



The Relationship between International Transfers and the Development of Banking Sector

Milad Shahradi¹, Morteza Mohammadi^{2,*}

¹Master's Graduate, Financial Management Department, Islamic Azad University, Sabzevar Branch, Sabzevar, Iran,

²Assistant Professor (level 10), A full-time Faculty Member of Islamic Azad University of Sabzevar Branch, Management and Economics Department, Sabzevar, Iran.

*Corresponding Author

Abstract: *Measuring the financial progress and portraying the functions of financial systems such as reducing information and cost of transaction, equipping and leading the resources to the production sectors and facilitating financial exchanges are the problems which make the study of financial transfers' relationship difficult. This study aimed to examine the relationship between the international transfers and the development of banking sector. The statistical population includes developing and developed countries. This is an applied study. After calculating all necessary variables for the models of this research, they were combined in a working sheet to be transferred to EVIEWS software electronically and analyzed based on SLS3 simultaneous studies. The results of study showed a significant relationship between currency transfer and the development of banking sector. This relationship was bilateral. First, the increase in the currency transfers can increase the development of banking sector. Second, development of banking sector also increases the currency transfers in developing countries.*

Keywords: *International Transfers, Developed, Development of Banking Sector, Developing.*

INTRODUCTION

Banks are the heart of payments' financial systems. They have a pivotal role in savings, identifying the opportunities of investment and diversifying the risk. Hence, the size, structure and efficiency of banking sector is important as an independent aspect in financial development. Profitability of banks, paid credits and easy access of private sector to the bank credits are examined in this aspect. According to the studies, the activity of banks in a competitive space leads to the low government intervention, low market concentration and more feasibility of entering foreign banks, as well as high efficiency and growth (Mansour zaranejad et al., 2014). The development of banking sector refers to the combined evaluation which indicates the access of sustainability coefficient, efficiency and the size of banking sector development. The components of this index are banking deposits as a percentage of GDP as the proxy of banking sector size (depth) index, the rate of capital return as the efficiency index of banking sector, the number of bank branches as access, and banking index of Z-SCORE, which studies the investment, efficiency and their fluctuations (Harota Isahaco et al., 2017).

Research goals

To determine the relationship between international transfers and banking sector development

Research hypothesis

There is a relationship between international transfers and banking sector development.

Research Methodology

This is an applied study. The relationship between currency transfers and banking sector development is studied in the panel of developed and developing countries. This research is also correlational, because of finding the relationship between several variables. The methodology of current study is retrospective type. The model of testing the research hypothesis is the model of Harota Isahaco et al. (2017), in which the relationship between remittances and development of banking sector is modeled as follows:

$$SMD_{it} = \alpha_1 REMIT_{it} + \alpha_2 BSD + \alpha_3 CPI + \alpha_4 INV + \alpha_5 INST + \alpha_6 TRADE + \alpha_7 INCOME(GDP) + \alpha_8 FDI + e_{it}$$

In which REMIT is the remittances as a percentage of GDP, BSD is the banking sector development, vx_{it} is the vector of control variables including inflation (CPI), capital (INV), organizational quality (INST), trade open space (TRADE), growth per capita of GDP (INOME) and financial open (FDI), e_{it} is the effect of time, it is the effect of a country and y is distributed independently and equal.

Statistical population

Statistical population of this study consists of developing and developed countries.

Statistical sample

The sample in current study has been selected as a panel of developed and developing countries. The developed countries were selected from the members of EU (17 countries) and the developing ones from Middle East and North Africa (13 countries). The statistical data of the population have been chosen within 2000-2015. The available information are used.

Research literature

Jalil Khodaparast Shirazi (2017) conducted a study titled "the transformation of monetary transfer over time with DSGE and FAVAR models. The results of this study and Iran macroeconomic performance in the recent years showed that the real section of Iran's economy cannot be survived through implementing continuous expansion of monetary policies. Therefore, the monetary policy-makers of the country are recommended to contribute in achieving economic stability through continuing the current policies as well as controlling the volume of liquidity and inflation.

Vida Varahrami et al. (2016) studied the relationship between economic growth, banking sector development and some macroeconomic variables, using Panel VAR method. The results of study indicate that the rate of credits for banks and for private sector negatively affects the economic growth of the given period. Money supply, direct foreign investment and the degree of trade openness have also positively affected the economic growth. The variable of direct foreign investment has had the highest effect on the economic growth of D8 countries more than other variables of model in study years.

In a study, titled "the effectiveness of financial development canal on the fluctuations of currency rate and economic growth", Mohammadzadehasl et al. (2016) investigated the relationship between the fluctuations of currency rate and economic growth, given the financial development of countries. The results of models estimation show that by considering the level of financial development, the fluctuations of currency rate have different effects on the economic growth. In other words, the negative effects of currency rate fluctuations on economic growth is more in less developed countries and it is non-significant and intangible in developed countries.

Mehdi Nanforoush and Monireh Dizji (2016), in a study titled "the effect of government size and trade openness on financial development of selected countries", stated that developing financial sector of each

country is one of pivotal factors for achieving fast and continues economic growth. Based on the results of model estimation, the estimated elasticity of financial development to the size of government was negative, indicating that by increasing the government size (decreasing), the financial development decreases (increases). The estimated elasticity of financial development to globalization index of economy is positive. On this basis, by increasing (decreasing) the globalization index of economy, financial development also increases (decreases).

Ana Mohammad Agh Kakoli et al. (2016) studied the international financial development and its role in globalization of the economy in Iran using panel data. The aim of this study was to measure and evaluate the development of international financial sector and its effects on globalization of economy in the countries of Asia Southwest and Iran during 2004-2011 using the latest published information of World Bank in 2014. The obtained results of trend model show that international financial development in Asia Southwest and Iran has had a down and negative trend. The value of indicator has been reduced during the period. In the field of international financial development effect on economy globalization, the results indicated the significant relationship between international financial development and economy globalization.

In a study, titled "the effective factors on financial development in members of the Organization of the Islamic Conference", Hossein Mohammadi et al. (2014) have estimated growth convergent equation by using the panel data. The results propose growth convergent equation estimation through two-stage least squares (TSLS). The results of study based on the estimated models comparison generally showed that the economic growth drivers in members of the Organization of the Islamic Conference (the degree of trade openness, financial depth, the rate of investment and human development) are weaker than economic growth inhibitors (the rate of population growth and current expenditures of government). Meanwhile, although the indicators of financial development and the degree of trade openness have the highest statistical significance, they have small coefficients.

Seifipur (2010) studied the effect of financial development level on economic growth using panel data for 85 countries. Financial development and economic growth are noticed by many economists in the field of economic literature. The results of this study, accepted by the most of policy-makers as well, show the positive and uniform effect of financial development level on economic growth, while the effect is not uniform but different among countries. According to the studies in the field of financial development and economic growth, increasing the access to financial tools and institutions decreases the cost of information and exchanges in economy. It leads to economic growth. This effect in the countries with low financial development will be unclear. It might be positive, zero and even negative. Its effect on developed countries financially will be certainly positive.

Akbar Komeijani et al. (2009), in a study titled "the theoretical framework of effective factors on financial development", stated that beside some of economists, disagreeing the importance and effect of financial development and the manner of financial supply on economic growth, many studies emphasize on the importance and role of financial markets in economic growth. Some of important and new achievements of economic texts in different fields, especially new institutional economy, were introduced. Then, emphasizing the evolutionary rate of empirical studies above and given the appropriate potential components, appropriate for theoretical model of Williamson, the effective factors on financial development have been introduced.

In a study, titled "the international transfers, banks and stock markets in the panel of developing countries", Harota Isahaco et al. (2017) studied the causal and dynamic links among the flows of sending international cashes (remittances), banking sector development and stock market development in a big panel of developing countries. They concluded that remittances promote the development of banking sector in the countries, receiving low money, but it is not such in those countries receiving high money. They created a two-way negative relationship between stock markets and remittances in the countries with developed banking systems. In the countries, receiving low money, remittances decrease the development of stock market. Yet, in these countries, depending on transferring cashes, remittances increase the development of stock market. The

development of stock market speeds up the cash flows in the countries depending on transferring cashes, while it does not let it in the countries, receiving low money. They suspect the continuous hesitations about the quality of stock markets in developing countries following the second result. The truth is that financial systems of most of developing countries are bank-oriented. They can also play a role.

In a study by using VAR method for testing Granger causality, Pardehan et al. (2014) examined the relationship between the development of banking sector, economic growth stock market and four macroeconomic variables in ASEAN countries within 1961-2012. They have studied the causal relationship between two variables with the presence of other variables in this study. This study shows the effectiveness of banking sector development and stock market development as well as other macroeconomic variables on the long-term economic growth. They are also accumulated, and there is a long-term relationship between them. The results of study show a long-term relationship between financial variables, trade openness and economic growth. Provoking the banking development and trade openness have somehow supported the increasing economic growth in the developing countries.

In a study using VAR and VECM models, Boujanic (2011) investigated the effect of financial variables and trade on economic growth in Bolivia. The results of this study showed that accumulated variables are real for causality from both sides of trade openness (total volume of trade to GDP and with four big business partners to GDP) towards GDP. Meanwhile, the variable $\frac{M2}{GDP}$ is also the reason of changes of per capita real GDP. Yet, there is no such relationship between the non-accumulated variables.

Chong and Lem (2011) investigated the relationship between direct foreign investment and economic growth through generalized moments (GMM) for 70 developed and developing countries within 1988-2002. The results show the significant negative effect of direct foreign investment on economic growth of the countries. In the next phase, dividing the countries into 3 groups, given their incomes, different results were obtained. Direct foreign investment had a positive effect on the economic growth rate of high-income countries. It had significant negative effect on the economic growth rate of average-income countries. Although it had negative effect on some regressions, considering the financial development, it has had positive effect on all regressions. Aghyoun et al. (2006) studied the changes of currency rate and productivity growth given the role of financial development. The obtained results of this study indicate the mutual relationship between financial development and economic growth in Egypt. They also proved that financial development leads to economic growth in this country through increasing the resources for investment and the efficiency. They suggested that in the case of accelerating the modification of financial structures, started in 1991, it will provoke investment, deposit and as the result economic long-term growth.

Snabel (2008) investigated the effect of fixing the currency rate on economic growth of 41 EU countries. The results of this study have introduced the international trade, international flow of capital and macro-economic stabilization as the important canals of transferring the stability of currency rate to economic growth.

Research Findings

Descriptive statistics of research variables

Descriptive statistics of developing countries

Table 1: The results of descriptive statistics of research variables in developing countries

	Mean	Median	Highest	Lowest	Standard deviation	Kurtosis	skewness
Currency Transfers	5.29	3.908	26.683	0.024	6.49	4.456	1.499
Development of the banking sector	44.296	32.517	179.093	4	41.766	5.096	1.712
Economic openness	74.424	75.766	147.539	27.655	27.748	2.656	0.364
Inflation	89.461	88.83	285.207	19.28	34.298	10.047	1.612
Economic Growth	2.112	2.213	15.952	-15.038	3.986	5.637	-0.399

Financial openness	5.29	3.909	26.683	0.024	6.49	4.456	1.499
Organizational quality	58.305	58.9	70.4	35.9	7.089	3.669	-0.801

Descriptive statistics of developed countries

Table 2: The results of descriptive statistics of research variables in developed countries

	Mean	Median	Highest	Lowest	Standard deviation	Kurtosis	skewness
Currency Transfers	1.35	0.76	8.15	0.07	1.36	6.3	1.6
Development of the banking sector	109.45	108.58	223.23	15.33	41.37	2.74	0.23
Economic openness	110.31	86.46	419.53	45.61	64.61	8.22	2.13
Inflation	93.16	94.72	114.89	31.98	13.31	4.67	-1.01
Economic Growth	1.98	1.9	-14.56	-14.56	3.79	7.98	0.17
Financial openness	8.5	3.98	-58.32	-58.32	22.71	68.53	6.94
Organizational quality	67.62	67.6	47.3	47.3	7.57	2.62	-0.25

Estimating the research models and testing the hypotheses

In this part of study, the model is estimated and hypothesis is tested by using three-stage least squares (3SLS) method for estimating the equations in developing and developed countries.

Data analysis in developing countries

Data analysis of research model

Table 3: The results of second model analysis according to simultaneous equations in the developing countries

$BSD=4.857+2.051*RMIT+0.468*SMD+0.226*TRAD -1.065*INV$ $- 0.023*INSTR+0.465*INCOME+0.167*CPI+0.923*FDI$			
Explanatory variable	Coefficient	T-statistics	Probability value
Constant number	4.857	0.159	0.873
Currency Transfers	2.051	4.007	0.0001
Capital market development	0.468	5.247	0.000
Trade openness	0.226	1.601	0.110
Investment	-1.065	-2.072	0.038
Organizational quality	-0.023	-0.043	0.965
Economic growth	0.465	0.626	0.0531
Inflation	0.167	2.054	0.040
Financial openness	0.923	1.029	0.303
Determination coefficient R ²	0.162	Adjusted coefficient of determination	0.126

The coefficient of determination and adjusted coefficient of determination in the mentioned model are respectively 0.162 and 0.126. It shows that almost 0.162% of changes of banking sector development as dependent variable is explained by the changes of currency transfers and the development of capital market and control variables.

The regression coefficient for currency transfers is estimated at 2.051 and its significance level 0.0001. Therefore, there is a direct and significant relationship between currency transfers and development of banking sector in confidence level of 95%. Moreover, the estimated regression coefficient for development of capital market is 0.468 and it 0.000 significance level. Therefore, it can be said that there is a direct and significant relationship between development of capital market and banking sector development in 95% confidence level.

To interpret the coefficients of control variables, it can be said that among mentioned variables, investment and inflation have had significant relationship in 95% confidence level. The variables of organizational quality, economic growth and trade openness and financially openness do not have significant relationship due to probability rate of more than 5%.

To interpret the coefficients of control variables, since the rate of bank deposit has been considered as depth for development of banking sector, therefore, with increase in investment, the rate of banking deposit and banking sector development will be decreased.

Data analysis in developed countries

Research model data analysis

Table 4: The results of second model analysis based on simultaneous equations in developed countries

$BSD = -46.840 - 7.358 \cdot RMIT + 1.055 \cdot SMD + 0.178 \cdot TRAD + 3.421 \cdot INV - 1.057 \cdot INSTR - 1.983 \cdot INCOME + 0.958 \cdot CPI - 0.031 \cdot FDI$			
Explanatory variable	Coefficient	T-statistics	Probability value
Constant number	-46.840	-702.1	0.089
Currency Transfers	-358.7	-704.3	0.000
Capital market development	1.055	14.661	0.000
Trade openness	0.178	3.513	0.000
Investment	3.421	5.962	0.000
Organizational quality	-1.057	-2.738	0.006
Economic growth	-1.983	-2.991	0.003
Inflation	0.958	5.132	0.000
Financial openness	-0.031	-0.31	0.756
Determination coefficient R ²	0.219	Adjusted coefficient of determination	0.195

The coefficient of determination and adjusted coefficient of determination in the given model are 0.219 and 0.195, respectively. It indicates that almost 0.219% of changes in banking sector development as dependent variable is explained by the changes of currency transfers and development of capital market and control variables.

The regression coefficient for currency transfers is estimated at -7.358 and 0.000 significance level. Therefore, there is a reverse and significant relationship between currency transfers and development of banking sector in 95% confidence level. Moreover, the estimated regression coefficient for development of capital market is 1.055 and 0.000 significance level. Therefore, it can be said that there is a direct and significant relationship between the development of capital market and banking sector development in 95% confidence level.

Also, to interpret the coefficients of control variables, it can be said that, trade openness, investment, inflation, organizational quality and economic growth have had significant relationship in 95% confidence level among the variables. The variable of financial openness does not have significant relationship due to probability rate of 0.756.

Hence, since banking sector supplies the short-term financial resources and facilitates and equips the economic transactions, the variables of trade openness, investment and inflation have direct relationship with banking sector development due to the direct relationship with the volume of liquidity. Since economic growth converts liquidity to capital and in fact leads to the exit of deposits from bank, they have reverse relationship.

The results of hypotheses

Table 5: The results of hypotheses based on simultaneous equations in developing countries

Hypothesis	Direction of relationship	Results
Hypothesis: There is a relationship between currency transfers and development of banking sector	Currency transfers with banking sector development	Confirmed
	Banking sector development with currency transfers	Confirmed

Table 7: The results of hypotheses based on simultaneous equations in developed countries

Hypothesis	Direction of relationship	Results
Hypothesis: There is a relationship between currency transfers and development of banking sector	Currency transfers with banking sector development	Confirmed
	Banking sector development with currency transfers	Confirmed

Discussion and Conclusion

As indicated, there was a significant relationship between currency transfer and banking sector development. This relationship was bilaterally. The increase in the currency transfers could increase the development of banking sector which is estimated at 2.051. Secondly, the development of the banking sector also increases currency transfers in developing countries the coefficient of which is estimated at 0.037. In the interpretation of first and second relations, it can be said that first, by the increase of the currency transfers, the necessity of existence of suitable infrastructure for such transfers can motivate the banking sector development in the given countries and ultimately leads to the development of the banking sector. Second, the development of the banking sector will also lead to unofficial ways to support non-registered currency transfers through official bank’s network and increases the amount of registered currency transfers.

In developed countries, the increase in currency transfers has reduced the development of banking sector, which estimated at -0.006. Also the development of banking sector could reduce the rate of currency transfers in developed countries, estimated at -7.358 and significance level of 0.000. To interpret the relationships above, it can be said that since interest rate in developed countries is low, the increase in currency transfers may pave the way for exiting the capital, and reducing bank deposit as the index of banking sector development. Vice versa, the reduction in currency transfers increases the banking deposit and development of banking sector. It is consistent with the theories of Chong and Lem (2011). By comparing the results of testing hypothesis in developing and developed countries, it is inferred that the rate of banking interest and facilitations can be of a great importance in the feedback of entering and exiting capital, and liquidity in a country. The results of this important issue can be achieved through good management and correct policies. Of course, it is worth mentioning that transparency in banking systems is also considered in the decisions as an important factor in the obtained risk of investment.

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