FINANCIAL CREDIT INTERMEDIATION AND ECONOMIC DEVELOPMENT:

An empirical research for British economy

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Abstract

This paper examines empirically the causal relationship among financial intermediation and economic development by using a multivariate autoregressive VAR model for the British economy for the period 1995:I – 2005:IV. The results of cointegration analysis suggest that there is one cointegrated vector among economic development and financial intermediation derived from credit and stock market. Granger causality tests showed that there is a causal relationship between economic development and financial intermediation.

Keywords: financial intermediation, economic development, cointegration, error correction model, Granger causality.

JEL: O11, C22
1. Introduction

One of the most ambiguous subjects in the science of economics is the extent to which the development of the financial system affects total economy’s growth rate. The services that a financial system provides, according to the theory, facilitate the circulation of money, affect the liquidity of both the capital and the stock market and result in a more effective allocation of the available capital among the various investment plans. These operations seem to affect the degree of capital accumulation in the economy and to boost the process of technological innovation, which then affect the rate of economic growth.

It is also interesting the fact that the structure of the financial system and consequently the structure of financial intermediation has changed. From a structure where banks possessed a very important role and dominated financial markets, we reached today a structure where alternative means of financing have come up. Stock exchanges today have an upgraded role in financial intermediation and in many cases have managed to surpass the banking sector as a medium of financing.

This change refreshed the writers’ interest about the relationship between financial intermediation and economic growth. From the end of the 1980’s even more writers try to understand and also establish the relationship between economic growth and financial development either studying the banking sector or the stock market separately, either both of them simultaneously.

Financial system is often mentioned by the writers as the backbone of an economic system. The fact that nearly every developed economy is accompanied by a well developed financial system while in underdeveloped economies these systems are in early stage can not be considered as a coincidence.
The development of an economy’s financial system boosts the investment process. It is sufficient to think the difficulty that a company which is in need of loans will encounter in an economy lacking a financial system. Savers will definitely exist but it will be extremely difficult to give their capital to investors who they don’t know and moreover they can with no means exert control to. Thereby, in such an economy, investment processes would almost be inexistent and without investments economy would be condemned.

The financial system exists in an economy in order to set up the settlement of payments, to concentrate the available finance from the surplus units of the economy and to allocate it in an efficient manner to the units that need financing and to manage the risk that such (investment) actions result to. A well developed financial system includes a safe and effective system of payments, financial markets and intermediaries which organize the markets, control the process of financing and provide the public a set of instruments and means concerning the management of investing and not only risk.

In their book, entitled “Credit, Intermediation and the Macro-economy” Bhattacharya, Boot and Thakor (2004) mention four different theories that support the reason why financial intermediaries (mainly banking institutes) exist in an economy. According to the first theory, banks choose among a set of business plans in the name of their depositors. The reason that this happens is that banks have the ability to make better choices than a depositor would do itself because of the economies of scale that occur in the process of acquiring information. A second theory is based on the control that banks exert on borrowers. Financial intermediaries in such models act like a control mechanism concerning the usage of capital by the borrowers and the achievement of the returns. A third theory is based on the liquidity that financial
markets provide which acts as a mean of risk diversification, easing thus the investment process. Finally according to the fourth theory the banking sector represents a safe place for people to invest their money (e.g. banking deposits).

Diamond (1984) supported that the existence of banking corporations is due to the fact that they are more capable in controlling the borrowers. This ability stems from the specialization that banking corporations introduce in such tasks. The process of controlling the borrowers is a time consuming process and has great costs. Let us think that without the existence of banking corporations (and financial intermediaries) each of the financiers of a venture would afford this cost. By the means of financial intermediaries this cost is “paid” only once by financial intermediaries in respect of their customers. Furthermore, specialization in such tasks, except from the emergence of economies of scale, diminishes even more the cost of controlling the borrowers.

Besides, as Krasa and Villamil (1992a) showed, even small banks have the ability to obtain such gains from the diversification that will make them dominant against direct financing of borrowers by the households. The effects are indeed proportionate of the size of the financial intermediary. Greater banks are able to obtain more efficient diversification and to diminish even more the costs that concern the controlling of borrowers than smaller banks.

2.  **Theoretical and empirical approaches**

The relationship between financial and economic sector in an economy was first mentioned in 1911 by Joseph Schumpeter who in his book titled “The Theory of Economic Development” argued that «the services provided by financial intermediaries -mobilizing savings, evaluating projects, managing risk, monitoring
managers and facilitating transactions are essential for technological innovation and economic development.

The same opinion was also amplified by other writers such as Goldsmith (1969) who noticed that periods with higher than the average economic growth rate are usually accompanied by higher growth rates of the financial sector of the economy. Moreover, McKinnon (1973), studying data from different countries, concluded that financial markets which operate in a better way lead to even higher economic growth rates.

Nevertheless, the opinion mentioned above is not the only one. Joan Robinson (1952) argued that finance goes in the sector in which companies “flourish”. According to Robinson, economic development generates financial needs in an economy to which the financial sector responds passively. This conclusion is absolutely reasonable considering that in a developing economy needs for the services that the financial sector provides are even more created, the coverage of which leads to the enlargement and the development of the financial sector along with the real sector.

Goldsmith (1969) was from the first writers who used cross country regressions in order to check the relationship between financial intermediary and economic development. Using data from a set of 35 countries and studying the period 1860-1963 concluded that there is a positive relationship between the financial sector and the development in certain economies. He also remarks that periods with higher than the average economic growth rate tend to be accompanied by higher growth rates of the financial system.

This study, although it is considered as a very important one and is mentioned in nearly every relative subsequent work, it does not, yet, mention the direction of
causality between the time series used. It only mentions that there exists a positive relationship between them. Nevertheless, this fact does not deduct anything from the conclusions that Goldsmith reached since, as it was mentioned, financial intermediation can affect economic development but it is equally possible that the inverse could happen.

In a subsequent research, King and Levine (1993), in their study entitled “Finance and Growth: Schumpeter might be right”, examine if and to what extent higher levels of financial system’s development appear to be robustly correlated with higher rates of economic development. Using, therefore, data covering the period 1960-1989 for a set of 80 countries, they reach the conclusion that the size of the financial sector of the economy is robustly related to economic development.

Levine and Zervos (1998) focus on the role of stock market as a medium of financial intermediation. Using data from 41 countries, covering the period 1976-1993, they find out a positive long-term relationship between the development of the stock market and the development of the economy as a whole. More precisely, they find out that stock market’s turnover as well as its total capitalisation has a significant and positive impact on economic development.

Moreover, based on their results that both the banking sector and the stock market are positively related to present as well as to future growth rates, they conclude that both sectors, banks and stock market, each offer a different kind of services to the economy. So the study of economic development should include measures of both of these sectors in order to have better results.

Having these in mind, Rousseau and Watchel (2000), using annual data from 47 countries covering the period 1980-1995, draw the conclusion that financial markets with greater size and liquidity had a clear and stable positive result on the
economy. Specifically, they find out that an increase in the level of traditional services provided by financial intermediaries as well as in the market value of the securities that are negotiated in the stock market affect in a higher degree the economy’s output than an increase in the total market capitalisation would do.

Finally, Rousseau’s and Sylla’s study (2001) comes to analogous conclusions. In this paper, the writers find out a robust relationship between financial intermediation and economic development in 17 countries during the period 1850-1997. Among the countries studied are many of the most powerful economies of the planet (suggestively we mention the economies of USA, Great Britain, France and Germany). However, it is of great interest what the writers remark. They notice that the effect of the financial system on the economy was stronger before the Second World War.

Cross-country regressions cannot explain the relationship that financial intermediation and economic development may have when we focus on a particular country. The fact that data used in this method came as an average of data from different countries, leads to only general conclusions about the relationship mentioned before. Thus, the need to comprehend the particular conditions that exist in each country during the examination of the relationship of financial and real sector of the economy has led in recent years many writers to make use of time series analysis.

This fact was also underlined by Arestis and Demetriades (1997) who mentioned that the relationship between financial intermediation and economic development is affected by the nature and the way of operating of financial intermediaries as well as by different policies that governments adopt.

Hanson and Jonung (1997) studying the relationship between finance and economic growth for the case of Sweden during the period 1830-1991, came to the
conclusion that this relationship was stronger the period before the Second World War (1890-1939). This remark made them figure out that the role of financial intermediation was even more important during the first stages of development of the economies contrary to the last thirty years (period after 1970). Finally they point out that based on the data they used, there exists bidirectional impact between the indexes of financial intermediation and economic development and not some kind of one-way causal relationship.

The direction of this relationship was also studied by Demetriades and Hussein (1996) for a set of 16 countries. The results showed that even if in some countries financial intermediation’s development followed the country’s economic development (and not vice-versa), in the majority of the countries they established bidirectional causal relationship between these two. What is also important in their study is that it makes clear the advantages of time series regressions contrary to cross-country regressions, proving in this way that each economy has its own particular characteristics which we should not ignore.

Arestis, Demetriades and Luintel (2001) in their study separate financial intermediation by means of its source. Their paper examines five developed economies (Great Britain, France, Germany, USA and Japan) and makes a distinction between the effect of banking sector and that of stock market’s on economic development. The results showed that the effect of banking sector was much greater. For this reason, in the economies where financial system is mainly based on stock market (Great Britain, USA) the relationship between financial intermediation and economic development was weaker than in bank-based economies (France, Germany, Japan).
On contrary, Van Nieuwerburgh, Buelens and Cuyvers (2005) examining the relationship between financial and real sector for the case of Belgian economy during the period 1830-2000, find out that stock market’s development boosted to a great extent the development of the Belgian economy. Although they point out that the banking sector was the one who caused stock market’s development (and as a consequence economic development of the country), they remark that the indexes of stock market development used in their study had greater forecasting power on the economy’s progress than the banking development indexes.

Although the results from this study seem to contrast with the results of Arestis, Demetriades and Luintel, the fact that each economy has its own special and unique characteristics may provide a solution to the problem.

Finally it must be mentioned that Van Nieuwerburgh, Buelens and Cuyvers find out that the effect of the financial sector on the economic development of Belgium was stronger the period after 1873 (more precisely between 1873-1935) when the economy was in its first stages of development.

Hondroyianis, Lolos and Papapetrou (2004) in a survey they did for the Bank of Greece using data from the Greek economy and time series analysis and covering the period 1986-1999, uncover the existence of strong relationship between economic development and financial intermediation, either this comes from the banking sector or the stock market. However, they point out that the effect of banking and stock market’s sector on Greek economy was relatively small and that the effect of banking sector on economy was clearly greater than that of stock market, which is explained (based on the writers’ opinion) by the close relationship that banks and industry have in Greece.
Finally, Dritsakis and Adamopoulos (2004) examine, in their study, the causal relationship among the degree of openness of the economy, financial development and economic growth using a multivariate autoregressive VAR model for Greece. The results suggest that there is a causal relationship between financial development and economic growth as well as between the degree of openness of the economy and economic growth.

In our empirical work we used quarterly data covering the period from 1995:I to 2005:IV for all variables. The rest of the paper is organised as follows: the second part of the study reports some theoretical and empirical approaches. In the third part we present the data and the multivariate VAR model that we are going to use. Fourth part contains Dickey-Fuller tests and examines the stationarity of the data used. The analysis of cointegration among the variables used is employed in the fifth part. In the sixth part we make available the estimations of the error correction model, while in the seventh part we perform Granger causality tests. Finally, in the eighth part we present the conclusions of our study.

3. Data and specification of the model

In order to test the causal relationship between financial intermediation and economic development we use the following multivariate VAR model:

\[ U = (GDP, CR, MC, TR) \]  \hspace{1cm} (1)

where:

GDP is the gross domestic product of Great Britain in billions Euro.
CR is the index of credit that is granted by monetary financial institutions of Great Britain to total residents as a percentage of the country’s yearly GDP. This index is a trustworthy measure for the development of the banking sector and also for its contribution to the financial intermediation. The rationale of using this index against others, like the broad money (M2), is that the innovation in the technological sector and the business plans which both affect economic development mainly stem from the private sector, the financing of which this index measures.

MC is the ratio of total stock market capitalisation of Great Britain to the country’s yearly GDP. The term total stock market capitalisation refers to the total market value of the shares that are negotiated in the stock market. This index measures the size of the stock market and consequently simulates, in a manner, its development.

TR is another index of stock market’s sector which refers to the stock market’s turnover. This index, which is also known as turnover ratio, is the ratio of total stock market turnover to its total capitalisation.

The data that have been used in this analysis are quarterly, covering the period from 1995:Ι to 2005:IV and come from the database of Eurostat.

All time series data are expressed in logarithms in order to capture multiplicative time series effect and also to achieve stationarity in their variance. These time series data are symbolised with the letter $L$ preceding each variable name.

If these variables share a common stochastic trend and their first differences are stationary, then they can be cointegrated. Economic theory scarcely provides some guidance as to which variables appear to have a stochastic trend and when these trends are common among the examined variables. For the analysis of the multivariate time series that include stochastic trends, the Augmented Dickey-Fuller (ADF) (1979) unit root tests are used for the estimation of individual time series, with intention to
provide evidence about when the variables are integrated. The unit root test is followed by the multivariate cointegration analysis.

4. **Unit root test**

The cointegration test among the variables that are used in the above model requires previously the test for the existence of unit root for each variable and especially for financial intermediation and economic development, using the Augmented Dickey – Fuller (ADF) (1979) test on the following regression:

\[
\Delta X_t = \delta_0 + \delta_1 t + \delta_2 X_{t-1} + \sum_{i=1}^{k} \alpha_i \Delta X_{t-i} + u_t \tag{2}
\]

The ADF regression tests for the existence of unit root of \(X_t\), namely in the logarithm of all model variables at time \(t\). The variable \(\Delta X_{t-i}\) expresses the first differences with \(k\) lags and final \(u_t\) is the variable that adjusts the errors of autocorrelation. The coefficients \(\delta_0, \delta_1, \delta_2,\) and \(\alpha_i\) are being estimated. The null and the alternative hypothesis for the existence of unit root in variable \(X_t\) is

\[H_0 : \delta_2 = 0 \quad H_a : \delta_2 < 0\]

The results of these tests appear in Table 1. The minimum values of the Akaike (AIC) (1973) and Schwartz (SC) (1978) statistics have provided the better structure of the ADF equations as well as the relative numbers of time lags, under the indication “Lag”. As far as the autocorrelation disturbance term test is concerned, the
Lagrange Multiplier LM(1) test has been used. The EVIEW 5.1 econometric package that was used for the estimation of ADF test, provides us with the simulated critical values.

Table 1 – DF/ADF unit root tests

<table>
<thead>
<tr>
<th>Variables (X_t)</th>
<th>In levels</th>
<th>1^st differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lag</td>
<td>Test Statistic (DF/ADF)*</td>
</tr>
<tr>
<td>LGDP</td>
<td>1</td>
<td>-1.2619</td>
</tr>
<tr>
<td>LCR</td>
<td>1</td>
<td>-0.3150</td>
</tr>
<tr>
<td>LMC</td>
<td>0</td>
<td>-1.8539</td>
</tr>
<tr>
<td>LTR</td>
<td>1</td>
<td>-1.6952</td>
</tr>
</tbody>
</table>

*Critical value: - 2.6211 (1%), -1.9488 (5%), -1.6119 (10%).
**The numbers in brackets show the levels of significance.

The results of Table 1 suggest that the null hypothesis of a unit root in the time series cannot be rejected at a 5% level of significance in variable levels. Therefore, no time series appear to be stationary in variable levels. However, when the logarithms of the time series are transformed into their first differences, they become stationary and consequently the related variables can be characterized integrated order one I(1). Moreover, for all variables in their first differences, the LM (1) test shows that there is no correlation in the disturbance terms.

5. Cointegration and Johansen test

If the time series (variables) are non-stationary in their levels, they can be integrated with integration order 1, when their first differences are stationary. These variables can be cointegrated as well, if there are one or more linear combinations among the variables that are stationary. If these variables are being cointegrated, then there is a constant long-run linear relationship among them.
Since it has been determined that the variables under examination are integrated of order 1, then the cointegration test is performed. The testing hypothesis is the null of non-cointegration against the alternative that is the existence of cointegration using the Johansen (1988) maximum likelihood procedure, Johansen and Juselius (1990, 1992). An autoregressive coefficient is used for the modelling of each variable (that is regarded as endogenous) as a function of all lagged endogenous variables of the model.

Given the fact that in order to apply the Johansen technique a sufficient number of time lags is required, we have followed the relative procedure, which is based on the calculation LR (Likelihood Ratio) test statistic (Sims 1980). The results showed that the value $\rho = 1$ is the appropriate specification for the above relationship. Further on we determine the cointegration vectors of the model, under the condition that Table 2 has an order $r<n$ ($n = 4$). The procedure of calculating order $r$ is related to the estimation of the characteristic roots (eigenvalues), which are the following:

$$\hat{\lambda}_1 = 0.591799 \quad \hat{\lambda}_2 = 0.311417 \quad \hat{\lambda}_3 = 0.119339 \quad \hat{\lambda}_4 = 0.086363$$

**Table 2 – Johansen and Juselious test for multiple cointegrating vectors in (LGDP, LCR, LMC, LTR)**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>$k = 0$</th>
<th>$k \leq 1$</th>
<th>$k \leq 2$</th>
<th>$k \leq 3$</th>
<th>No. of Cointegrating Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda$-max</td>
<td>37.63179</td>
<td>15.67102</td>
<td>5.337469</td>
<td>3.793509</td>
<td>1</td>
</tr>
<tr>
<td>$\lambda$-trace</td>
<td>62.43379</td>
<td>24.80200</td>
<td>9.130978</td>
<td>3.793509</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes: The critical values for the $\lambda$– max test for $k = 0$, $k \leq 1$, $k \leq 2$ at 5% level of significance are respectively 28.14, 22.00, 15.67, 9.24. At 1% significance level they are 33.24, 26.81, 20.20, 12.97. For the $\lambda$ – trace statistics the critical values for $k = 0$, $k \leq 1$, $k \leq 2$ at 5% level of significance are respectively 53.12, 34.91, 19.96, 9.24 At 1% significance level they are 60.16, 41.07, 24.60, 12.97.

The results that appear in Table 2 suggest that the number of statistically significant normalized cointegration vectors is equal to 1 and are the following:
LGDP = 6.7178 – 0.0882LCR + 0.1041LMC + 0.9459LTR

From this cointegrated vector we can infer that in the long-run financial intermediation which derives from stock market has a positive impact on economic development in Great Britain, (both the ratio of total capitalization of stock market to GDP and also the ratio of turnover to total capitalisation of stock market). Reversely, there is a negative relationship between financial intermediation and economic development which derives from banking sector.

6. **VAR model with an error correction mechanism**

After determining that the logarithms of the model variables are cointegrated, we must estimate then a VAR model in which we shall include a mechanism of error correction model (MEC). The error-correction model, derived from the long-run cointegration relationship, has the following form:

$$
\Delta \text{LGDP}_t = \text{lagged}(\Delta \text{LGDP}_t, \Delta \text{LCR}_t, \Delta \text{LMC}_t, \Delta \text{LTR}_t) + \lambda u_{t-1} + V_t \tag{3}
$$

where $\Delta$ is reported to all variables first differences

$u_{t-1}$ are the estimated residuals from the cointegrated regression (long-run relationship) and represents the deviation from the equilibrium in time period $t$.

$-1<\lambda<0$ short-run parameter which represents the response of dependent variable in each period starts from equilibrium point.

$V_t$ is a 4X1 vector of white noise errors.
The final form of the Error-Correction Model was selected according to the approach suggested by Hendry, which is a “top-down” or “general to specific” approach (Maddala 1992). The initial order of time lag for the model is 3 years, because it is large enough to enclose the system’s short-run dynamic. We also apply a number of diagnostic tests on the residuals of the model. We apply the Lagrange test (A) for the residuals’ autocorrelation, the Heteroscedasticity test (D) and the Bera-Jarque (c) normality test. We also test the functional form of the model according to the Ramsey’s Reset test. The error correction model is shown on table 3.

### Table 3 – Error Correction Model

\[
\Delta LGDP_t = 0.3442\Delta LGDP_{t-2} - 0.1697\Delta LCR_{t-2} + 0.1419\Delta LMC_{t-1} + 0.1444\Delta LMC_{t-2} \\
(2.1551) \quad (-1.2829) \quad (2.7633) \quad (2.0983) \\
[0.0385] \quad [0.2084] \quad [0.0093] \quad [0.0436] \\
+ 0.6921\Delta LTR_{t-2} + 0.1516\Delta LTR_{t-3} - 0.1516u_{t-1} \\
(1.7355) \quad (2.2249) \quad (-1.8444) \\
[0.0920] \quad [0.0330] \quad [0.0741] \\
\]

\[R^2 = 0.1875 \quad DW = 1.5795\]


\[
(0.267) \quad (0.008) \quad (0.373) \quad (0.605) \\
\]

**Notes:**
- \(\Delta\): Denotes the first differences of the variables.
- \(R^2\): Coefficient of multiple determination.
- \(DW\): Durbin-Watson statistic.
- \(A: X^2(n)\): Lagrange multiplier test of residual serial correlation, following \(x^2\) distribution with \(n\) d.f.
- \(B: X^2(n)\): Ramsey’s Reset test for the functional form of the model, following \(x^2\) distribution with \(n\) d.f.
- \(C: X^2(n)\): Normality test based on a test of skewness and kurtosis of residuals, following \(x^2\) distribution with \(n\) d.f.
- \(D: X^2(n)\): Heteroscedasticity test, following \(x^2\) distribution with \(n\) d.f.
- ( ) = We denote the \(t\)-ratio for the corresponding estimated regression coefficient.
- [ ] = We denote probability levels.

We do not reject the estimations, which are based on the results of table 3 according to the statistical and diagnostic tests in 10% level of significance (except
for banking sector intermediation variable). The percentage of the total variation of the dependent variable that is described in our model is high enough (18%). The error-correction term is statistically significant and has a negative sign, which confirms that in 10% level of significance there is no problem in the long-run equilibrium relation between the independent and dependent variables. Additionally, its relative value 0.1516 (-1.8444) shows a satisfactory rate of convergence to the equilibrium state per period.

From the results of table 3 we can see that in the short-run, an increase of financial intermediation derived from banking sector by 1%, induces a reduction by 0.169%, whereas an increase in the ratio of total capitalization of financial market to GDP as well as the indicator which infers to the volume transactions of financial market by 1% induces an increase in the economic development by 0.14% and 0.06% respectively.

6. **Granger causality tests**

The model that was estimated in the previous section was used in order to examine the Granger (1988) causal relationships between the variables under examination. As a testing criterion the F statistic was used. With the F statistic the hypothesis of statistical significance of explanatory variables was tested. The results related with the existence of Granger causal relationships among variables appear in Table 4.
Table 4 - Granger Causality Test

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCR does not Granger Cause LGDP</td>
<td>43</td>
<td>0.68794</td>
<td>0.41179</td>
</tr>
<tr>
<td>LGDP does not Granger Cause LCR</td>
<td>1.31000</td>
<td>0.25920</td>
<td></td>
</tr>
<tr>
<td>LMC does not Granger Cause LGDP</td>
<td>43</td>
<td>1.93874</td>
<td>0.17150</td>
</tr>
<tr>
<td>LGDP does not Granger Cause LMC</td>
<td>1.25840</td>
<td>0.26864</td>
<td></td>
</tr>
<tr>
<td>LTR does not Granger Cause LGDP</td>
<td>43</td>
<td>1.42565</td>
<td>0.23951</td>
</tr>
<tr>
<td>LGDP does not Granger Cause LTR</td>
<td>23.0430</td>
<td>2.2E-05</td>
<td></td>
</tr>
<tr>
<td>LMC does not Granger Cause LCR</td>
<td>43</td>
<td>1.29595</td>
<td>0.26173</td>
</tr>
<tr>
<td>LCR does not Granger Cause LMC</td>
<td>1.78101</td>
<td>0.18957</td>
<td></td>
</tr>
<tr>
<td>LTR does not Granger Cause LCR</td>
<td>43</td>
<td>2.52849</td>
<td>0.11968</td>
</tr>
<tr>
<td>LCR does not Granger Cause LTR</td>
<td>5.79910</td>
<td>0.02074</td>
<td></td>
</tr>
<tr>
<td>LTR does not Granger Cause LMC</td>
<td>43</td>
<td>2.01486</td>
<td>0.16351</td>
</tr>
<tr>
<td>LMC does not Granger Cause LTR</td>
<td>4.37805</td>
<td>0.04280</td>
<td></td>
</tr>
</tbody>
</table>

From the results of table 4 we can infer that:

There is a unidirectional causal relationship between financial intermediation deriving from stock market’s turnover ratio and economic development with direction from economic development to the stock market’s turnover ratio.

There is a unidirectional causal relationship between financial intermediation derived from banking sector and financial intermediation measured by stock market’s turnover ratio with direction from banking sector to stock market’s turnover ratio.

Finally, there is a unidirectional causal relationship between financial intermediation in terms of the ratio of total capitalization of credit market to GDP and the financial intermediation in terms of volume transactions of credit market with direction from the ratio of total capitalization of credit market to GDP to the stock market’s turnover ratio.
7. Conclusions

In this paper an effort was made in order to examine the role of financial intermediation and economic development in one of the most developed countries of European Union, Great Britain, using quarterly data for the period 1995:I - 2005:IV. The empirical analysis showed that the used variables present a unit root. On this basis, the cointegration analysis was used suggested by Johansen in order to get a long – run relationship among the variables used. Meanwhile, the error correction model was applied in order to estimate the short and long run relationships. The chosen vectors gave error correction terms which proved to be statistically significant in 10% level of significance during their induction in the short run robust equations.

Finally, with Granger causality we can observe that there is a one –way causal relationship between financial intermediation inferring to the stock market’s turnover and economic development, as well as between the intermediation deriving from banking sector and the one deriving from stock market’s turnover. One –way causal relationship is also obvious between intermediation in terms of total capitalization of stock market to GDP and that in terms of volume transactions of stock market.

Generally speaking, we can see that on the British economy there is a relationship between financial – credit market and economic development just as it is described by theoretical models. A potential increase in the value or size in one of the indicators of financial intermediation has as a consequence an increase in the level of economic development. Even if the aforementioned relationship in the examined period is weaker than the one described from various scholars for the same period, the positive influence of financial intermediation to economic development of the country cannot be omitted.
The fact that financial intermediation in terms of stock market contributes quite enough in economic development and not the credit one, seems to go along with reality. The economy that was examined is based more on stock market sector rather than on credit sector. Various enterprises prefer mostly the stock market sector in order to pump the necessary capital stocks. As a consequence, the contribution of banking sector through economic development seems to be rather limited.

References


