

## The Effect of Economic Freedom on Bank Performance

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### **Abstract**

The banking sector is one of the important financial intermediaries in an economic system. Improvement in the banking sector can achieve optimal allocation of financial resources. The performance of banks and other financial service providers has direct effect on economic growth. One of the factors that can affect the banks operation is economic freedom. Economic freedom and freedom of private property rights can influence the quality of financial institutions such as banks. Using panel data model, this paper attempts to study the effect of the economic freedom index on the performance of banks in selected developed and developing countries for the period 2001-2011. According to our finding, countries with higher degree of economic freedom index have better financial performance. Moreover, economic freedom indexes have positive effects on bank's profitability in both groups of countries.

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## **1. Introduction**

Financial resource is a key factor for starting and sustaining any economic activity. Banks as financial institutions are responsible for funding, mobilizing and allocating financial resources to different sectors of the economy. Therefore, banking system performance plays important role in promoting economic growth and increasing social welfare.

Given the impact of banks' operation on economic activities in all countries, it is important to develop a mechanism to better monitor and control their performance (Barth et al, 2006). However, direct control of banking sector and too much intervention in banking system by the government might result in inefficiency and corruption. Indeed, the government regulations and intervention might negatively affect the economic growth of an economy through limiting the economic freedom of banks (Beach and Kane, 2008). According to many studies, economic freedom is affected by the degree of economic development. The impact of economic freedom on banks performance is an important issue that requires more attention in the literature.

In fact, economic freedom might be an important factor that affects the participation of banks in economic activity and the quality of its performance through providing easier and more domestic efficient costs and cross-border transactions by facilitating the competitive environment and also by creating a secure market for trading.

Using a panel data model, this paper examines the impact of economic freedom on banks performance in selected developed<sup>1</sup> and developing<sup>2</sup> countries. An index of economic freedom (including the size of government regulation on financial, labor and business market, sound money, legal structure and security of property rights and free international trade) is used as an explanatory variable in the model. The selected developed countries in this study are those that have the highest economic freedom indexes and the selected developing countries are those with the middle economic freedom indexes. The freedom indexes are obtained from the Annual Economic Freedom Report of the World 2012.

The paper is organized as follows. The next section provides the literature reviews. Third section is devoted to model. Data analysis and

estimation results are represented in the fourth section. The conclusion and policy recommendations are discussed in the last section.

## **2. Literature Review**

Banking sector has been paid much attention in recent years because banks are considered as a safe place to transfer funds in the economy. Banking system will equip sources of funds to enter the capital market with accumulation of small capitals and reduction of the risk of economic activities. So the task of banking with regard to the economic aspects is financing the economic activities to make it possible to achieve long-term objectives of an investment. The development of the banking sector will not only help to finance economic projects but would also increase security and safety for investing and employment opportunities (Seif, 2004). Bagehot (1873) and Schumpeter (1912) have emphasized the role of the banking system on improving economic activities and have expressed that economic goals mainly depend on the performance of the banking sectors by the liquidity circulation. Diamond (1984) and Boyd and Prescott (1986) have explained the role of banks in eliminating defects caused by improper resource allocation between markets. Allen and Gala (1997) have argued that the banking system absorbs temporary risk effectively. Lucas (1988) argues that the performance of a bank is one of the key determinant factors for economic growth. According to him, the banking sector responds to the increasing demand for financing services coming from real sector. One of the factors affecting the performance of banks is economic freedom component. According to the Annual World Report of Economic Freedom, the index of economic freedom includes: 1) size of government index (expenditures, taxes and trading), 2) the legal structure and security of property rights index, 3) access to sound money index, 4) internationally trade index, and 5) regulation of finance, labor and business markets index. The classification of the variables in the economic freedom index has some advantages by adding the possibility of reducing the bias in the analysis tremendously, but these indicators are divided into five independent variables to present a clear picture of the impact of each variable on improving the banking system. The foundation of economic freedom is

built on personal choice, voluntary exchange, freedom to compete, and security of personal property. Therefore, the development of productive economic activities is the result of economic freedom sovereignty on economies through increasing competition between different industries and supporting other economic activities in the framework of predictable policies. The banking system is one of the most important institutions that have improved profitability and economic efficiency through of increasing economic freedom.

Unlike current researches that demonstrate that performance of banks are affected by a function of macroeconomic variables (like inflation, economic growth, etc.), a limited number of studies have investigated the relationship between economic freedom and the performance of banks. Gwartney and Lawson (2003) have investigated the effect of economic freedom (as representatives of the institutional and policy framework) on bank's performance and stated economic freedom has been improving bank's performance. Holmes et al (2008) have also expressed that a higher level of economic freedom is associated with improvement of banking performance and a higher level of GDP per capita.

Sufian and Abdul Majid (2011) have studied the effect of economic freedom on the performance of Islamic banks. The analysis was focused on Islamic banking sector in MENA countries during the period (2000-2008). The aim of their study was to evaluate the quality of intermediary function of banks that were affected by economic freedom. Their results indicated that economic freedom has a positive and significant effect on improving Islamic banking performance. Moreover, they found that free trade was more effective in increasing the profitability of Islamic banks in MENA countries than other indexes of economic freedom.

Wah Low et al (2010) have examined the role of economic freedom on the development of the banking sector in six countries of East Asia during the period 1975-2006. The results indicated a positive relationship between economic freedom and development of the banking sector in the investigated counties. They have also expressed that legal quality had a stronger influence on the development of the banking system than other indexes of economic freedom. So they have concluded that protection of property rights and enforcement of contracts were considered as essential

elements in the promotion and development of the banking system.

Sufian and Kabir Hassan (2010) had investigated the effects of economic freedom on the costs of financial intermediaries (including banks) on ASEAN countries during 1994-2008. They found that the economic freedom has improved the environment associated with entrepreneurship, innovation and hence has positive impact on sustainable economic development. Furthermore, they showed that the relationship between free trade and bank profitability is negative, which can be due to higher competition between banks and associated with higher free trade. They also concluded that monetary freedom has a negative effect on interest income of the banks. They showed that stable and reliable monetary policy is important for improving and securing business environment, and saving-investment relationship in the long run.

### **3. The Model and Data:**

Financial systems include establishment of the financial markets, instruments and institutions that determine the economic fate of nations. It seems necessary to recognize the important role of financial institutions, particularly banks in economic development. Next we examine three groups of variables, including variables with banks non-performing or macroeconomic variables, bank's performance or banking parameters and economic freedom indexes. Banking and macroeconomic variables are extracted from the World bank database (WDI) and economic freedom indexes and its subsidiaries from Annual World Report of Economic Freedom, 2012. Following the literature, we propose the following model to estimate the impact of our explanatory variables on profitability of the banking sector.

$$Lprof_{it} = \beta_0 + \beta_1 TEF_{it} + \beta_2 NPLS_{it} + \beta_3 LCAPAS_{it} + \beta_4 LGDP_{it} + \varepsilon_{it} \quad (1)$$

$$\begin{aligned} \frac{\partial Lprof_{it}}{\partial TEF_{it}} \geq 0, \quad \frac{\partial Lprof_{it}}{\partial SIZE_{it}} \geq 0, \quad \frac{\partial Lprof_{it}}{\partial LEGAL_{it}} \geq 0, \quad \frac{\partial Lprof_{it}}{\partial ACCESS_{it}} \leq 0, \quad \frac{\partial Lprof_{it}}{\partial FTRED_{it}} \geq 0, \\ \frac{\partial Lprof_{it}}{\partial REGUL_{it}} \geq 0, \quad \frac{\partial Lprof_{it}}{\partial NPLS_{it}} \leq 0, \quad \frac{\partial Lprof_{it}}{\partial LCAPAS_{it}} \geq 0, \quad \frac{\partial Lprof_{it}}{\partial LPGP_{it}} \geq 0 \end{aligned} \quad (2)$$

All variables in equation (1) are in log. Lprof is dependent variable. It denotes the log of profitability of the banking system.

Using the literature, the expected sign- for each explanatory variable- is reported in (2). In the following sub-sections, we explain the explanatory variables used in our model.

Index of Economic Freedom (EF) is composed of five sub-indexes defined below.

$$EF = (TEF, SIZE, LEGAL, ACCESS, FTRED, REGUL) \quad (3)$$

We have evaluated the impacts of all of these sub-indexes on the profitability of the banking system, separately.

### 3.1. Economic Freedom Index:

What is emphasized in the concept of economic freedom is the extent of custodian market institutions in a country from functions such as protection of property rights and enforcement of policies for trade and voluntary exchange to achieve economic goals, appropriate policies aimed at providing support money, synchronize the economic needs of the state, and overcome the needs of law. Thus, economic freedom affects the incentive structure of the economic system of a country, and improves the ability of the banking system in obtaining more resources and liquidity. (Justesen, 2008). Economic freedom variable in the our model is denoted by EF.

### 3.2. The Size and Volume of the Government:

Economic literature shows a significant amount of government intervention in economic activity. Historically, the literature on the economics of government intervention in economic activities shows

different views and theories. In the 1776 to 1930, generally two specific approaches to the economy can be seen: the classical school's origin was the government's attitude. Maximum government attitudes that protested against the classics school were on the side of the Marxists and Socialists. From the 1930s onwards, the role of government in a mixed economy was considered intermediate between the extremes (Mohammad Zadeh, 2007). Also, some recent studies have shown a negative correlation between government size and performance of the banking system. For example, Kahn (2011) suggests that governments are generally larger than optimal and realistically it can only be said that smaller governments are better, and suggesting that the optimal size of government is smaller than what we observe today. The size of the government was measured in the annual report by the Fraser Institute. Government size consisted of the four elements of government consumption as a percentage of GDP, volume of the government subsidies, the government and the tax rate on investment and income and salaries. We have denoted the size of government by SIZE in the estimated models.

### **3.3. Legal Structure and Security of Property Rights:**

Private property rights are the guarantee of individual motivation, the level of production and investment firms. Economic benefits arising from assets and property security are rooted in reducing transaction costs, monitoring and enforcement of a contract. Insecure property rights may increase the risk of return on current investments (Olson, 2000). The term, LEGAL denotes the legal structure and security of property rights in our model.

### **3.4. Free Trade**

Freedom of international trade channels disseminates knowledge on effective development of economic activities because free trade induces comparative advantage in production of goods and services with more specialization. It is possible to swap parties involved to share their business interests (Hann et al, 2006). Therefore, the expansion of free trade, by increasing knowledge-based goods and services related to



export increases penetration of domestic goods and services to markets around the world and ultimately leads to an increase in business profits. We have shown free trade by FTRED in the estimated models.

### **3.5. Access to Sound Money**

Fiat money with a financial commitment of government will help prevent uncontrolled releases of money in the economy. Fiat money is gold, silver and foreign exchanges and other movable assets of the central bank. Fiat money prevents printing money beyond the law by providing the necessary background. It means that emissions must be paid commensurate with the reserves as the reserve currencies are introduced. Sound money measured in the index of economic freedom is stored by the amount of the treasury and the central bank's support of the national currency. Thus, increasing support for money is considered as a legitimate permission to increase the amount of money. Access to sound money in this study is denoted by ACCESS.

### **3.6. Financial, Labor and Trade Markets Regulation**

This regulation indicator is considered in the credit, labor and trade markets. Under the legislation of the credit market can be seen the three subsets associated with the banking system. Thus, these set of subsets of the set of indexes of economic freedom on the bank make it more effective than the other sub-categories. Legislation on financial, business and trade markets and stimulating economic activity in the markets in the desired channel in the legal economy make it possible to achieve long-term planning goals. Therefore, defining of the law in the business environment will achieve economic growth by removing obstacles ahead. Hence, in the light of improved legislation will be achieved to improved bank's performance will be achieved. The term REGUL is used to denote regulation indicator in the model.

### **3.7. The Ratio of Non-Performing Loans to Total Loans**

Non-performance loans, the loans that banks do not earn from them, imply that the payment of principal and interest is ambiguous and repayment of principal and interest has been ignored for 90 days or more.

Past debts have not full payment upon maturity of the loan (Chang, 2006). In this study, NPLs denotes non-performing loans to total loans ratio.

### 3.8. The Bank Capital to Total Assets Ratio

Since the bank capital is a bank's risk-lowering agent, the capital ratio typically defined as divided capital to asset is an important ratio of the evaluations. A bank that holds more capital can absorb and digest the potential losses more easily in order to continue a better economic life in the competitive hardship environment of an economy. The capital to total assets of banks ratio in this study is denoted by CAPAS.

### 3.9. Gross Domestic Product

Expansion of productive activities and increasing the value of domestic products would raise the need for efficient and coherent network of bank financing needed for economically productive businesses. In this study, gross domestic product is measured in terms of U.S. dollar. In this study, GDP stands for gross domestic product.

## 4. Analysis and Interpretation of Results

First, we analyze F-Limmer test, for realizing pooling or panel data of the statistical data. The null hypothesis of F-Limmer statistic is based on being pooled. If it is rejected, the hypothesis based on panel data for the data is accepted. The F statistic is calculated using the following formula:

$$F_{(n-1, nt-n-k)} = \frac{[RRSS-URSS]/(n-1)}{[URSS]/(nt-n-k)} \quad (4)$$

The above statistics (RRSS) is the coefficient of determination of the constrained model (ordinary least squares method), and (URSS) is the coefficient of determination from the unconstrained model (using panel data). In the above, n is the total number of countries, t is the number of observations and k is the number of explanatory variables. F- Limmer

test's results (Table 1) indicate that data in any of the existing models and in both groups of countries with a confidence level greater than 95% is Panel Data. After ensuring the existence of panel data model in the all cases, the Hausman test is used to choose between fixed or random effects models. The null hypothesis of Hausman test of statistical data is based on a random effects model. If the null hypothesis is rejected, it shows that the alternative hypothesis i.e., the presence of fixed effect model is accepted. The results of Hausman test reported in Table (1) approve the use of random effects models for both groups of countries.

**Table 1. Hausman and F-Limmer Tests' Results**

		Model 1	Model 2	Model3	Model 4	Model 5	Model6
Developed countries	Cross-Section Fixed Effects Tests: F-Statistic[Prob]	4.89 [0.00]	4.9 [0.00]	5.86 [0.00]	4.74 [0.00]	5.15 [0.00]	5.57 [0.00]
	Hausman Test: Chi-squared [Prob]	7.51 [0.38]	7.65 [0.36]	10.21 [0.18]	0.55 [0.99]	1.45 [0.98]	28.45 [0.22]
Developing countries	Cross-Section Fixed Effects Tests: F-Statistic[Prob]	68.67 [0.00]	56.43 [0.00]	41.1 [0.00]	78.61 [0.00]	79.52 [0.00]	25.39 [0.00]
	Hausman Test: Chi-squared [Prob]	0.1 [0.98]	1.88 [0.75]	0.01 [0.98]	4.34 [0.36]	5.04 [0.28]	0.21 [0.92]

Reference: computing of research.

It is noteworthy that for all estimated models and both groups of developed and developing countries, heteroskedasticity test, cross sectional independence test and autocorrelation's test have been done. It should be noted that for cross sectional independence test, when  $T > N$ , one may use for these purposes the Lagrange multiplier (LM) test, developed by Breusch and Pagan (1980). Monte Carlo experiments show that the standard Breusch-Pagan LM test performs badly for  $N > T$  panels ( $N$  refers to crosses and  $T$  refers to time), whereas Pesaran's CD test performs well for small  $T$  and large  $N$ . So, we use Pesaran's CD test for developed countries ( $N=17 > T=11$ ) and Breusch-Pagan LM test for developing countries ( $N=9 < T=11$ ). The results of these complementary

tests demonstrate that in the estimated models of developed countries, we don't have cross sectional dependence but existence of serial autocorrelation and homoskedasticity is approved; and in the estimated models of developing countries, we don't have homoskedasticity but existence of serial autocorrelation and cross sectional dependence is approved. To overcome these problems, we have used Linear Regression with AR(1) for developing countries, and clustering regression for developed countries. Next we will investigate the estimated coefficients of the variables for selected developed and developing countries reported in Table (2).

#### **4.1. Index of Economic Freedom**

Many factors affect the rate of entry, survival and profitability of firms in different industries, especially industries with the development and strengthening of the banking system and ultimately with continuing this trend, the development of financial markets is conservation. Performance of the banking system as an important component of the financial system is affected by macroeconomic conditions and its changes. Since one of the important tasks of the banking system, till now, is cash and credit, therefore all economic activities and factors that make changes in the economic environment, also have the effect of the firm's profit and cash flow and play an important role in banking activities and finally banking profitability. These factors can include the creation of a free economic system. Incumbent strengthening of the free market economy in which government policy is defined in order to protect and safeguard the rights of economic actors in the production, distribution and consumption inputs and outputs of economic activity, by expanding the demand for setting up new businesses and increase in the demand for bank credit facilities eventually leads to bank profitability. According to Table (2) economic freedom has a significant positive effect on bank's profitability in selected developed and developing countries; in other words, bank's profits will increase with increasing economic freedom.

#### **4.2. Size and Volume of the Government**

Government policy influences personal desires in relation to work to

Economic spare, so that increasing the tax burden too favorably will increase background and undermine the motivation for graduation; on the other hand, the desired level of public goods provided by the government reduces production costs and improves economic efficiency (Justesen, 2008). But what is achieved in the economic success in the economic freedom index depends on the quality of public services and not only the size of government. Gunn and Hood, mid-1980s, argue that privatization, development of domestic markets and competitive bidding, regardless of size and improved performance indicators in government, is led to better government administration and the system of government services in the countries (Sanei, 2006). Then in 1998 a new criterion for evaluating the state was presented as "good governance". In this view, the main question is not whether or not the government should be involved, but how important is government's intervention (Komijani and Salatin, 2009). The estimation results in Table (2) show a positive and significant impact on the profitability of the banks in selected developed countries and a positive and meaningless impact on the profitability of the banks in selected developing countries that show states with larger sizes ensure higher profits for the banking system. The notable point is that our study refers to after 1996, and statistics based on good governance in developed countries, show a supplement role for states and a contribution role to boom the private sector in these countries. So, increase in the size of government in these countries definitely takes place on the basis of scientific knowledge within the framework of good governance. Meanwhile, developing countries have several bottlenecks in the production trend and have considerable gap in competitiveness power with the developed countries. Thus to prepare the grounds of economic growth and development and to cover their gap with developed countries and the expansion of government activities will surely witness the expansion of banking activities in the banking system, the main components of the financial system, so expanding the size of government in these countries during the studied period is observed. Thus the irrefutable role of government planning and implementation of appropriate policy package of governments in the recent financial crisis is stressed.

### **4.3. Legal Structure and Security of Property Rights**

The protection of property rights in economic freedom index is based on the continuation of productive activities and investments required to secure achievements in these activities (North, 1990). In fact, what is important for investors and producers is to create the fields of preservation and growth of the moral and material support to the achievement of innovations, inventions, discoveries, writing, etc. Legal structure and security of property rights are created by governments in regards to how individuals can control benefit and transfer property. Economic theory contends that government enforcement of strong property rights is a determinant regarding the level of economic success seen in this matter. Individuals will create new forms of property to generate wealth, only when they are assured that their rights to their property will protect them against unjust and/or unlawful actions by other parties. As the results of estimating Model 3 shows that legal structure and security of property rights has a meaningless positive effect on the profitability of the banking system in selected developed countries and a significant positive effect on the profitability of the banking system in selected developing countries, so upgrading components of the legal structure and security of property rights will lead to an increase in profitability of the banking system.

### **4.4. Free Trade**

Establishment of free trade to facilitate commercial contracts will help to increase the trade gains. This, in turn, leads to an increase in production inputs such as financial resources to launch new product lines, according to global demand and existing capacity. Funds yielding play an effective role in developing economic activities. The expansion of trade relations with the outside world and growing appetite for credit in different ways being the most common, is to obtain financial facilities from the banking system. The expansion of trade relations with the freedom of foreign trade influences the profitability of the banking system directly. Based on the results of estimating model in developed and developing countries, improved commercial freedom parameters significantly have a positive impact on the profitability of the banks and the increased freedom of

foreign trade transactions will increase the bank's interest income.

#### **4.5. Access to Sound Money**

Although fiat money in the banking system is an effective constraint to prevent the uncontrolled release liquidity, yet any fiat currencies would not be a promise of economic growth and development. Monetary support due to commercial trade and economic activities would help the banking system to generate long-term goals. It should be noted that in other countries the central bank is defined as a subset of administration so the probability of finding the money to meet the increasing budget deficit is high. By increasing consumer demand money growth will lead to demand pressure, inflation and reduce rising real interest rates, and finally reduces investments that are necessary for sustaining economic activities. So we can get back the fiat money as well as access to sound money that is calculated in the economic freedom index as important in the process of economic activity. And since most of the liquid is collected in banks, the role of the banking system will be highlighted because the bank's duty which is to keep safe and treasure new money will be heavier. Based on the estimates in Table (2), increasing access to sound money plays a meaningless negative impact on bank earnings in developed countries and a significant positive impact in developing countries; in other words, an increase in sound money reduced bank's profits in developed countries. Access to sound money means monetary support is proportional to the size of the national currency, so we can expect that sound money has an inverse relationship with the money supply. Because a healthy liquidity is one of the legal limitations that prevent the hyper release of money, and since bank profits depend on the size and growth of the money supply, by increasing the fiats for money, the banking profits will be limited. But in developing countries, as mentioned earlier, the central bank is not independent of government. Thus, an increase in fiat money, liquidity and ultimately control high inflation rates will increase bank's profits in developing countries, while in developed countries, inflation rates are controlled in low levels so bank's reserves is reduced by increasing sound money and finally the profitability of banking system is reduce in developing countries.

#### **4.6. Regulation on Financial, Labor and Trade Markets**

In recently published research by the World Bank, trade in developing countries suffers from inadequate regulatory stance, so in these countries the limitations caused by the laws of the market are, on average, three times more than in rich countries (World Bank, 2005). Legislation on different markets by reducing transaction and information costs will recover the firm's competitive position; finally, the continuously increasing market efficiency will encourage the entrance of new firms into the markets and existing firms will be faced with increasing profitability (Djankov et al, 2005). Laws regulating the financial, business and trade markets through market transparency will lead to lower transaction costs by providing the necessary information for buyers and sellers through the market system and systematic guidance. Therefore, both sides attract satisfaction and trust in economic activities in various fields such as banking, and as a result will prosper tremendously. Based on our findings, the influence of legislation regulating the financial, business and labor markets, on profitability of banking system is positive and significant in both groups of countries. In other words, increased regulation of financial, business and trade markets, according to environmental conditions and the ability of potential and actual financial, business markets was approved, which will lead to promotion of banking interest.

#### **4.7. The Ratio of Non-Performance Loans to Total Loans**

The growing proportion of non-performance loans to total loans (NPLs) has attracted much attention in recent decades; large amount of NPLs in the banking system means failure of the bank. Recent researches have proven non-performance loans in the banking system are one of the most important factors that influence the economic recession. NPLs in the financial sector are as the mirror of whole view of the activity without benefits. If these loans continue or take a rising trend in any part of financial system, they would be considered as non-profitable resources; and the non-profit sector can be receiving funds, so it will hurt the growth of economic activity and productivity (Hou, 2008). All models estimated the effect of non-performance loans on bank profits is negative and



significant in developed countries, thus extending the repayment of loans that are faced with a problem reduces banking interest. But estimated models for developing countries demonstrate that the effect of non-performance loans on bank's profits is positive and insignificant. In recent years, expansion of guarantees for the repayment of bank's credit in developing countries has been grown up substantially. So, we can observe that in developing countries, NPLs have no significant effect on the profitability of the banking system.

#### **4.8. The Bank Capital to Total Assets Ratio**

The bank capital to total assets ratio means higher capital to assets ratio in banks; in other words, banks benefit needs a higher rate of capital adequacy, although the bank has not a relatively high level of capital. According to this definition, the ratio of capital to assets show the ability of banks to continue their activities in the financial crisis and economic recession, by creating a favorable climate for economic development, improving economic efficiency and banks investment. Finally, banks with capital adequacy rate strengthen their ability to handle possible economic stress. According to the estimated model for developed countries, the effect of banks capital to total assets ratio on bank's profits is positive and significant, which suggests that banks which have higher capital adequacy rate can earn more profits but for developing countries, estimated models show the reverse mode. It seems that the important distinction is differences between public and private banks because available statistics emphasize that the number of state banks is more than private banks in developing countries; experience shows that usually state-owned banks have more capital than other banks and public banks don't have a suitable performance for various reasons, such as the lack of efficient and update banking management.

#### **4.9. Gross Domestic Product**

The estimation results reported in Table (2) show that the effect of GDP on banking profit is positive and significant in both groups of countries. In other words, the increase in GDP leads to increased bank activities on loans and other credit and banking direct investment and ultimately leads

to an increase in bank profits.

**Table 2. Estimation results for selected countries during the period (2001-2011)**

Variables	Developed Countries						Developing Countries					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>C</i>	-10.82*** (-2.92)	-9.79* (-1.63)	-31.77*** (-5.14)	3.16 (1.43)	-1 (-0.87)	-2.32** (-2.65)	-2.44 (-1.23)	-2.43 (-1.18)	-2.76*** (-1.36)	-2.3 (-1.14)	-3.72* (-1.81)	-2.03 (-1.2)
<i>NPLs</i>	-0.11*** (-3.42)	-0.12** (-2.48)	-0.02** (-2.07)	-0.02*** (-2.93)	-0.1*** (-2.23)	-0.1*** (-2.7)	0.01 (0.74)	0.01 (0.69)	0.04 (0.37)	0.01 (0.9)	0.01 (0.5)	0.01 (1.17)
<i>LCAPASS</i>	0.63 (1)	0.57 (0.45)	1.9** (2.56)	1.01** (2.06)	0.71** (1.84)	0.53 (0.78)	-0.16 (-1.33)	-0.16 (-3.29)	-0.04 (-0.41)	-0.16 (-1.3)	-0.17 (-1.4)	-0.16 (-1.26)
<i>LGDP</i>	1.02*** (8.82)	1.15*** (5.35)	1.06*** (8.47)	0.8*** (17.82)	0.8*** (16.72)	1.04*** (3.93)	1.17*** (6.48)	1.19*** (6.38)	0.42*** (9.71)	1.18*** (6.51)	1.29*** (7.18)	1.16** (6.64)
<i>TEF</i>	0.72** (1.69)	-	-	-	-	-	0.06** (2.15)	-	-	-	-	-
<i>SIZE</i>	-	0.21** (2.02)	-	-	-	-	-	0.02 (1.25)	-	-	-	-
<i>LEGAL</i>	-	-	3.36*** (5.04)	-	-	-	-	-	0.06 (0.02)	-	-	-
<i>ACCES</i>	-	-	-	-0.31 (-1.29)	-	-	-	-	-	0.02*** (2.44)	-	-
<i>FTRAID</i>	-	-	-	-	0.23** (1.89)	-	-	-	-	-	0.06*** (2.36)	-
<i>REGUL</i>	-	-	-	-	-	0.5* (1.64)	-	-	-	-	-	0.19** (4.94)
<i>Adjusted R-squared(%)</i>	82	86	98	98	98	83	65	65	64	64	67	75
<i>F-statistic [Prob.]</i>	180.51 [0.00]	362.42 [0.00]	897.5 [0.00]	2636.97 [0.00]	1567.52 [0.00]	407.15 [0.00]	60.03 [0.00]	53.31 [0.00]	50.84 [0.00]	61.13 [0.00]	55.23 [0.00]	56.15 [0.00]
<i>Number of observations</i>	122	108	156	204	168	108	117	117	108	117	117	117
<i>Breusch &amp; Pagan's heteroskedasticity test [Prob.]</i>	25.33 [0.00]	32.05 [0.00]	24.39 [0.00]	29.55 [0.00]	30.01 [0.00]	18.69 [0.00]	0.73 [0.39]	0.34 [0.56]	0.08 [0.77]	0.33 [0.57]	0.7 [0.4]	0.18 [0.67]
<i>Breusch-Pagan LM test</i>												
<i>Pesaran's cross sectional independence test [Prob.]</i>	-1.12 [0.26]	-0.56 [0.56]	0.13 [0.89]	-1.06 [0.29]	0.32 [0.75]	-0.19 [0.85]	448.99 [0.00]	357.88 [0.00]	318.6 [0.00]	348.79 [0.00]	399.08 [0.00]	263.43 [0.00]
<i>Wooldridge autocorrelation's test [Prob.]</i>	15.47 [0.00]	14.93 [0.00]	15.08 [0.00]	15.76 [0.00]	15.34 [0.00]	17.39 [0.00]	5.98 [0.04]	6.07 [0.04]	6.02 [0.03]	5.93 [0.04]	5.76 [0.04]	6.17 [0.03]

The number in parentheses represents the t-statistic.

\*\*\*, \*\* and \* show significant at 1%, 5% and 10%, respectively.

## 5. Conclusions and Suggestions

The banking sector is one of the important financial intermediaries in an economic system. Improvement in the banking sector can achieve optimal allocation of financial resources. The performance of banks and

other financial service providers has direct effect on economic growth. One of the factors that can affect the banks operation is economic freedom. Economic freedom and freedom of private property rights can influence the quality of financial institutions such as banks. Using panel data model, this paper studies the effect of the economic freedom index on the performance of banks in selected developed and developing countries for the period 2001-2011. According to our finding, countries with higher degree of economic freedom index have better financial performance. Moreover, our estimation results indicate that economic freedom indexes have positive effects on bank's profitability in both groups of countries.

The results suggest that in order to increase the profitability of the banking system, the improvement of economic freedom indexes should be a priority for policymakers. Furthermore, according to our estimations, the estimated coefficients of all sub-indexes of the economic freedom index (except sound money index for developed countries) have positive effects on banking profitability.

Given our findings regarding the importance of factor contributing to the profitability of banking sector, we offer the following suggestions:

I. Enhancing the system of property rights which is an important requirement for improve the economic freedom.

II. Determining an appropriate size of government based on its defined responsibilities and duties according to a scientific framework for good governance.

III. Facilitating the entry and emphasizing perpetrators of domestic economy to strong presence in international markets.

IV. Acknowledging the importance of an independent central bank.

V. Facilitating the exchange of information between the parties by regulating financial, labor and trade markets,

VI. Establishing rules and laws according to the economic realities that would enhance banking system ability to respond properly to the financial needs of society.

### Endnotes

- 1- Hong Kong, Singapore, Switzerland, Australia, Canada, Finland, Ireland, the USA, Sweden, Denmark, England, Norway, Austria, Germany, South Korea, the Netherlands and Iceland.
- 2- Argentina, Bulgaria, Indonesia, Malaysia, Philippines, Romania, Ukraine, Thailand and Islamic Republic of Iran.

### References

- Chang, Y. T. (2006). Role of non-performing loans (NPLs) and capital adequacy in banking structure and competition. Retrieved from: [www.bath.ac.uk/management/research/pdf/2006-16.pdf](http://www.bath.ac.uk/management/research/pdf/2006-16.pdf).
- Haan, J. & Sturm, J. (2006). How to handle economic freedom. *Econ Journal Watch*, 3(3), 407- 4011.
- Hou, Y. (2007). The non-performing loans: Some bank-level evidence. Retrieved from: [www.qass.org.uk/4thAFEQASSConferencePapers/Hou.doc](http://www.qass.org.uk/4thAFEQASSConferencePapers/Hou.doc).
- Kahn, J. A. (2011). Can we determine the optimal size of government? *Development Briefing Paper*, No. 7, The Cato Institute. Retrieved from: [www.cato.org/publications](http://www.cato.org/publications).
- Komijani, A. & Salatin, P. (2010). The effect on the quality of governance and economic growth in selected countries neighboring Turkey, Iran and Pakistan. *Journal of Management*, 20(7), 41-27.
- Mohammad-Zadeh, R., Zibaei, M. & Bakhshodeh, M. (2007). The optimal size of government, with emphasis on agriculture in selected countries. *Journal of Economics and Agricultural Development*, 60(15), 124-103.
- Mogens, K. J. (2008). The effect of economic freedom on growth revisited: New evidence on causality from a panel of countries 1970–1999. *European Journal of Political Economy*, 24(3), 642–660.
- Piri, M. & Karbasi, A. (2009). Investigation of the relationship between free trade and economic growth. *Journal of Knowledge and Development*. 27(16), 160-145.
- Radpour, M. (2011). *Mechanism for measuring and managing credit risk in banks' financing and investment proceedings*(2<sup>nd</sup> ed.), Tehran, Iran.

- Salimi Far, M., Khodaparast Mashhadi, M., Samadi, S. & Hoshmand, M. (2009). Protection of intellectual property rights, on economic growth. *Journal of Quantitative Economics*, 6(4), 123-101.
- Sanei, M. (2006). Good governance, The concept of new public management. *Journal of Prudence*, 178(17), 33-26.
- Sufian, F. & Abdul Majid, M. Z. (2011). The nexus between economic freedom & Islamic bank performance: Empirical evidence from the MENA banking sectors. 8th International Conference on Islamic Economics & Finance, Retrieved from: [www.iefpedia.com/english/?p=6649](http://www.iefpedia.com/english/?p=6649).
- Sufian, F. & Kabir Hassan, M. (2010). Economic freedom & bank intermediation spreads: Do countries level of economic development make a difference? Retrieved from: <http://ssrn.com/abstract=1931090>.
- Sufian, F. & Shah Habibullah, M. (2010). Has economic freedom fostered bank performance? Panel evidence from china. *China Economic Journal*, 3(3), 255-279.
- Vali-nejad, M. (2004). The role and responsibilities of the financial institutions and banks in the economy. *Journal of Economics Database*, 47(2), 46-41.
- Wah Low, S., Ghazali, N. A., Ramlee, S. & Mohd said, R. (2010). Economic freedom & banking development: The experiences of selected East Asian countries. *Journal Pengurusan*, Retrieved from: [www.Journalarticle.ukm.my/1774](http://www.Journalarticle.ukm.my/1774).