



The Role of Banking Activities in Regional Development in The Region Tr33

Dr. Pinar PEHLİVAN

Assistant Professor Celal Bayar University, Manisa / TURKEY

ABSTRACT

Many countries around the world encountered variations in interregional development as a consequence of globalization phenomenon issues gaining importance following 1980s. Variations in interregional development brought about significant social, economic and environmental consequences in the country. A number of strategies and policies have been built by various international establishments within the scope of economic development approach.

One of the foremost issues of modern-day economic life is to provide and sustain a successful local development. The aim of regional development is to enable local societies to progress in economic, social, cultural and physical fields in accordance with development principles by prompting possessed local dynamics. Without doubt, one of the supreme actors for prompting the regional potential is the financial system and the banking sector as the primary element of this system. Banks, while fulfilling their duties as an intermediary in the economy, accumulate savings and funds and transfer them to sectors with funding gap and offer an opportunity for these funds to be utilized in productive fields. In this way, they also contribute to local sources to be used for development in regard to requirements of the economy.

The aim of this study is to reveal the banking sector activities' share in the local development of the region named TR33 including Manisa, Afyonkarahisar, Kütahya and Uşak cities and the canonical relation between banking activities and development of the region via canonical correlation analysis.

KEYWORDS

Banking Sector, TR33 Region, Local Development, Canonical Correlation Analysis

INTRODUCTION

In the swiftly reforming and changing world, rather than the concept of growth in underdeveloped or developing countries, the concept of development become more of an issue. While growth is defined as an increase in real terms in the output and national income of an economy within a specific period of time, development is defined as a cultural and political structural alteration alongside being a more far-reaching increase in real terms in the output and national income of an economy.

In our day when economic and commercial activities intensify, national borders in economic life disappear and liberalism become popular, local development models are preferred instead of traditional ones and development politics and strategies from local scale to nation-wide has been embraced. Instead of merely utilizing public sources for development, the idea of regions utilizing their own resources as well has come into prominence and thus, the regional development approach based on the utilization of local sources and potentials has gained importance.

As known, at the base of development lies an increase in investments and capital accumulation. Businesses must make investments in order to have capital accumulation. Businesses will have opportunities for more production via capital accumulation. However, due to the shortage of capital accumulation in developing and underdeveloped countries, at this point, businesses are to benefit from banks as the most important actors of the financial sector. All individuals benefit from the services provided by businesses and even state banks.

In an economy, banks provide loan facilities to sectors with fund requirements by accumulating exceeding funds from savers. As distinct from other sectors, banking sector functions as a financial intermediary settling the resource allocation. By this way, inactive funds in the economy are transferred to the market and businesses get opportunities to invest and continue manufacturing. Via this intermediary function, banks have influence on a rise in production and income. As a result, the most crucial actor in an economy contributing to the growth and development of a country's economy is the banking sec-

tor.

In this study, how and in what direction the banking sector activities in the region TR33 containing Manisa, Afyonkarahisar, Kütahya and Uşak cities affected local development between years 2004-2011 and the role of the sector in the local development of region TR33 are revealed. In the study, canonical correlation analysis explaining the relation among multiple dependent and independent variables has been utilized.

In this regard, in the first chapter of this study, the concept of development and local development, in the second chapter, a theoretical relation between the banking sector and the economic development, in the third chapter, the literature about the subject and then methods, data and findings will be revealed and in the last chapter, the results of this study will be examined.

1.DEVELOPMENT AND LOCAL DEVELOPMENT

In the literature of economy, great emphasis laid on the concepts of "growth" and "development". Generally, it is thought that these two concepts mean the same. However, the concept of growth and development have different meanings both in theory and practice. (Savaş, 1979)

Growth is quantitative elements such as production, investment, income, foreign trade, employment, capital in an economy having a rise. Growth models handle economic growth in this way from a quantitative aspect (İlkin, 1979). In the strict sense, growth is generally defined as an increase in annual national income without any alteration in the existing economic structure (Dülgeroğlu, 2000: 2-3).

On the other hand, development means to change the economic and socio-cultural structure along with an increase in production and income (Savaş, 1979). Development is a dynamic concept suggesting an alteration starting from the current situation (Oakley and Garforth, 1985). Socio-cultural structure changes come into question for increasing the per capita income, providing enough capital accumulation for this and rising the nation's living standards and wealth level. Therefore, development expresses a structural change in a country leading to economic, technological, cultural, so-

cial and political developments as well as an increase in the country's income (Berber, 2006: 9). As understood from these definitions, development is a concept for rather underdeveloped economies.

The concept of "local development" is defined in a very different way. Local development means a contributinal development progress with important targets like supporting the economic activities for supporting the partnership and cooperation activities between public and private sector via the usage of rivalry advantage local sources and also means the creation of an appropriate business environment providing an opportunity for a mutual creation and application of a general development strategy. Local economic development prompts actors, organizations and sources by providing an opportunity to act together with the local society and builds new organizations and local systems via dialogs and strategic activities. In this way, it helps local governments, private sector, third sectors and local society improve and enhance together (Theodoros and Dimitris, 2003: 4).

Local development concept in a traditional meaning puts the reduction in the development variations among regions to the minimum and the development of underdeveloped regions at forefront. On the other hand, according to the new local development approach, it is aimed to make especially the development level of EU and candidate countries converge, to eliminate the development variations between urban and rural areas throughout the regions to improve global compatativeness of regions, to utilize the regional potentials by prompting local dynamics and to develop the country all out. (Akin, 2006: 295).

Local development includes not only the attempts for development of the underdeveloped regions but also all regions' sustainable development attempts based on global rivalry and particularly private sector and local governments together with regional actors getting involved with the process and the implementation of the regional policies (Karakılıç and Sarıgül, 2010: 389-390).

In the 10th Development Plan covering the years between 2014 and 2018 published by the Ministry of Development, it is stated that speeding up the project by prompting regional dynamics and human abilities is aimed (The Tenth Development Plan, 2013:1). As it is seen, local development moduls in Turkey as well are priorities.

2.THE CORRELATION BETWEEN BANKING SECTOR AND ECONOMIC DEVELOPMENT

All businesses in an economy, regardless of their sector, can obtain funds they needs merely from financial organizations especially from banks. Therefore, this function financial organizations and banks have taken on may effect and guide all sectors of the economy (Kaya, 2010: 79).

Banks in financial sector fulfill an important duty for the growth and development of economies of countries. Additionally, there is a common point of view in literature that financial sector plays an effective role on economic growth and development. According to a view, while granting loans, banks make effective decisions on selecting the businesses that will utilize the social savings and so, make contribution to growth and development with optimal actions in the utilization of the social savings. This view considers the increase in banks' productivity and its positive effect on technologic reforms as priority and reveals its role in economic development and growth (Tandoğan and Özyurt, 2013: 53).

In addition to this view, an extensive development economics literature states that the key element of development and growth is capital accumulation. In this view, it is stated that banks bring about growth and development by increasing domestic savings and encouraging foreign capital (Beck et al, 2000:1). The lack of capital accumulation particularly in underdeveloped and developed countries and the weakness in

institutional structure are the most leading handicap. In these countries, economy encouraging sectors and savings are needed to be converted into capital accumulation via loans (Tsuru, 2000:5).

At this point, while banks are acting as financial agents, they provide effective usage of funds in the economy by supplying loans to businesses capable of converting the accumulated savings from society into capital accumulation, prevent funds in the economy to be left passive, contribute to the increase in production and income and speed up economic growth and development.

3.LITERATURE

There are not many study of the correlation between banking sector and development in literature. In fact, there is no study on a local scale in this sense. In spite of this, it is seen that there are a number of studies analyzing the correlation between the economic growth and financial markets together with banking activities.

Kaya laying emphasis on banks' role through the sustainable development process, has pointed out that the financial sector's awareness on this increases and they take more responsibility (Kaya, 2010: 75-89). Tandoğan and Özyurt, having researched into the banking sector's effect on economic growth and development between the years of 1981 and 2009 via causality analysis, have revealed the existence of an irreversible causative correlation from banking sector towards economic growth (Tandoğan and Özyurt, 2013: 49-80).

Iradian (2003) investigated the correlation between financial intermediation and sustainable economic development for fifty countries between the years of 1975 and 2001 and ascertained the importance of financial intermediation for sustainable economic development. Anwar et al. (2011) has detected a substantive correlation between banking sector's improvement and sustainable development between the years of 1973 and 2007 in the long term. Hanley et al (1999) investigated manifestations of sustainable development in Scotland for the period between 1980 and 1993, Collados and Duane (1999) studied a modul for regional sustainable development and Alam et al (2007) examined the correlation between environmental factors and development in Pakistan for the period between 1971-2005. Noury (2008) tried to find out where France stands in terms of factors representing sustainable development for the period between 1960-2002.

There are number of studies in literature regarding the correlation between the financial sector-banking sector and economic growth: Kar and Pentecost (2000) analyzed causal relation between financial development and economic growth for Turkey. In their study, Erim and Türk emphasized financial development being the dynamic of economic growth (Erim and Türk, 2005: 21-45). In another study analyzing the correlation between financial markets and economic growth for the period between 1995-2005 by VAR analyzing method, a casual relation between financial markets and growth has been appointed (Demir et al. 2007: 438-455).

In a study analyzing the effect of credits on growth for the period between 1998 and 2008 by casual test, a oneway correlation from economic growth to credits has been revealed. (Ceylan and Durkaya, 2010:21-35) In a study examining the correlation between financial liberalization and growth for the period between 1987 and 2010 by casual test, the existence of a casual relation between the two factor has been discovered (Berkman, 2011: 259-282).

Vurur and Ozen analyzed the correlation among savings, bank loans and economic growth in Turkey for the years between 1998 and 2012 by casual test and has concluded that savings effect economic growth which effects bank loans (Vurur and Özen, 2012: 433-442). In another study investigating the effect of financial development on income level for 19 countries by panel data analysis, it has been confirmed that financial

development level effects economic growth in a different way (Ağayev, 2013: 125-136).

In a study examining the correlation between real sector and financial sector for the period between 1998 and 2009, by the results of casual tests, it has been comprehended that financial markets effect economic growth and real sector (Kaya et al, 2013:2-15). In another study analyzing the correlation between development and economic growth for the period between 1992-2010, a linear and substantive correlation has been determined (Merican and Peker, 2013:93-120). In a different study investigation a similar subject, it has been confirmed that financial development caused economic development between the years of 1988 and 2009 (Güneş, 2013: 73-85).

It has been determined in a panel data analysis carried out for the period between 1992-2007 in 10 developing countries that bank loans support economic growth (Öztürk et al, 2010:95-119). In another study researching the factors behind economic growth in EU countries and Turkey, it has been comprehended that private sector loans effect economic growth (Pala and Teker, 2014:151-162). In a different study examining the correlation between loans and real sector production for the period between 2002-2010, the effect of bank loans on real sector production has been revealed via casula test (Tari et al, 2012:1248-1274).

Tuna and Bektaş analyzing the correlation between loans and growth has not found a casual correlation between loans and economic growth for the period between 1998-2012 as a result of casual test (Tuna and Bektaş, 2013: 139-150). Güven (2002) has not achieved a casual correlation between loans and growth for the period between 1988-2001.

4.METHOD

With intention to help his study make difference from others, a multivariate analysis, canonical correlation method has been applied in order to reveal the structure of the correlation between the banking sector indicators in TR33 region consisting the cities of Manisa, Afyonkarahisar, Kütahya and Uşak and development indicators.

4.1.Canonical Correlation Analysis

Generally, cause and effect relation is analyzed in statistical models in applied science disciplines. Analysts usually prefer univariate methods due to their uncomplicated utilizations and interpretations. However, sometimes, a result in a study can be effected by multiple factors and these factors can have correlations between each other. In such a case, the correlation among the factors must be included in the analysis. At this very point, when the correlation between two or more factor sets are required to be revealed, multivariate analysis methods come to the forefront in terms of this analysis being sound and trustworthy. Multivariate variance analysis, T2 test of Hotelling, cluster analysis, principle component analysis, discriminant analysis, factor analysis and canonical correlation analysis can be given as examples to the most commonly used multivariate statistical methods. When there is multiple correlated factors, the best way to analyse them would be analysing them without damaging the structure of the correlation and revealing the structure of the correlation. One of the multivariate analysing methods, Canonical Correlation Analysis (CCA) by Hotelling in order to determine the correlation between two sets of factors has been improved to apply to such cases.

As distinct from multiple regression analysis consisting of a single dependent variable and multiple independent variables, the results regarding the direction and the structure of the variable sets can be achieved via canonical correlation analysis investigating two variable sets together consisting of multiple dependent variables and multiple independent variables. The very first studies about CCA were conducted by Hotelling back in 1936 (Hotelling, 1936: 139-142) and the test of significance controls were improved by Bartlett in 1941 (Bartlett, 1941: 29-37). In the studies, how to conduct the sig-

nificance test of the correlation between canonical variables via x-square critical value with pxq degree of freedom is explained.

Among multivariate statistical analysing methods, linear canonical correlation analysis is an analysis method with multivariate variables examining the correlations in the presence of multiple dependent variables and multiple independent variables. In the analysis, for both variable sets, new variables are achieved from the linear combinations of those variables from the sets and the correlation between these new variables are expected to be maximum. The new variables are named as "canonical variables" while the correlation between them are named as "canonical correlations" (Lai and Fyfee, 2000: 43-44).

The purpose of this analysis is to achieve a linear component with correlation and unity variance of chance variables of each sets. The aim of this study is to determine of whether two variable sets are independent or not or to determine of the possible magnitude of the correlation between two sets, to correlate linear combinations of every set in maximum and to form the weights for each dependent and independent variable set, to explain the form of the nature of the existing correlation between dependent and independent variables. This is carried out generally by evaluating the relative contribution of each variable to the canonical functions (Hair et al, 1998).

In CCA, two separate canonical variables representing two variable sets are formed and the correlation between these variables are evaluated as per canonical correlation value. Canonical correlation squared called eigenvalue reflects the proportion of variance in chance variable. Raw and standard coefficients obtained from CCA are processed like beta coefficient in regression analysis and form a linear function for canonical variables (Garson, 2009).

With the purpose of achieving canonical variables and canonical correlations, positive definite \sum variance-covariance matrix derived from X chance variable set with a variable $p+q$ ($p \leq q$) is utilized. To that purpose, vector \sum is divided into two sub-set with $px1$ and $qx1$ dimension, \sum covariance matrix is divided into the following sub-matrices.

$$X = \begin{bmatrix} X_1 \\ X_2 \end{bmatrix}; \Sigma = \begin{bmatrix} \Sigma_{11} & \Sigma_{12} \\ \Sigma_{21} & \Sigma_{22} \end{bmatrix} \quad (1)$$

Here, while Σ_{11} is a variance-covariance matrix of X_1 with pxp dimension and Σ_{22} is a variance-covariance matrix of X_2 with qxq dimension, the covariance matrices Σ_{12} , Σ_{21} of X_1 and X_2 sets are with dimensions pxq , qxp respectively.

U and V , linear variables of X_1 ve X_2 sub-chance variable vectors are described as

$$U = \alpha' X_1 \quad \text{and} \quad V = \gamma' X_2 \quad (2)$$

and called as canonical variables. Here, the correlation between the variables $U(U_1, U_2, \dots, U_p)$ and $V(V_1, V_2, \dots, V_q)$ is aimed to be maximum. The vectors α and γ called canonical vectors are selected specially for U and V variables to have unity variances (Tatlıdil, 2002).

In CCA, it is aimed to achieve chance variables of each set with maksimum correlation and their linear components with variance of one each. Additionally, it is aimed to determine whether two variable sets are dependent or not or to determine of the possible magnitude of the correlation between two sets, to correlate linear combinations of every set in maksimum and to form the weights for each dependent and independent variable set, to explain the form of the nature of the existing correlation between dependent and independent variables. This is carried out generally by evaluating the relative contribution of each variable to the canonical functions (correlations) (Hair et al, 1998).

5.DATAS AND INDICATORS (RATES USED)

In the study, the canonical correlation between the banking activities in the region TR33 for the period between 2004 and 2011 is analysed via canonical correlation method. For this purpose, both indicators from banking sector and development are used. The annual total datas of deposit banks with public, private or foreign capital in Turkey and development and investment banks have been compiled from the website of The Banks Association of Turkey on the basis of the Turkey and the region TR33 consisting of Manisa, Afyonkarahisar, Kütahya and Uşak. Participation banks are not included in the analysis. The indicators showing the development of the region TR33 have been compiled from the wesite of Turkish Statistical Institute. All datas used in the analysis are use on rate basis in order to provide linearity.

Since it being the first study to evaluate local development, some difficulties have been experienced during local datas. It paritcularly draws the attention that since 2001, Turkish Statistical Institution has not evalutaed the most important one of the growth indicators, Gross Domestic Product (GDP) on city basis. Therefore, instead of the related variable, Gross Value Added (GVA) with current prices has been used. This data has been published only until 2011 within the scope of "Nomeclature of Units for Territorial Statistics" within Level 1 and Level 2 regions. Since GVA datas have not been published since the year of 2012, the study has been restricted on the basis of datas available between the years of 2004 and 2011.

The rates used as banking sector and development indicators in this study are listed below:

Banking Sector Indicators:

- 1-The ratio of the number of banks in the region TR33 to total number of banks ($X_1 \Rightarrow$ Bank Intensity)
- 2-The ratio of the number of bank branches in the region TR33 to total number of bank branches ($X_2 \Rightarrow$ Branch Intensity)
- 3-The ratio of the deposits in the region TR33 to total deposits ($X_3 \Rightarrow$ Deposit Intensity)
- 4-The ratio of the loans in the region TR33 to total loans ($X_4 \Rightarrow$ Credit Intensity)

Local Development Indicators:

- 1-The ratio of Gross Value Added (GVA) with current prices in the region TR33 to total Gross Value Added (GVA) with current prices ($Y_1 \Rightarrow$ GVA Rate)
- 2-The employment rate in the region TR33 ($Y_2 \Rightarrow$ Employment Rate)
- 3-The ratio of export in the region TR33 to total export ($Y_3 \Rightarrow$ Export Rate)
- 4-The ratio of import in the region TR33 to total import ($Y_4 \Rightarrow$ Import Rate)

6.FINDINGS AND DISCUSSION

Our country has progressed so much in both economic and social area with the effect of convenient global atmosphere in addition to the macroeconomic stability as a result of economic policies and especially structural reforms in banking sector following the crisis in 2000 and 2001. The biggest role in this success is with no doubt of banking sector.

With the purpose of evaluating the effect of banking sector in this field, total annual datas of deposit banks, devolment and investment banks in our country and various indicators stating the level of development in the region TR33 have been settled in this study. All previous studies analysing the correlation between banking sector and development or economic growth have been carried out nation-wide which means that there is

no study on a local scale. In the study, for the period between 2004 and 2011, datas from The Banks Association of Turkey and Turkish Statistical Institute have been compiled by ourselves. It must be expressed at once that the biggest handicap within the study is GVA datas not having been evaluated since the year of 2011.

In the study, linear correlations between four dependent variables (outputs) and four independent variables (inputs) have been revealed together with canonical correlations and canonnic functions.

In the study, first of all, descriptive statistics of dependent and independent variables are included. Minimum and maximum values, mean and standard deviation of variables between the years of 2004 and 2011 are shown in Table1.

Table 1.Descriptive Statistics of Variables

| Variables | Minimum | Maximum | Mean | Standard Deviation |
|-----------------------------|---------|---------|--------|--------------------|
| GVA Rate (Y_1) | 3,48 | 3,66 | 3,585 | 0,059 |
| Employment Rate (Y_2) | 40,3 | 50,2 | 43,237 | 3,229 |
| Export Rate (Y_3) | 1,13 | 3,53 | 1,770 | 1,053 |
| Import Rate (Y_4) | 0,49 | 1,78 | 0,824 | 0,563 |
| Bank Intensity (X_1) | 29,17 | 33,33 | 31,637 | 1,723 |
| Branch Intensity (X_2) | 3,05 | 3,34 | 3,173 | 0,092 |
| Deposit Intensity (X_3) | 1,5 | 1,7 | 1,554 | 0,062 |
| Credit Intensity (X_4) | 1,32 | 1,64 | 1,503 | 0,097 |

Pearson correlation results regarding the mutual correlation between dependent and independent variables are shown in Table 2. The outstanding point in here that for the reigon TR33, there is a cyclical high correlation between GVA rate variable (Y_1) and bank intensity (X_1) at the rate of 0,824 and credit intensity (X_4) at the rate of 0,68. This situation as the number of banks and loans in the region TR33 increases, GVA will rise too. The scatter plot of this correlation is shown in the Graph 1 and 2 in the Appendix 1. When the correlation between the employment rate (Y_2) and credit intensity (X_4) is evaluated, it can be said that as the loans in the reigon TR33 increase, the employment rate as well will rise. The scatter plots are presented in the Graph 3 in Appendix 1. Additionally, the existence of a correlation between credit intensity (X_4) and export rate (Y_3) together with import rate (Y_4), 0,652 and 0,655 respectively reveals that loans given in the region TR33 will increase the export and import in the region. Scatter plots are presented in the Graph 4 and 5 in the Appendix 1.

Table 2.Pearson Correlation Coefficients of Dependent and Independent Variables

| Variables | GVA Rate (Y_1) | Em-ploy-ment Rate (Y_2) | Export Rate (Y_3) | Import Rate (Y_4) | Bank Intensity (X_1) | Branch Intensity (X_2) | De-posit Intensity (X_3) | Credit Intensity (X_4) |
|------------------------------|--------------------|-----------------------------|-----------------------|-----------------------|--------------------------|----------------------------|------------------------------|----------------------------|
| GVA Rate (Y_1) | 1,000 | -0,120 | 0,360 | 0,395 | 0,824 | -0,632 | -0,781 | 0,680 |
| Em-employment Rate (Y_2) | -0,120 | 1,000 | 0,802 | 0,757 | -0,298 | -0,332 | 0,105 | 0,369 |
| Export Rate (Y_3) | 0,360 | 0,802 | 1,000 | 0,997 | 0,196 | -0,511 | -0,312 | 0,652 |
| Import Rate (Y_4) | 0,395 | 0,757 | 0,997 | 1,000 | 0,246 | -0,510 | -0,341 | 0,655 |

| | | | | | | | | |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Bank Intensity (X ₁) | 0,824 | -0,298 | 0,196 | 0,246 | 1,000 | -0,615 | -0,652 | 0,656 |
| Branch Intensity (X ₂) | -0,632 | -0,332 | -0,511 | -0,510 | -0,615 | 1,000 | 0,745 | -0,908 |
| Deposit Intensity (X ₃) | -0,781 | 0,105 | -0,312 | -0,341 | -0,652 | 0,745 | 1,000 | 0,749 |
| Credit Intensity (X ₄) | 0,680 | 0,369 | 0,652 | 0,655 | 0,656 | -0,908 | 0,749 | 1,000 |

For the purpose of the canonical correlation coefficient between two variable sets and the evaluation of canonical variables, Table 3 can be used. CCA calculates as many canonical correlations as the number of the variables in the smallest set in the original two sets representing dependent and independent variables. Due to four original variables in the dependent variable set, three separate canonical correlations are calculated.

Table 3. Canonical Correlations and Importance Controls

| Canonical Variables | Canonical Correlations | R-Squared | Wilk's Lambda | F-Value | Num DF | Prob. Level |
|---------------------|------------------------|-----------|---------------|---------|--------|-------------|
| 1 | 1,000 | 1,000 | 0,000 | 0,00 | 16 | 1,00 |
| 2 | 0,982 | 0,965 | 0,013 | 1,40 | 9 | 0,45 |
| 3 | 0,775 | 0,601 | 0,386 | 0,61 | 4 | 0,68 |

The first canonical correlation quantity between two variable sets has been calculated as 100 percent, the second canonical correlation has been calculated 98 percent, third canonical correlation has been calculated 78 percent. The explaining ratio of independent variables to dependent variables, the first eigenvalue (R-Squared) is calculated as 1,00, the second eigenvalue has been calculated as 0,965 and the third eigenvalue has been calculated as 0,601. Despite the high correlation between two variable sets, the hypothesis about canonical correlations being meaningless has been statistically accepted due to the high value of p variables. Therefore, these canonical correlations has not been found statistically significant (p>0,05). The quantity of canonical correlation between dependent and independent variables coming out so high depends on Pearson correlation quantities being individually high. Therefore, it can be said that this artificial correlation results from high correlations between each other for dependent variables and high correlations between each other for independent variables.

CONCLUSION

The biggest obstacle for development and growth in a country is the shortage of capital. At this point, banking sector contributes to a solution to this problem through the functions it undertakes in the economy. The loans and other services banks provide are seriously important for growth and development. The studies generally reveals that banking sector activities helps growth and development. However, on the other hand, there are studies showing that economic growth and development also effects banking sector.

In the study, this correlation is analysed on local basis for the first time and the way banking sector effecting the development in the reigon TR33 has been examined. Additionally, canonical correlation analysis observing the correlation between dependent and independent variables which has not been used in the studies in this field has been applied.

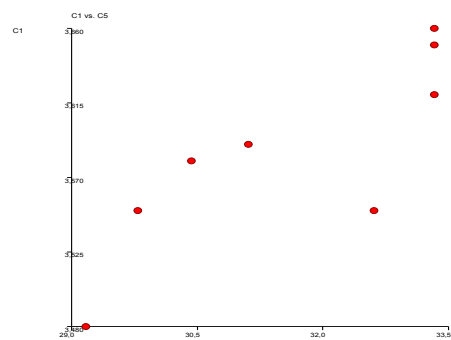
Some development and banking sector indicators regarding the region TR33 for the period of years between 2004 and 2011 have been selected and the linear Pearson and canonical correlations between these variables have been analysed.

According to the findings of the analysis applied, it is seen that the correlation between the credit intensity in the reigon TR33 and GVA rate is high. So, it has been understood that as the quantity of loans in the region increased, GVA will also increase. Again, it has been found out that the correlation between the banking intensity in the reigon TR33 and GVA is high. This reveals that as the number of the banks in the region increases, GVA of the region will also rise. Additionally, in the study, it is seen that as the credits in the region TR33 rises, the employment rate will also increase. Another outstanding result is that the increase in the bank loans in the reigon TR33 will help the export and import rate rise.

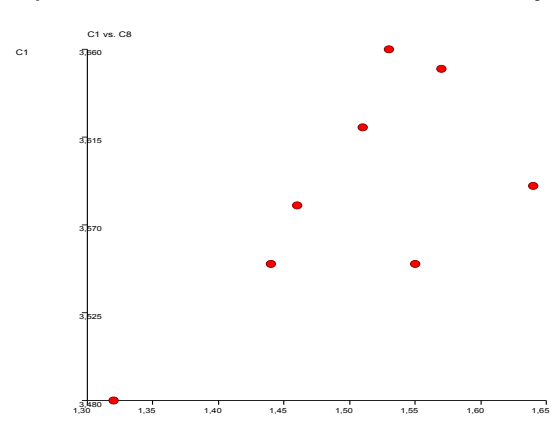
Another significant finding of the study is the canonical correlation between dependent and independent variables being high but not statistically meaningful. In this case, it can not be said that there is a canonical correlation between independent variables as the indicators of banking sector and dependent variables as the indicators of local development. However, there is a high and meaningful individual correlations between these variables. From this point of view, due to the correlations of the variables of these groups being not statistically meaningful, it can be said that banking activities are not sufficient factors on their own for the development of the region TR33. Therefore, for the purpose of settling the factors effecting the development on local basis, in future studies, it is thought that other factors in addition to the banking activities should also be taken into consideration.

APPENDIX 1. SCATTER PLOTS

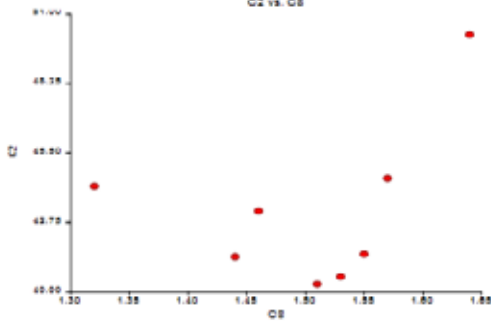
Graph 1. Scatter Plots of GVA Rate and Bank Intensity



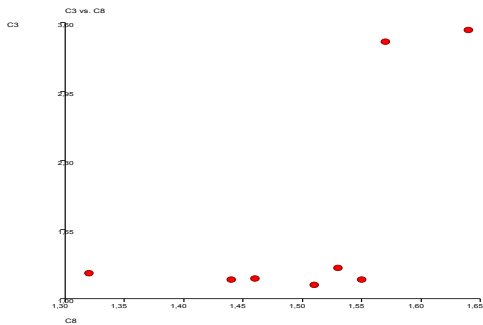
Graph 2. Scatter Plots of GVA Rate and Credit Intensity



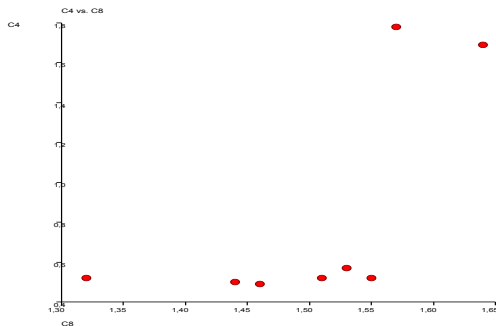
Graph 3. Scatter Plots of Employment Rate and Credit Intensity



Graph 4. Scatter Plots of Export Rate and Credit Intensity



Graph 5. Scatter Plots of Import Rate and Credit Intensity



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