.019	.015	.409	1.293	.199	.723	88.022	.000
Inflation Rates	.008	.001	.804	13.328	.000			
Exch.XInf.	-.082	.073	-.351	-1.123	.264			

Therefore, the regression equation could be stated as follows:

$$\text{Net Lending} = 4.012 + 0.019 * \text{Exchange Rate} + 0.008 * \text{Inflation Rates} - 0.082 * \text{Exch.XInf}$$

Table 6 displays the data for the linear model that tests the moderation role of Inflation Rates between Money Reserve and Net Lending. It was found that the model coefficient of determination (R Square) equals 97.2 %. The model as a whole is significant, as overall P-value = 0.000. Regarding the moderation effect of Inflation rate, it was found that there is a significant effect of the interaction effect (Exch.XInf), as P-value is 0.000 (P-value < 0.05).

Table 6 Regression Analysis of Inflation Rate Moderation between Exchange Rate and Credit Facilities

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	R-Squared	F	P-value
	B	Std. Error	Beta	t				
(Constant)	-4.241	.778		-5.453	.000			
Reserve Money	1.625	.159	.700	10.234	.000	.972	429.827	.000
Inflation Rates	.004	.001	.382	4.704	.000			
Exch.XInf.	-.089	.014	-.254	-6.331	.000			

Therefore, the regression equation could be stated as follows:

$$\text{Net Lending} = -4.241 + 1.625 * \text{Exchange Rate} + 0.004 * \text{Inflation Rates} - 0.089 * \text{Exch.XInf}$$

Therefore, the third hypothesis that Inflation Rate moderates the relationship between exchange rate and money reserve and credit facilities is partially supported.

#### 4.5. Testing the Moderation Role of Interest Rate

Table 7 displays the data for the linear model that tests the moderation role of Interest Rates between Exchange Rate Volatility and Net Lending. It was found that the model coefficient of determination (R Square) equals 40.4 %. The model as a whole is significant, as overall P-value = 0.000. Regarding the tested variables, there is a significant effect of Inflation rate, while there is an insignificant effect of the interaction effect (Exch.XInf), as P-value is 0.237 (P-value > 0.05).

Table 7 Regression Analysis of Interest Rate Moderation between Exchange Rate and Credit Facilities

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	R-Squared	F	P-value
	B	Std. Error	Beta	T				
(Constant)	4.147	.154		26.848	.000			
Exchange Rate	.028	.020	.599	1.408	.162	.404	23.025	.000
Interest Rates	.079	.013	.552	6.205	.000			
Exch.XInt.	-.119	.100	-.500	-1.190	.237			

Consequently, the equation constructed for this model could be stated as follows:

$$\text{Net Lending} = 4.147 + 0.028 * \text{Exchange Rate Volatility} + 0.079 * \text{Interest Rates} - 0.119 * \text{Exch.XInt.}$$

Table 8 displays the data for the linear model that tests the impact of Reserve Money, Interest Rates and ExchXInt on Net Lending. It was found that the model coefficient of determination (R Square) equals 88.7%. The model as a whole is significant (P-value = 0.000) and also ExchXInt has a significant negative impact on Net Lending, as P-value is 0.001.

Table 8 Regression Analysis of Interest Rate Moderation between Money Reserve and Credit Facilities

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	R-Squared	F	P-value
	B	Std. Error	Beta	t				
(Constant)	-7.431	.654		-11.355	.000			
Reserve Money	2.329	.139	1.065	16.729	.000	.887	267.813	.000
Interest Rates	-.016	.012	-.115	-1.404	.163			
ExchXInt	-.043	.013	-.172	-3.320	.001			

Consequently, the equation constructed for this model could be stated as follows:

$$\text{Net Lending} = -7.431 + 2.329 * \text{Reserve Money} - 0.016 * \text{Interest Rates} - 0.043 * \text{ExchXInt}$$

Therefore, the fourth hypothesis that Interest Rate moderates the relationship between exchange rate and money reserve and credit facilities is partially supported.

## 5. Discussion and Conclusion

This research provides an insight on the impact of exchange rate volatility and money reserves on banks capability to provide credit facilities to firms through conducting a model for the effect of exchange rate volatility and money reserves on credits facilities provided by Egyptian banks in the period of 2009 to 2017. It shows the effect of exchange rates and money reserves on credit facilities provided by Egyptian banks. Inflation rates and interest rates are considered as moderating variables for the assigned relationships. Applying regression analysis using OLS provides an evidence to the effect of exchange rates and money reserves on net lending, as an indicator to banks capability to provide credit facilities. In addition, a moderating role of inflation and interest rates had been proved between money reserves and credit facilities, showing a significant support of the mentioned variables for the direct relationship assigned for the current research.

Research limitations include that this research was limited to include wider period for the study due to the availability issue of the data before 2009. Also, it is limited to Egypt, while it could be conducted for different regions or acting as a comparative study between developed and developing countries.

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