Investigation of the Influence of Capital Market on Economic Growth of Islamic Countries that are Members in Organization of Islamic Conference (OIC) over 1990-2009

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ABSTRACT

In the present paper, the impact of capital market on economic growth of 14 countries which were members of Islamic Conference in 1990-2009 periods was investigated. Considering the importance of capital market in economic development, development of this market can result in economic growth. Panel data estimator was used to estimate capital market influences on economic growth. In this study, independent variables include a set of conditional standard variables and stock market variables and development of banking. GDP growth was dependent variable. Results showed that development of banking and direct foreign investment and volume of transactions have positive and significant impacts on economic growth. Results showed that an increase in the mentioned variables will lead to increasing economic growth while stock market index and public costs and transactions value in stock market and also private sector credits were not able to have significant and strong impacts on economic growth. Consequently, capital market has not been able to be effective on development and economic growth of Islamic Conference member countries.

KEYWORD: capital market, economic growth, panel data, OIC member countries

INTRODUCTION

Finance market and especially Capital market needs appropriate, active and efficient financial organizations and institutes in order to be able to act efficiently. Presence of such institutes in finance market (especially capital market) and their proper working can result in valuable achievements like economic growth and development. Economic growth involves accumulation of capital. Capital market is the fundamental of finance markets and has an important role in controlling financial and capital facilities and economic development of countries. At present, capital market has the responsibility of providing necessary credits for economic firms. Breadth of institutes which are active in capital market is such that it ensures investors to bring their small and large deposits to capital market and inject money to productive sectors of an economy. Productive sectors are production units which are efficient and profitable in competition market and use capital market to increase their efficiency and profitability. Capital market can collect wandering and small capitals and use them in an efficient way (Habibpour, 2006).

Today, capital market in the form of stock market and money market in the form of monetary part of economy have great influences on economy and transformations and changes in capital market influence on economic growth of countries. Many economists believe that because of the volatility of capital market, it has many fluctuations and influences on the severity of commercial cycles. Since OCI countries have a large part of global energy and work force but are vastly affected by capital market fluctuations it can be said that how OCI countries' economies are affected by capital market changes like stock market and bonds market.

Theoretical framework

Gold Smith referred to a positive relationship between financial development and economic growth. Following his research, many economists started to investigate channels through which emergence of financial institutes and markets influence on economic development.

Gold Smith considered the ratio of value of financial media assets over GNP as an index for financial development. He assumed that the index has a close correlation with service quality. He studied statistical data from 35 countries during 1860-1963 and found that:

1.if several decades periods are considered, an approximate symmetry is observed between economic development and financial development.

2. signs from a few countries show that in some periods, economic growth has been accompanied by a rate faster than the average of financial development.

Of course, his study had some weak points and next studies covered his mistakes. The first problem concerning his study was that his research covered only 35 countries; second was that his research did not

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consider economic growth factors and finally, he did not investigate the fact that whether financial development improves capital productivity and accumulation of capital or not (Goldsmith, 1969).

Haber studied industrial development and capital market in Brazil, Mexico and USA during 1830-1930. He found that development of capital market influences on industrial structure and national economic performance. Haber showed that after demise of kingdom regime in 1889 and establishment of the first Republic in Brazil, limitations of Brazilian financial markets were eliminated. This freedom gave more firms access to financial resources and improved industrial activities. Freeing financial sector in Mexico was milder than that of Brazil and financial reforms and policies took place when Diaz (1877-1911) reigned in Mexico and was completely dependent on a small number of powerful capital owners. Therefore, reduction in concentration and increase in economic growth was weaker in Mexico in comparison with Brazil. Haber concluded that difference in development of capital market has great influence on industrial growth rate and access to capital institutional resources because a capital market which has been developed in a weak manner is an important obstacle ahead of industrial development in the nineteenth century (Haber, 1991).

Mohammad Rasti investigated the relationship between financial development and economic growth in Iran over 1959-1996. He used Patrick theory and estimated his model and concluded that supply leadership assumption in Iran is rejected and its converse hypothesis i.e. following has a passive role and does not have enough ability to help increase Iranian economic growth and it is following economic growth (Rasti, 1999).

Yousef Shabani Balanji investigated the influence of public banking on economic growth and efficiency in Islamic Republic of Iran. His research aimed at investigation of the influence of restricting policies on financial deposits, investment, efficiency and economic growth of Iran. he used the model presented by King (1993) which is a combination of Harod-Dumar growth model and Makinon-Shaw hypothesis through dynamism adjustment mechanism. Empirical results showed that lack of development of banking system and imposing credit ceilings have negative influence on economic growth but granting credit to projects which are in top priority has positive influence on economic growth. Further, he did not find any clear and presentable results concerning the influence of interest rate reduction policy on economic growth (Shabani, 2001).

Ali Reza Kazerouni investigated relationship between financial development ad economic growth over 1950-1996 in Iran. In this paper, he used convergent regression and Granger causality test and also some indicators of economic growth for the study period (1959-1996) and concluded that despite presence of convergent vectors, long-term relationship between financial development indicators and economic growth is not significant statistically and economically. On the other hand, Granger causality test showed that the cause-and-effect relationship is one-directional and it is from financial development towards economic growth. This is because financial development has been so weak that it has not been able to influence on economic growth. Obstacles ahead of financial development like banks obligatory loans which were regulated based upon annual budgets of government and were allocated to special cases were not able to be allocated to productive operations and facilitate economic growth (Kazerouni, 2003).

RESEARCH METHODOLOGY

The type and direction of capital market influence on economic growth is an empirical issue which may be different for various countries. In the present research, OCI countries were investigated as a sample. 1990-2002 time periods was used for investigation. We used panel Model with balanced data. In other words, variables are combinations of time series data and cross-sectional data and time period is similar for each country. Econometrics method (panel data) was used to analyze data through Eviews software.

Research hypotheses
1. Stock market influences on economic growth of Islamic countries.
2. Money market influences on economic growth of Islamic countries.

Statistical population
Statistical population included all OIC countries including: Azerbaijan, Jordan, Afghanistan, Albania, UAE, Indonesia, Uzbekistan, Uganda, IRI, Pakistan, Bahrain, Brunei, Darussalam, Bangladesh, Benin, Burkinafasou, Tajikistan, Turkey, Turkmenistan, Chad, Togo, Tunisia, Algeria, Djibouti, Saudi Arabia, Senegal, Sudan, Syria, Surinam, Sieraleon, Somali, Iraq, Oman, Gabon, Gambia, Guyana, Guinea, Bissau Guinea, Komura, Kirghizstan, Qatar, Kazakhstan, Cameron, ivory coast, Kuwait, Lebanon, Libya, Maldives, Mali, Malaysia, Egypt, morocco, Mozambique, Niger, Nigeria, Yamane. Data was collected from international financial statistics published by international money fund and global development indicators published by the world bank.

Description of the model
In order to estimate the influence of capital market on economic growth of OIC countries, the following model was used:

$$y_{it} = \eta_i + \alpha\, Z_{it} + \beta\, F_{it} + \varepsilon_{it} \qquad\qquad , i = 1, \dots, n, t = 1, \dots, T_i$$

Parameters of the equation are as follows:
Y_{it}: GDP growth
Z_{it}: a set of standard conditional variables including:
To: liberalization index
Ex: export
Im: import
GDP: gross domestic production
IR: exchange rate
GC: government costs
FDI: foreign direct investment
TR: transactions rate
Fit: includes variables which measure stock markets and banking development. These variables include:
a)Stock market variables:
SMI: compound indicator of stock markets development
MC: capital market value
VT: transaction value
b) bank variables:
LIQ: liability in cash
BIN: bank development compound indicator
η_i shows the special influence of non-observed country and ε_{it} shows accidental error term. OIC countries were used to estimate the model. It must be mentioned that due to inadequate information of some countries, only 14 countries were used and they were members of OCI according to international money fund classification.

Model estimation
In this part of the research, data estimation is conducted by means of panel data method. An important issue in utilization of estimation methods like least squares error and maximum likelihood is that these estimators are incompatible for dynamic panel model parameters in case of numerous observations and short time periods. Further, some common assumptions in regression model like explanatory variable incoherence and error components may not hold. Therefore, other methods like instrumental variables which are based upon subtractions are recommended. Because the number of estimators obtained by these variables for a specific parameter is large, generalized moment method (GMM) was used as a substitute for estimation of linear regression models of dynamic panel (Kaji, 2007). In this method, dependent variable was inserted into the model with a delay time as an explanatory variable.

Table 1: estimation of the first model

t	Standard deviation	coefficient	Variable
6.85	0.347	***2.38	C
1.69	0.002	*0.004	SMI?
3.06	0.008	***0.026	BIN?
4.57	0.037	***0.170	FDI?
0.37	0.008	0.0032	IR?
-9.50	0.015	***0.143	GC?
Fixed Effects (Cross)			
	-0.32	BEN—C	
	1.99	BFA—C	
	-3.06	CIV—C	
	-1.01	COM--C	
	-0.44	DZA--C	
	1.60	IRN--C	
	-0.62	JOR--C	
	1.81	KWT--C	
	0.65	MAR--C	
	0.34	MLI--C	
	0.59	MWI--C	
	-2.15	NER--C	
	-0.50	PAK--C	
	1.12	TUN--C	
		R^2=0.58	
		number of =280	
		observations	

*, **, *** indicate significance of variables in 99, 95 and 90 percent levels, respectively.

Dependent variable: gross national production (GNP)

Considering the results of table 1 which has been obtained from the first model estimation we can observe that bank development indicator has positive and significant influence on economic growth of countries. This means improvement and development of bank networks can increase and develop economic growth of countries. This means increasing and development of bank network and reduction in transactional costs and also reducing waste-of-time costs in various bank fields (such as e-banking development which is an index for bank development) results in productivity in production and economic growth. In estimation of the model, stock market index was not able to create a significantly strong influence on economic growth (significance level=90%). Therefore, it can be concluded that improvement of stock market cannot be considered as a motor for economic growth in such countries. Direct foreign investment also has direct and positive and significant relationship with economic growth and this matches the theoretical expectations of economic growth and investment. In the estimation of the first model it can be observed that exchange rate does not have significant impact on economic growth. This means if governments aim to reach economic growth they should not follow policies which concern improvement or weakening national money value.

Finally, government costs also have negative and significant influence on economic growth. This means increasing government costs has adverse impacts on economic growth in OIC countries. In other words, expansion financial policies have adverse influences and weaken production in the countries. Therefore, government size is a negative factor in economic growth.

Table 2: estimation of the second model

t	Standard deviation	coefficient	variable	
2.25	0.91	**2.06	C	
1.72	0.004	0.008*	MC?	
1.30	0.015	0.020	LIQ?	
1.93	0.071	***0.13	FDI?	
-0.18	0.025	-0.004	IR?	
-2.96	0.045	***-0.13	GC?	
Fixed Effects (Cross)				
	-0.22		BEN—C	
	1.06		BFA—C	
	-2.19		CIV—C	
	-0.67		COM—C	
	-0.48		DZA—C	
	1.48		IRN—C	
	-0.76		JOR—C	
	1.03		KWT—C	
	0.47		MAR—C	
	-0.34		MLI—C	
	0.69		MWI—C	
	-1.85		NER—C	
	-0.22		PAK—C	
	2.00		TUN—C	
R^2=0.062				
			number of observations =280	

*, **, *** indicate significance of variables in 99%, 95% and 90%, respectively.

Dependent variable: gross national production (GNP)

In the second model, it can be observed that capital market value and cash liabilities do not have significant influence on economic growth. In other words, economic growth does not depend on these variables in these countries.

The impacts of exchange rate, direct foreign investment and government costs are similar to the first model i.e. direct foreign investment has positive and significant influence, exchange rate does not have any significant influence and the influence of government costs is negative and significant. Considering the fact that the influence of these variables did not change after changing other independent variables, it can be said that the influence of these variables on economic growth is stable.

Table 3. estimation of the third model

t	Standard deviation	coefficient	variable
7.52	0.359	***2.70	C
1.44	0.003	0.005	VT?
3.36	0.009	***0.03	LIQ?
4.05	0.038	***0.15	FDI?
-0.08	0.010	-0.000	IR?

-8.14	0.022	***-0.18	GC?
		Fixed Effects (Cross)	
	-0.61		BEN—C
	2.55		BFA—C
	-3.07		CIV—C
	-0.71		COM—C
	-0.76		DZA—C
	1.52		IRN—C
	-0.94		JOR—C
	1.70		KWT—C
	0.39		MAR—C
	0.24		MLI—C
	0.86		MWI—C
	-2.73		NER—C
	-0.99		PAK—C
	2.56		TUN—C

R^2=0.59
number of observations =280

*, **, *** indicate significance of variables in 99%, 95% and 90%, respectively.

Dependent variable: gross national production (GNP)

In the third model, it can be observed that cash liabilities (contrary to the second model) have positive and significant influence on economic growth. In other words, as cash liabilities increase in banking system, it results in improvement of economic growth. However, the variable "transactions value in stock market" did not show its significant influence on economic growth. Again, the influences of the variables exchange rate, direct foreign investment and government costs on economic growth are similar to the first and second model.

Table 4: estimation of the fourth model

t	Standard deviation	coefficient	variable
7.59	0.367	***2.79	C
2.84	0.001	***0.003	TR?
3.56	0.008	***0.031	LIQ?
3.94	0.038	***0.150	FDI?
0.030	0.009	0.000	IR?
-8.59	0.023	***-0.198	GC?
	Fixed Effects (Cross)		
	-0.71		BEN—C
	2.71		BFA—C
	-3.06		CIV—C
	-0.58		COM—C
	-0.73		DZA—C
	1.46		IRN—C
	-0.97		JOR—C
	2.12		KWT—C
	0.38		MAR—C
	0.08		MLI—C
	0.90		MWI—C
	-2.77		NER—C
	-1.05		PAK—C
	2.23		TUN—C

R^2=0.60
=280number of observations

*, **, *** indicate significance of variables in 99%, 95% and 90%, respectively.

Dependent variable: gross national production (GNP)
Considering the results of table 4, again the influence of cash liabilities on economic growth is positive and significant.
Further, the influence of transactions volume is positive and significant. In other words, transactions volume increases these countries economic growth.
The impacts of the variables direct foreign investment, exchange rate and government costs are similar to the previous cases.

Table 5: estimation of the fifth model

t	Standard deviation	coefficient	variable
10.11	0.390	***3.945	C
1.63	0.003	0.006	MC?
-3.49	0.010	***-0.035	PCR?
4.56	0.038	***0.174	FDI?
-8.48	0.015	***-0.132	GC?

-0.13	0.008	0.001	IR?
Fixed Effects (Cross)			
-1.11			BEN—C
0.49			BFA—C
-3.51			CIV—C
-1.98			COM—C
-1.05			DZA—C
1.70			IRN—C
2.12			JOR—C
3.01			KWT—C
1.72			MAR—C
-1.04			MLI—C
-0.41			MWI—C
-3.08			NER—C
-0.13			PAK—C
3.29			TUN—C
$R^{2}=0.61$			
number of observations=280			

*, **, *** indicate significance of variables in 99%, 95% and 90%, respectively.

Dependent variable: gross national production (GNP)

Considering table 5, capital market value does not have significant influence on economic growth (like second model). Further, private sector credits have negative and significant influence on economic growth. This means increasing private sector credits reduces productivity in production sector. This means private sector credits have not been able to be injected into productive sectors. The influences of the variables direct foreign investment, exchange rate and government costs remained unchanged.

Table 6. Estimation of the sixth model

t	Standard deviation	coefficient	variable
10.34	0.38	4.02	C
2.23	0.004	*0.008	VT?
-3.19	0.010	***-0.034	PCR?
4.99	0.038	***0.192	FDI?
0.015	0.009	0.000	IR?
-7.61	0.017	***-0.13	GC?
		Fixed Effects (Cross)	
	-1.24		BEN—C
	1.06		BFA—C
	-3.56		CIV—C
	-2.05		COM—C
	-1.03		DZA—C
	1.65		IRN—C
	2.18		JOR—C
	2.91		KWT—C
	1.72		MAR—C
	-0.76		MLI—C
	-0.44		MWI—C
	-3.13		NER—C
	-0.44		PAK—C
	3.14		TUN—C

$R^2=0.61$
Number of observations=280
*, **, *** indicate significance of variables in 99%, 95% and 90%, respectively.

Dependent variable: gross national production (GNP)

In this model, it can be observed that transactions value has positive and significant influence on economic growth but this influence is very small (0.008). Further, credits variable has significant and negative influence. The influences of other variables remained unchanged.

Table 7. estimation of the seventh model

t	Standard deviation	coefficient	variable
10.95	0.38	***4.16	C
3.20	0.001	***0.003	TR?
-3.29	0.010	***-0.033	PCR?
0.400	0.038	***0.195	FDI?
-7.88	0.008	0.003	IR?
-2.69	0.018	***-0.147	GC?
	Fixed Effects (Cross)		
	-1.30		BEN—C
	1.23		BFA—C
	3.60		CIV—C

-1.91	COM—C
-1.00	DZA—C
1.53	IRN—C
2.19	JOR—C
3.52	KWT—C
1.69	MAR—C
-0.80	MLI—C
-0.45	MWI—C
-3.19	NER—C
-0.46	PAK—C
2.64	TUN—C

Number of observations=280 R^2=0.61

*, **, *** indicate significance of variables in 99%, 95% and 90%, respectively.

Dependent variable: gross national production (GNP)

This model shows that the influence of transactions volume on economic growth is positive and significant just like the fourth model. The influence of private sector credits on economic growth is negative and significant like the fifth and 6th model. Further, direct foreign investment has positive and significant influence (like previous models), the influence of exchange rate is insignificant (like previous models) and the influence of is negative and significant.

Conclusion

Many studies have been conducted to investigate relationship between financial markets and economic growth but few studies have considered capital market impact. Considering the importance of capital market in improvement and development of economy, development of this market can lead to economic growth. The present research aimed to obtain a quantitative estimation of the impacts of capital market on economic growth in 14 countries which are members of OCI. Panel data was used over 1990-2009. Descriptive investigation showed that capital market value and cash liability are not able to have a strong significant influence on economic growth. In other words, economic growth is not affected by these variables in the mentioned countries. Banking system development had a significant influence on economic growth. "Stock market value" and "transactions value" were not able to have a strong influence on economic growth. Furthermore, private sector credits and government costs have negative and significant influences on economic growth. Increasing government costs has adverse effects on economic growth. Government size is a negative factor in economic growth of OIC countries. In other words, countries which seek economic growth should not change the value of their national money. In general, no significant relationship was observed between financial variables and economic growth in some studies and in some other empirical studies, the mentioned relationship is positive and significant.

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