#### Varazdin Development and Entrepreneurship Agency

in cooperation with

### Azerbaijan State University of Economics (UNEC) University North

Faculty of Management University of Warsaw
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat



# **Economic and Social Development**

37<sup>th</sup> International Scientific Conference on Economic and Social Development –
"Socio Economic Problems of Sustainable Development"

### **Book of Proceedings**

### Editors:

Muslim Ibrahimov, Ana Aleksic, Darko Dukic











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## EXAMINING THE ROLE OF CREDIT VOLUME ON ECONOMIC GROWTH: THE CASE OF AZERBAIJAN

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#### **ABSTRACT**

Economic growth in the economy, can be measured by an increase in the amount of production and in national income for goods and services over time. Economic development can be defined as a process of structural change in economic, social, cultural and political areas as well as increase in the production and income in a country. However, it is clearthat, the approaches which increase the quality of life of goods and services only enhance the quality of life. For this reason, examining the economic growth from environmental, social and economic point of view is vital in order to ensure the sustainability of development but this also requires the development of the concept of social and cultural aspects. In this study, the relationship between the domestic credit volume and the gross domestic product in the public and deposit banks were analyzed by using the quarterly data covering the periods of 2006-2017 for Azerbaijan. The reason for selection of 2006-2017 period is to release process of the New Azerbaijani Manat in the Republic of Azerbaijan in 2006. As a result of the analysis, it was concluded that each of them was first-order stationary series and there was no long-run relationship between them. Eventually, the result of Granger causality test which is applied for credit volume and economic growth, has a bidirectional causality relationship between two series.

Keywords: Structural Break, Financial Development, Economic Growth, Causality

#### 1. INTRODUCTION

Economists have different views on the importance of the financial system for economic growth. The first view related to given topic is the supply predecessor which argues that financial development has a positive effect on economic growth. Joseph Schumpeter alleges that the well-functioning banking system encourages technological innovation by financing entrepreneurs who can successfully implement innovative product and production processes, and provides economic growth (Levine, 1997: cited in: Tuna and Bektash, 2013: 140). The existence and direction of the relationship between financial development and economic growth has been gained importance by economists. Financial development is expressed as the expansion of financial services and the growth of financial institutions (Ahmed and Ansari, 1998). Financial development enables the transfer of savings to investment by providing the transfer of funds to the productive units in need of the surplus in the financial system and economic growth. In addition, economic growth provides financial development by increasing demand for financial services (Robinson, 1952). In the literature, the studies on this subject are based on Joseph Schumpeter and there are different opinions about the direction of the mentioned relationship. These views were led by Schumpeter, Robinson and Lucas. While Joseph Schumpeter (1912) stated that the direction of the relationship was from financial development to economic growth, Joan Robinson (1952) suggested that it was from economic

growth to financial development (Levine, 1997). Lucas (1988) stated that there is no causal relationship between financial development and economic growth. According to another opinion there is a two-way causality relationship between the two variables (Tuna and Bektaş, 2013. p.140). In this article, the relationship between credit volume and economic growth in the Republic of Azerbaijan will be analyzed by applying tests that take into account the impact on the data sets that examine structural breaks. In the scope of the study, studies on similar topics will be discussed. In the research part, the research method, the data sets which have been used and the findings will be included. In the conclusion part, the findings of the analysis will be interpreted.

#### 2. LITERATURE REVIEW

Tuna and Bektas (2013) study, for the period 1998-2012 with Turkey by using quarterly data bank deposits of domestic credit volume was analyzed the relationship between gross domestic product. It was determined that there was no causal relationship between the two series after Granger causality test. In the analysis by Demetriades and Hussein, different outcomes came into stage for 16 countries. The causal relationship between financial development and economic growth was found for three countries - Honduras, Spain, and Sri Lanka. King and Levine (1993) used different bank development measures for many countries. It has been determined that the development of the banking sector can promote economic growth in long term. When Jayratne and Strahan (1996) loosened interstate branch restrictions in individual states in the US, the lending quality of the bank increased significantly, leading to higher growth. Acemoğlu and Zilibotti (1997) have evolved a theory of financial development that develops endogenously in the growth process. Levine (2002) emphasizes the critical importance of the banking system in economic growth and the fact that banks know the conditions in which they can actively promote innovation and future growth and finance productive investments. There are different opinions and analyzes about causality relation. For me there are a great deal of variations in different opinions.. An alternative explanation for the causal relationship between financial intermediation and growth is attempted by researchers. Fundamentally, financial means can be regarded as a causal factor for economic growth. According to a study by Bayoumi and Melander (2008), a 2.5% decrease in total loans leads to a 1.5% decrease in GDP. This is usually the case when the level of development in the economy is responsible for promoting the growth of the financial system. In 2003, Favara survey showed the percentage of the GNP and the economic growth rate after checking the effect of domestic loans and other financial inflation on banks. On the other hand school, the openness to GNP, black market premium and the variables of legal origin also affect the strong relationship between them. The sample consisted of 85 countries for the period of 1960-1998. Beck and Levine (2004) built a panel that was averaged at five-year intervals. This study shows that both financial markets and banks have a significant positive effect, and even if control variables are added, they play an important role in economic growth.

#### 3. STRUCTURE OF AZERBAIJAN BANKING SYSTEM

Having gained its independence in 1991, Azerbaijan has targeted the transition from a central planned economy to a free market economy and has started work in this field. The new legal arrangements have been accelerated as the transition from the communist system to the economic transition process is not possible. Regulations on banking and central banking system, which constituted as one of the most important steps towards transition to free market economy, were put into effect without delay. Thus, the central bank in the first section and the commercial banks in the second section were composed of two-part banking system. The structure of the newly formed Azerbaijani banking system consists of the Central Bank of the Republic of Azerbaijan (ACMB), the Interbank Foreign Exchange Market, State and Private

Banks (Mukhtarov, a.g.e., p.10). As a result of the studies carried out in the field of development of the banking system between 2013-2015, the banks had been continue attracting foreign capital. By 2016, there were 43 foreign banks with a total of 43 banks. In 2015, the opening of new regional centers and branches of banks continued. The number of district centers reached 750 and the number of branches reached 164. As a result of the restructuring in 2016, the license of 11 banks was canceled and the number of banks decreased from 43 to 32, from regional centers 164 to 131 and branches from 750 to 513; centers rose from 131 to 137 and their branches increased from 513 to 556 (See Chart 1).

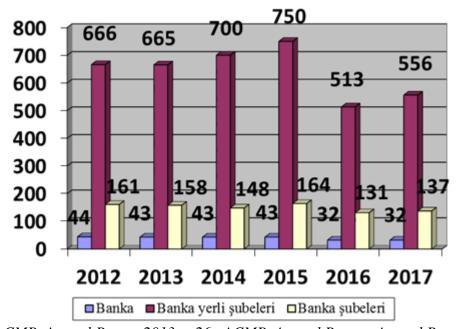


Figure 1: Structural Network of Banks, by number

Source: ACMB, Annual Report 2013, p.26., ACMB, Annual Report. Annual Report 2018/09.

### 4. LOANS ACCOUNTED BY AZERBAIJAN BANKS

The sectoral breakdown of loans granted in Azerbaijan is given in Table 1. The total loans given were 15422,9 in 2013, 18542,6 in 2014, 21730,4 in 2015, 16444,6 in 2016 and 13682 manat in 2017/6.

Table following on the next page

Table 1: Sectoral Breakdown of Loans (Real Sector)

|   | 01.01.2013    |      | 01.01.2014    |      | 01.01.2015    |      | 01.01.2016    |      | 01.06.2017    |      |
|---|---------------|------|---------------|------|---------------|------|---------------|------|---------------|------|
|   | Milyon<br>AZN | %    |
| Trade and Service                         | 2219,9        | 14,4 | 2680,7        | 14,5 | 3158,0        | 14,5 | 2467,0        | 15,0 | 2177,4        | 15,7 |
| Electrical appliances                     | 6214,7        | 40,3 | 7731,8        | 44,0 | 8383,6        | 38,6 | 5858,7        | 35,6 | 5092,7        | 36,7 |
| Agriculture and<br>Processing<br>industry | 733,3         | 4,8  | 847,3         | 4,6  | 508,1         | 2,3  | 441,3         | 2,7  | 433,9         | 3,1  |
| Construction and<br>Real Estate           | 2362,6        | 15,3 | 2555,1        | 13,6 | 3063,2        | 14,1 | 1908,6        | 11,6 | 891,9         | 6,4  |
| Industry and Production                   | 1516,4        | 9,6  | 2027,8        | 10,9 | 1948,3        | 9,0  | 1265,6        | 7,7  | 1043,5        | 7,5  |
| Transportation and Communication          | 506,0         | 3,3  | 736,0         | 4,0  | 1465,6        | 6,7  | 1271,1        | 7,7  | 1022,8        | 7,4  |
| Social Institutions                       | 6,1           | 0,0  | 3,9           | 0,0  | 14,6          | 0,1  | 25,6          | 0,2  | 22,6          | 0,2  |
| Public Institutions<br>(Management)       | 1,2           | 0,0  | 0,9           | 0,0  | 0,5           | 0,0  | 0,9           | 0,0  | 3,6           | 0,0  |
| Commercial letters                        | 492,5         | 3,2  | 464,2         | 2,6  | 934,6         | 4,3  | 837,3         | 5,1  | 594,0         | 4,3  |
| Guarantees                                | 39,8          | 0,3  | 61,5          | 0,3  | 134,8         | 0,6  | 82,3          | 0,5  | 28,8          | 0,2  |
| Factoring<br>Transaction                  | 3,1           | 0,0  | 2,2           | 0,0  | 5,5           | 0,0  | 7,0           | 0,0  | 9,5           | 0,1  |
| Overdraft                                 | 12,8          | 0,1  | 27,8          | 0,2  | 29,1          | 0,1  | 12,3          | 0,1  | 7,8           | 0,1  |
| Finance                                   | 247,2         |      | 274,6         |      | 383,3         |      | 493,8         |      | 230,8         |      |
| Other                                     | 233,7         | 1,6  | 231,2         | 1,2  | 259,4         | 1,2  | 198,1         | 1,1  | 193,9         | 1,4  |
| TOTAL                                     | 15422,<br>9   | 100  | 18542,6       | 100  | 21730,4       | 100  | 16444,6       | 100  | 13682         | 100  |

#### 5. EMPIRICAL DATA AND ANALYSIS

In this paper the relationship between credit volume and economic growth has been taken into account and three months time series data has been used which covers the period between 2006 and 2017 . The credit volume granted by banks (LNKREDI) and economic growth (LNGSYIH) data of the Central Bank of the Republic of Azerbaijan - Electronic Data Distribution System (https://esasodi.cbar.az:9804/obiee/) and the Statistics Committee of the Republic of Azerbaijan n. Logarithm of all variables was used in the analysis. In the literature, Engle and Granger (1987) and Johansen (1988,1991) cointegration tests are frequently used to determine the long-term relationship between the two series. In order to investigate the cointegration relationship between the two series must be in the same stationary . In this study, it was found that both series ln are stable with change values as seen in Table 2 and Table 3.

Table 2: LNGSYIH Augmented Dickey-Fuller test statistic

| Tubic                  | 2. Livosiiii magmemea     | Dickey I will test statistic |        |
|------------------------|---------------------------|------------------------------|--------|
| Null Hypothesis: LNGS  | YIH has a unit root       |                              |        |
| Exogenous: Constant    |                           |                              |        |
| Lag Length: 5 (Automat | ic - based on SIC, maxlag | (=9)                         |        |
|                        |                           | t-Statistic                  | Prob.* |
| Augmented Dickey-Full  | er test statistic         | -4.777408                    | 0.0004 |
| Test critical values:  | 1% level                  | -3.596616                    |        |
|                        | 5% level                  | -2.933158                    |        |
|                        | 10% level                 | -2.604867                    |        |

#### LNGSYIH

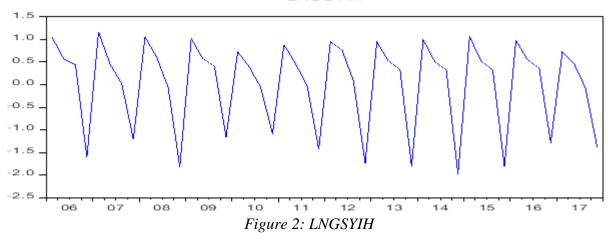


Table 3: LNKRED Augmented Dickey-Fuller test statistic

| Null Hypothesis: LNKR                              | EDI has a unit root |             |        |  |
|--|---------------------|-------------|--------|--|
| Exogenous: Constant                                |                     |             |        |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=9) |                     |             |        |  |
|  |                     | t-Statistic | Prob.* |  |
| Augmented Dickey-Full                              | er test statistic   | -5.300214   | 0.0001 |  |
| Test critical values:                              | 1% level            | -3.577723   |        |  |
|  | 5% level            | -2.925169   |        |  |
|  | 10% level           | -2.600658   |        |  |

#### LNKREDI

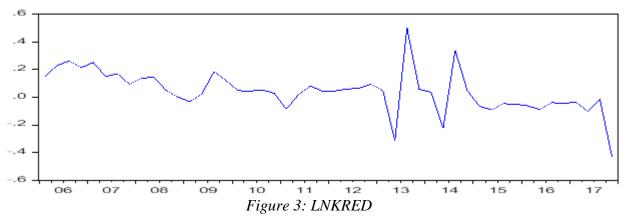


Table 4: VAR Granger Causality/Block Exogeneity Wald Tests (2006Q1 2017Q4)

| The direction of the relationship | Df | Chi-sq   | Prob.  |
|-----------------------------------|----|----------|--------|
| LNGSYİH□LNKREDI                   | 2  | 12.59967 | 0.0018 |
| LNGSYİH□LNKREDI                   | 2  | 13.43234 | 0.0012 |

Consequently, the results of the tests conducted in the study, determined that there is a long-term relationship between LNGSYİH which represents economic growth and LNKREDI series representing financial development, and also there is a causal relationship between these series. In other words, in Table 4, the null hypothesis of anlam Granger cause of Change in Credit Volume hip is the Granger cause of "Change in Loan Volume ir and GS Change in Loan Volume' is accepted as 5%. That is, credit volume and GDP affect each other. Therefore, Loan Volume  $\rightarrow$  GDP and GDP  $\rightarrow$  Loan Volume Change was found as a bidirectional relationship.

#### 6. CONCLUSION

According to this study, it has been concluded that the data examined are first-order stable and have a long-term relationship between them. However, as a result of the Granger causality test, the causality relationship between these two series was not found as bidirectional. Within the framework of the strong strategic way map of the national economic sector in the Republic of Azerbaijan, the steps taken towards the development of non-oil sector and the programs implemented in practice are indisputable. In this study, it can be concluded that commercial loans given by banks are used for the right purpose and as a result, they also have a positive effect on GDP.

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