

DOI 10.26726/2305-4484-2017-1-21-29

УДК: 673.13

д.э.н., профессор, заведующий отделом Института экономики им. М. Котаняна НАН РА,  
e-mail: anna\_makaryan@yahoo.com

**БАЯДЯН АШОТ АКОПОВИЧ**

**МАКАРЯН АННА РУЗВЕЛЬТОВНА**

к.э.н., научный сотрудник Института экономики им. М. Котаняна НАН РА,  
e-mail: anna\_makaryan@yahoo.com

## ВЗАИМОДЕЙСТВИЕ КОММЕРЧЕСКОГО БАНКА КРЕДИТОВАНИЯ ПРОИЗВОДСТВА ПИЩЕВЫХ ПРОДУКТОВ С ОТРАСЛЬЮ ПРОИЗВОДСТВА В АРМЕНИИ

**Аннотация.** *Цель: исследовать, как реальное чистое кредитование сектора по производству пищевых продуктов (далее — сектор) коммерческими банками в Армении может повлиять на реальное производство продукции сектора и как реальный рост объемов производства может повлечь за собой статистически значимые изменения в объемах реального кредитования производства пищевых продуктов коммерческими банками в целях выявления приоритетов экономической политики, что, в свою очередь, может повлечь за собой рост производства сектора.* **Методологический подход:** путем превращения всех номинальных среднемесячных значений объемов производства сектора по производству пищевых продуктов и чистого кредитования в реальные значения и через проверку данных на наличие стационарности переменных уравнения были оценены с помощью метода наименьших квадратов, где реальные значения переменных были использованы (скорректированная выборка: 2014:1-2016-12). **Результаты:** увеличение коммерческими банками реального чистого кредитования отрасли по производству пищевых продуктов в период времени  $t$  может вызвать положительные статистически значимые изменения как в реальном объеме производства отрасли, так и в реальных объемах кредитования коммерческими банками через 24 периода, в то время как длина лага в случае увеличения реальных объемов производства сектора в период времени  $t$  различается. Так, увеличение реальных объемов производства сектора в период времени  $t$  может повлечь за собой рост реального объема кредитования через 17 периодов, а в случае собственного производства окажет позитивное влияние через 11 периодов. В случае кредитных инвестиций «мультипликативного эффекта» не наблюдалось. **Вывод:** кредитные вложения не могут рассматриваться как «производительные» для создания более высокой добавленной стоимости. Более высокие темпы роста производства могут повлечь за собой более высокие темпы изменений в реальном чистом кредитовании производства пищевых продуктов коммерческими банками и темпы роста реального производства пищевых продуктов в будущем. **Применение в области экономической политики:** среди приоритетов правительства для обеспечения более высоких темпов роста производства пищевых продуктов могут быть: поощрения экспорта в страны-государства Евразийского экономического союза; разработка эффективных механизмов софинансирования и помощь по внедрению таких бизнес-процессов, которые направлены на обеспечение операционной эффективности.

**Ключевые слова:** производство пищевых продуктов, кредитование Армении, коммерческие банки, реальный объем производства.

---

**BAYADYAN ASHOT AKOPOVICH**

Doctor of Economic Sciences, Professor, Head of the Department of the Institute of Economics named after M. Kotanyan of the National Academy of Sciences of the Republic of Armenia,  
e-mail: anna\_makaryan@yahoo.com

**MAKARYAN ANNA ROOZVELTOVNA**

*Candidate of Economic Sciences, Research Associate of the Institute of Economics named after M. Kotanyan of the National Academy of Sciences of the Republic of Armenia,  
e-mail: anna\_makaryan@yahoo.com*

## **INTERPLAY OF COMMERCIAL BANK LENDING TO THE MANUFACTURE OF FOOD PRODUCTS WITH THE INDUSTRY OUTPUT IN ARMENIA**

**Abstract. Purpose:** To investigate how the real net lending to the manufacture of food products industry (hereafter the industry) extended by the commercial banks in Armenia could affect the industry real output, and how the real output growth causes statistically significant changes in the commercial bank net real lending to the industry in order to identify the policy priorities that could lead to the industry growth. **Design/methodological approach:** By converting all nominal monthly values of the output of the industry and net lending into real ones, and through performing stationarity tests on the variables, the equations are estimated using ordinary least squares with variables in their levels (sample adjusted:2014:1-2016-12). **Findings:** The increase in commercial banks real net lending extended to the industry in period  $t$  could cause positive statistically significant changes both in the real output of the industry, and in the commercial banks real net lending in 24 periods, while there is some divergence with respect to the lag length in case of the increase in the industry real output in period  $t$  that would positively affect the real net lending in 17 period, and the industry output in 11 periods. “Multiplier effect” was not observed in the case of the loan investments. **Conclusion:** The loan investments couldn't be considered as “productive” in generating higher value-added. Strong industry growth could drive higher changes in net lending extended by the commercial banks to the industry and own future growth. **Policy Implications:** The government priorities to ensure higher industry growth would be the promotion of the exports to the member-states of the Eurasian Economic Union; design of co-financing effective mechanisms, and assistance to introducing operational effectiveness oriented business practices. **Keywords:** Manufacture of food products, lending, Armenia, commercial banks, real output

---

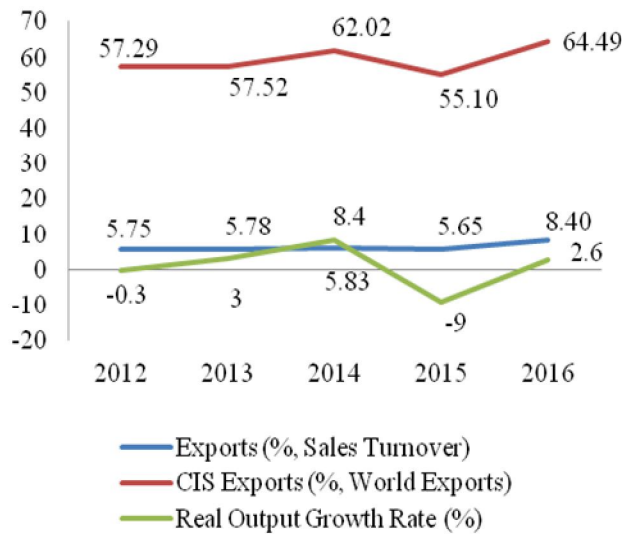
### **Introduction**

Armenian manufacture of food products industry (hereafter the industry)<sup>1</sup> reported both decline and growth over the period 2012-2016 (see Chart 1) that was associated with the downturn in the Russian Economy, and the weak domestic demand, especially by the Armenian households who cut their final consumption expenditure (in response to decline in remittances received mainly from Russia in 2015 by 35.1% (y/y) [18]) in 2015 (-7.9 per cent y/y) [19]. Although the exports of the canned food sub-sector of the manufacture of food products industry have been reporting an increase and substantially attributed to the sub-sector growth, and cheese and dry milk exports have been growing since 2012, the export of dairy products has been limited [1, p. 19], and the overall industry exports didn't exceed 8.4% of the sales turnover over the reported period (see Chart 1). The main destinations of the processed food product exports are the CIS markets. Despite the fact that the Export-led Industrial Policy Strategy of the Republic of Armenia (approved by the Government in December 2011 [15]) prioritized the growth of the industry through increased industry exports, the exports haven't reported strong growth, and the industry still remains predominantly dependent on the domestic demand. This dependence explained the decline in the real output of the industry in 2015, while the slight recovery of the industry output in 2016 [see chart 1] was associated with the growing household final consumption expenditure, especially in the second and the third quarters of 2016 [25], and exports growth (see Chart 1).

Over the same period, the lending to the industry by the commercial banks somehow reflected the developments described above (see Chart 2). Upon solid growth in net lending to companies representing manufacture of food products industry by the commercial banks in 2012 (December-to-December), decline was reported from 2013 to 2015 (December-to-December), followed by the strong increase in net lending in 2016 (December-to-December).

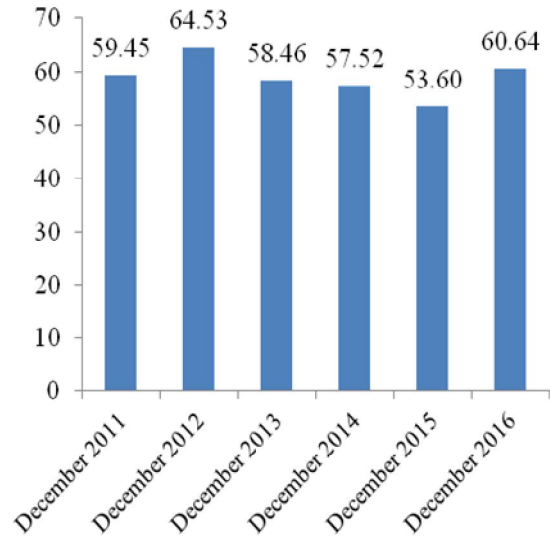
---

<sup>1</sup> Note: According to NACE Rev. 2 of statistical classification of economic activities.



**Chart 1:** The performance of manufacture of food products industry from 2012 to 2016

Source: [20], [21], [22], [23], [24]. Authors' own calculations.



**Chart 2:** Bank Lending to manufacture of food products industry, end of period (billion AMD)

Source: [16]. Authors' own calculations.

#### This could suggest the followings or their combinations:

– Probably the resident companies that had had previously invested in strengthening and gaining their competitive position over the rivals in either local or foreign markets had to repay their loans and wait to see the investments translated into positive gains, and the future investments could have been either driven or initiated by strong positive expectations over the growth of either domestic or foreign demand or to further extend their leading position (in case of economic growth), or to cope with negative developments in the economy or other foreign markets in case of the economic downturn or their combination;

– The commercial banks adopted more strict loan requirements and more conservative approach in dealing with the loan applications by taking into account the fact that over the period of 18 months (from July 2011 to December 2012) the net lending increased by about 20% [16];

– Somehow the pro-cyclical nature of the bank lending and the banks' expectations could be credited to in explaining the above-described developments.

Therefore, we are interested in investigating how the lending to the manufacture of food products industry could affect the industry growth, and how output growth causes changes in the commercial bank lending to the industry. These estimates would enable us to identify the strategies the commercial banks and the industry companies could adopt, and what are the policy priorities to boost the growth of the output of the manufacture of food products industry, and the commercial bank lending to the industry.

#### Literature Review

Several aspects of the banking sector and their role in economic growth in case of various nations, and the opposite (economic growth leading to the increase in lending) were studied by various scholars. Saqib (2016) finds that the development of the banking sector significantly stimulates the long-term economic growth in Pakistan [2]. However, Tahir et al. (2015) based on the regression analysis showed that the impact of the bank lending to the private sector on the economic growth in Pakistan is adverse and explain it by regulation and bank credit facility [3]. Wu et al. (2010) find that higher economic growth rates could be ensured in countries with high foreign bank penetration based on the bank-level data on banks in 35 emerging markets from Asia, Latin America, Eastern and Central Europe [4]. By examining supply-leading and demand-following hypotheses in the case of Malaysia, Singapore, Indonesia, Thailand and Philippines Tang (2005) finds that only Thailand and Singapore data support the evidence of either of hypotheses [5]. Tripathy and Pradhan (2014) find that the de-

velopment of the banking sector stimulated the growth of the Indian economy from 1960 to 2011[6], while Bhatt and Kishor (2011) find that bank loan causes statistically significant changes in the output in India [7]. Akinboade and Makina find that the bank lending in South Africa is pro-cyclical, and the demand factors strongly explain the growth in lending (dependence on the latter ones)[8]. Anderson et al. (2016) find which of four organizational forms of the banks promote economic growth and show that state-owned commercial banks negatively affect the growth of the manufacturing industry, while policy banks and joint stock commercial banks support economic growth in China [9]. For the period of the study 1998-2010, Iyoboyi (2013) shows that the economic growth of Nigeria could be explained by the openness of the economy, past growth level and the financial deepening [10]. Obamuyi et al. (2012) find that manufacturing output in Nigeria is affected by bank loan interest rates and utilization of the manufacturing capacity, and conclude that there is no relation between the output of the manufacturing industry and the economic growth [11]. In the case of Malaysia, Vaithilingam et al. (2003) state that the increase in commercial bank lending to the private sector could cause a change in the real income [12]. In the case of Vietnam, Sarath Dai Van Pham (2015) based on the regression results suggests that output growth [13, p.868] positively affects loan growth. Schertler et al. (2006) show that both firm and bank heterogeneity could explain the lending response to domestic sectoral growth in Germany and show strong lending response evidence in the case of savings banks, credit cooperatives, smaller and sector specialized banks [14].

These empirical findings suggest that results could vary from country to country, and from sector to sector, however, we could somehow conclude that the both output and lending growth positively affect each other.

Hence, we attempt to estimate the impact of lagged values of the output and lending to the manufacture of food products on both the industry output and industry lending by the commercial banks in Armenia to identify the policy priorities that could support the growth of this industry of the Armenian Economy.

#### **Design/methodological approach:**

Our two models are defined as:

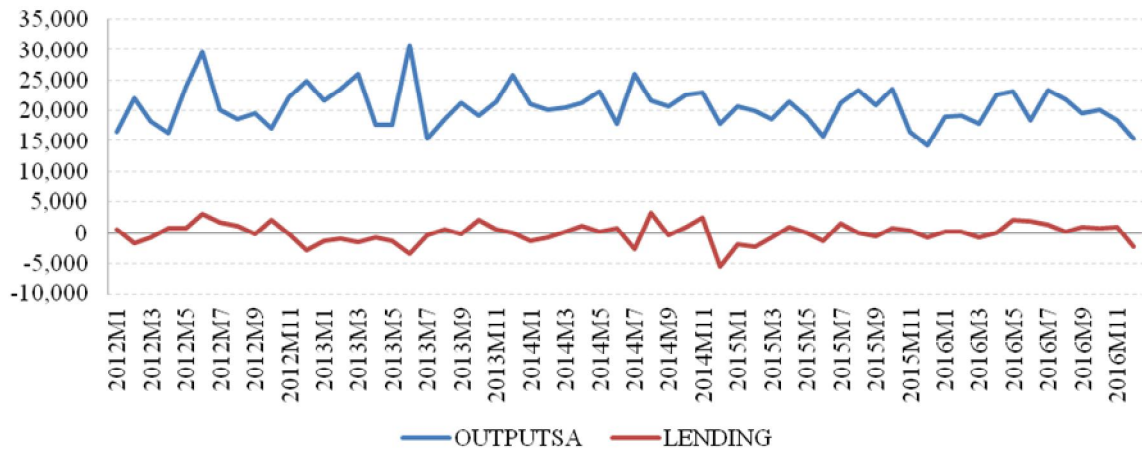
Real output of the manufacture of food products = f (real lagged value of commercial bank net lending to the manufacture of food products industry, real lagged value of the output of the manufacture of food products industry) (1)

Real net commercial bank lending to the manufacture of food products industry = f (real lagged value of the output of the manufacture of food products industry, real net lagged value of commercial bank lending to the manufacture of food products industry) (2)

In our original dataset we included 60 observations covering the period 2012:1-2016:12 (monthly data)<sup>2</sup>. All nominal monthly values of our variables of interest were converted into real ones (2012=100); in case of the output of the manufacture of food products we seasonally adjusted (moving average method) the monthly real values, and to get the net lending values we subtracted the values of the current month (end of period) from the values of the previous month (end of period) that were converted into real ones (see Chart 3).

In order to convert the industry output nominal monthly values [26] into real ones, we used the growth rates (at comparable prices) of the respective month of the given year compared to the same month of the previous year starting from 2013 onwards, while 2012 monthly data being considered as base year values for the respective month of the year. In the case of net lending, we first calculated the consumer price index (CPI) [17] values for the given period with each month of the year of 2012 being taken as a base year month and then adjusted the nominal net lending values using the calculated CPI data.

<sup>2</sup> Since the data on the commercial bank lending to the various industries (at 2-digit level) of the economy that are released by the Central Bank of Armenia are available only from 2011 July onwards (according to the standards of NACE Rev. 2 of statistical classification of economic activities), we covered the period 2012:1-2016:12.



**Chart 3:** Real monthly net lending and seasonally adjusted output of the manufacture of food products values

Originally we planned to include two additional variables into our models: loan (extended by the commercial bank to the companies the economic activity of which is classified as the manufacture of food products) interest rates, and industry export. In the case of loan interest rates the Central Bank of Armenia releases just interest rates data [27] and doesn't provide detailed industry specific data on interest rates. In the case of exports data, the National Statistical Service just releases monthly nominal exports values in Armenian drams with respect to the sum of CIS exports and sum of the exports from the rest of the world (excluding CIS exports). In order to get the real values we could have adjusted them using CPI values with the base year of 2012, however, it wouldn't have been appropriate. Hence we didn't include these variables into the equations; however, we do admit that they would have been of greater use if included in the regression equations. We could have included household final consumption expenditure, however since the National Statistical Service provides only quarterly data and here we deal with monthly data, therefore we couldn't incorporate this variable into the regression equations as well.

The stationarity tests (using Augmented Dickey Fuller test) performed on the variables (lags length: 1) showed no evidence on non-stationarity, and that the variables are stationary at level (see tables 1).

Hence, we estimated the following two equations using ordinary least squares (OLS) with variables in their levels:

$$\text{Estimation\#1} \\ \text{OUTPUTSA}_t = \alpha_0 + \alpha_1 * \text{LENDING}_{t-24} + \alpha_2 * \text{OUTPUTSA}_{t-11} + \varepsilon_t \quad (3)$$

$$\text{Estimation\#2} \\ \text{LENDING}_t = \beta_0 + \beta_1 * \text{OUTPUTSA}_{t-17} + \beta_2 * \text{LENDING}_{t-24} + \varepsilon_t \quad (4)$$

Where:

$\text{OUTPUTSA}_t$  is the seasonally adjusted value of the real output of the manufacture of food products industry in period t.

$\text{OUTPUTSA}_{t-17}$  is the seasonally adjusted value of the real output of the manufacture of food products industry lagged 17 periods.

$\text{LENDING}_t$  is the real net lending value to the manufacture of food products industry extended by the commercial banks in period t.

$\text{LENDING}_{t-24}$  is the real net lending value to the manufacture of food products industry extended by the commercial banks lagged 24 periods.

$\alpha_0, \alpha_1, \alpha_2, \beta_0, \beta_1, \beta_2$  are model unknown parameters.

$\varepsilon_t$  is the error term in period t.

Using the Breusch-Godfrey Serial Correlation LM Test conducted on the residuals to check for the problem of serial correlation, we concluded that there was no evidence of the presence of serial correlation (see Table 2) at 5% (lag 2).

*Table 1:*

**Unit Root Test Results**

Period	Variable			
	UTPUTSA			
2012:1-2016:12	ADF Test Statistic	-6.383936	1% Critical Value*	-3.5457
			5% Critical Value	-2.9118
			10% Critical Value	-2.5932
	<b>*MacKinnon critical values for rejection of hypothesis of a unit root.</b>			
2014:1-2016:12	ADF Test Statistic	-4.067760	1% Critical Value*	-3.6228
			5% Critical Value	-2.9446
			10% Critical Value	-2.6105
	<b>*MacKinnon critical values for rejection of hypothesis of a unit root.</b>			
Period	LENDING			
2012:1-2016:12	ADF Test Statistic	-4.353911	1% Critical Value*	-3.5457
			5% Critical Value	-2.9118
			10% Critical Value	-2.5932
	<b>*MacKinnon critical values for rejection of hypothesis of a unit root.</b>			
2014:1-2016:12	ADF Test Statistic	-3.799062	1% Critical Value*	-3.6228
			5% Critical Value	-2.9446
			10% Critical Value	-2.6105
	<b>*MacKinnon critical values for rejection of hypothesis of a unit root.</b>			

*Table 2:*

**Test for no serial correlation in the error terms**

Estimation	Breusch-Godfrey Serial Correlation LM Test Results			
Estimation#1	Breusch-Godfrey Serial Correlation LM Test:			
	F-statistic	0.307520	Probability	0.737485
	Obs*R-squared	0.700345	Probability	0.704567
	<b>*MacKinnon critical values for rejection of hypothesis of a unit root.</b>			
Estimation#2	Breusch-Godfrey Serial Correlation LM Test:			
	F-statistic	0.027636	Probability	0.972767
	Obs*R-squared	0.064071	Probability	0.968472
	<b>*MacKinnon critical values for rejection of hypothesis of a unit root.</b>			

We performed normality test to check whether the residuals were normally distributed or not. The test results showed the evidence of normally distributed error terms (see Table 3).

*Table 3:*

**Test for normally distributed error terms**

Normality Test	Estimation#1	Estimation#2
Jarque-Bera statistics	1.231890	4.721702
Probability	0.540130	0.094340

**Findings***Estimation #1 Results*

$$\text{OUTPUTSA}_t = 15,672,780,330 + 0.67246278 * \text{LENDING}_{t-24} + 0.2243872177 * \text{OUTPUTSA}_{t-11} \quad (5)$$

(6.201094)\*\*\*      (3.040272)\*\*\*      (1.866498)\*

Sample(adjusted): 2014:01 2016:12; Included observations: 36 after adjusting endpoints

R-squared: 0.243845

Note: value of t statistics in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

*Estimation #2 Results*

$$\text{LENDING}_t = -2,941,854,241 + 0.1435816278 * \text{OUTPUTSA}_{t-17} + 0.3805869243 * \text{LENDING}_{t-24} \quad (6)$$

(-1.793467)\*      (1.857068)\*      (2.823717)\*\*\*

Sample(adjusted): 2014:01 2016:12; Included observations: 36 after adjusting endpoints

R-squared: 0.264143

Note: value of t statistics in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

The R-squared values are 0.24 and 0.26 indicating that the independent variables included in the equations explained about 24% and 26% of the variations in the monthly real output of the manufacture of food products industry, and the real net lending value to the manufacture of food products industry extended by the commercial banks respectively. These R-squared values indicate the limitations we faced and discussed above with respect to including additional variables of interest into the equations.

On average, if the commercial banks real net lending extended to the industry increases by one billion Armenian drams in period t it could cause statistically significant changes in the real output of the manufacture of food products by 672,462,780 Armenian drams (AMD) in 24 periods. Other things being equal, the increase in the industry output by one billion AMD in period t would cause statistically significant changes in the real output of the manufacture of food products by 224,387,218 AMD in 11 periods.

On average, if the commercial banks real net lending extended to the industry increases by one billion AMD in period t it would cause statistically significant changes in the real net lending by 380,586,924 AMD in 24 periods. And, the increase in the industry output by one billion AMD in period t would cause statistically changes in the commercial banks real net lending extended to the industry by 143,581,628 AMD in 17 periods, other thing being equal.

Overall, these results indicate that we couldn't observe "multiplier effect" with respect to the loan investments. This means that one billion AMD invested in period t could cause less increase in the real out that the invested amount was in 24 periods. With the negative autonomous level of the real net lending and the contribution of the changes in industry output growth we could assume the following:

- The loan investments were not so "productive" in terms of generating higher value for the investors in 24 months;
- The investments were made either to cope with temporary, especially with financial difficulties or somehow to maintain or extend the current market position or their combination;
- The increase in net lending was somehow consumed by inflation;
- Only strong industry growth could drive the higher changes in net lending extended by the commercial banks to the industry and its future growth;
- "Trapped" by predominantly meeting the domestic demand the industry growth rates would be moderate;

**Conclusion**

The increase in commercial banks real net lending extended to the manufacture of food products industry in period causes positive, statistically significant changes in the industry output, and in the real net industry lending in 24 periods. The increase in the real output of the manufacture of food products industry in period t would, on average, cause positive statistically significant changes in net

commercial banks real net lending extended to the given industry in 17 periods, while in case of the own industry growth the change could be expected in 11 periods.

“Multiplier effect” with respect to the loan investments wasn’t observed. The loan investments couldn’t be considered as “productive” ones in terms of generating higher value-added. The investments were made either to cope with temporary, especially with financial difficulties or somehow to maintain or extend the current market position or their combination. Strong industry growth could drive higher changes in net lending extended by the commercial banks to the industry and own future growth.

### Policy Implications

Hence, the government priorities with respect to ensuring higher growth of the real output of the manufacture of food products industry could be the following:

- Promoting exports growth in Eurasian Economic Union (EAUE) member-states markets, especially by taking into account the food embargo imposed by the Government of the Russian Federation [28];
- Design co-financing effective mechanisms (equity investment, loan interest rate subsidizing, since weighted average interest rates on loans of with maturity period over 12 months extended to resident legal entities and households by commercial banks were about 16.49 percent (in case of loans in AMDs), and 10.68 percent (in case of loans in USD) in January 2017, [27]);
- Provide more effective mechanisms to ensure adoption of such business practices that would lead to operational effectiveness, thus making Armenian companies more competitive and enabling them to face and cope with the economic downturn, especially in the Russian Federation.

### References:

1. *EV Consulting (2017). Armenia Investment Map, EV Consulting: Yerevan Armenia, 44p. Available at: [http://evconsulting.com/sites/default/files/attachments/ArmInvestmentMap\\_Jan\\_2017.pdf](http://evconsulting.com/sites/default/files/attachments/ArmInvestmentMap_Jan_2017.pdf) (last accessed: March 6, 2017)*
2. *Najia Saqib (2016) Banking sector liberalization and economic growth: case study of Pakistan, Journal of Business Economics and Management, 17:1, 125-139, DOI: 10.3846/16111699.2013.804874*
3. *Tahir, S.H., Shehzadi, I., Ali, I. and Ullah, M.R. (2015) Impact of Bank Lending on Economics Growth in Pakistan: An Empirical Study of Lending to Private Sector. American Journal of Industrial and Business Management, 5, 565-576. DOI:10.4236/ajibm.2015.58056*
4. *Ji Wu, Bang Nam Jeon and Alina C. Luca (2010) Foreign Bank Penetration, Resource Allocation and Economic Growth: Evidence from Emerging Economies, Journal of Economic Integration, Vol. 25, No. 1 (March 2010), pp.166-192*
5. *Tuck Cheong Tang (2005) An examination of the causal relationship between bank lending and economic growth: evidence from ASEAN, Savings and Development, vol. 29, no. 3, pp. 313-343*
6. *Sasikanta Tripathy and Rudra P. Pradhan (2014) Banking Sector Development and Economic Growth in India, Global Business Review, 15(4), 767-776, DOI: 10.1177/0972150914543421*
7. *Vipul Bhatt and N. Kundan Kishor (2013) Bank lending channel in India: Evidence from state-level analysis Empirical Economics, 45: 1307-1331. DOI: 10.1007/s00181-012-0657-2*
8. *Oludele Akinloye Akinboade & Daniel Makina (2010) Econometric analysis of bank lending and business cycles in South Africa, Applied Economics, 42:29, 3803-3811, DOI: 10.1080/00036840802360138*
9. *Fredrik N. G. Andersson, Katarzyna Burzynska and Sonja Opper (2016) Lending for growth? A Granger causality analysis of China’s finance-growth nexus, Empirical Economics, 51:897-920, DOI 10.1007/s00181-015-1034-8*
10. *Martins Iyoboyi (2013) Bank and Non-Bank Financial Deepening and Economic Growth: The Nigerian Experience (1981-2010), Economic Notes by Banca Monte dei Paschi di Siena SpA, vol. 42, no. 3-2013: pp. 247-271*
11. *Tomola Marshal Obamuyi, Adebisi T. Edun, Olawale Femi Kayode (2012) Bank lending, economic growth and the performance of the manufacturing sector in Nigeria, European Scientific Journal, February edition vol. 8, No.3, pp.19-36*
12. *Santha Vaithilingam, Balachandher Krishnan Guru & Bala Shanmugam (2003) Bank Lending and Economic Growth in Malaysia, Journal of Asia-Pacific Business, 5:1, 51-69, DOI: 10.1300/J098v05n01\_05*
13. *Delpachitra Sarath Dai Van Pham (2015),The determinants of Vietnamese banks’ lending behavior," Journal of Economic Studies, Vol. 42, Issue 5 pp. 861 – 877, DOI: 10.1108/JES-08-2014-0140*
14. *Andrea Schertler, Claudia M. Buch, Natalja von Westernhagen (2006) Heterogeneity in lending and sectoral growth: evidence from German bank-level data, International Economics and Economic Policy: DOI: 10.1007/s10368-006-0045-5*
15. *Export-led Industrial Policy Strategy of the Republic of Armenia, Appendix to the Decree of the Government of the Republic of Armenia N49P, dated: December 15, 2011*
16. *Central Bank of Armenia, “Commercial Banks and Credit organizations Loans by Fields (monthly)” online database, available at: <https://www.cba.am/am/sitepages/statmonetaryfinancial.aspx> (last accessed: March 6,*



2017), (in Armenian).

17. Central Bank of Armenia, "Consumer Price Index (monthly), over previous month, over December of previous year, over the same month of previous year, over average prices of 2005 year" online database, available at: <https://www.cba.am/en/sitepages/statrealsector.aspx> (last accessed: March 7, 2017), (in Armenian)

18. Central Bank of Armenia, "Transfers of individuals sent to and received from abroad through commercial banks of RA" online database, available at: <https://www.cba.am/en/SitePages/statexternalsector.aspx> (last accessed: March 6, 2017).

19. National Statistical Service of Armenia (NSS), "Annual data on Expenditure of GDP (by main consumption elements)" online database, available at: <http://www.armstat.am/en/?nid=263> (last accessed: March 6, 2017).

20. National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2012, 2013, NSS: Yerevan, Armenia (in Armenian).

21. National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2013, 2014, NSS: Yerevan, Armenia (in Armenian).

22. National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2014, 2015 NSS: Yerevan, Armenia (in Armenian).

23. National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2015, 2016, NSS: Yerevan, Armenia (in Armenian).

24. National Statistical Service of Armenia, Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for January-December 2016, 2017, NSS: Yerevan, Armenia (in Armenian).

25. National Statistical Service of Armenia, "Quarterly data of Expenditure of GDP (by main consumption elements)" online database, available at: <http://www.armstat.am/en/?nid=263> (last accessed: March 6, 2017).

26. National Statistical Service of Armenia, Monthly Reports of Main Indicators of Industrial Organizations by Economic Activities (two-digit code), by Marzes and Yerevan city for the period 2012-2016, NSS: Yerevan, Armenia (in Armenian).

27. Central Bank of Armenia, "Interest rates on loans extended by commercial banks (monthly)" online database, available at: <https://www.cba.am/en/sitepages/statmonetaryfinancial.aspx> (last accessed: March 6, 2017), (in Armenian).

28. The Decree of the Government of the Russian Federation N 778 dated August 7, 2014 on the Measures on executing the Order N560 dated August 7, 2014 of the President of the Russian Federation on Applying separate special economic measures aimed at ensuring the security of the Russian Federation (in Russian) (Постановление правительства РФ № 778 от 7 августа 2014г. о мерах по реализации Указа Президента Российской Федерации от 6 августа 2014 г. № 560 О применении отдельных специальных экономических мер в целях обеспечения безопасности Российской Федерации.)