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EXTERNAL FINANCING OF AZERBAIJAN'S AGRICULTURE

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Abstract

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The article investigates formation and normal activity of human capital which performs main resource of modern economic development and influence of external financing in the field of food security, which acts as the main part of economy of Azerbaijan that newly got independence. Roles of subsidy, microfinancing and loans were examined. It is confirmed Ntional Fund for Entrepreneurship Support (NFES) of the Republic that allocated the agricultural sector production and processing of loans, provision of bank loans to the agricultural sector. Under the influence of the economic performance of the agricultural sector development trends of the loan were based on the economic and mathematical models and charts were drawn. By the time forecasts were prepared it became clear that loans, especially state finance support depend on oil sphere.

Key words: subsidy, microfinancing, loans
Abbreviations: NFES – National Fund for Entrepreneurship Support

Introduction

Agriculture - the first and most prosperous activity of mankind. (Nnamocha and Charles, 2015). All industrial developed countries have agricultural background. 200 years ago most part of the population lived thanks to agriculture. (Eswaran and Kotwal, 2005). Agriculture is experiencing profound, rapid changes in developing countries. Globalisation accelerated the transition from traditional, low-productivity agriculture to modern, highly productive agriculture moving more quickly in some countries than in others. (Soundarrajan and Vivek, 2015).

In developed countries loans to agriculture are the object of attention and support from the state, as it provides a stimulating investment, innovation and dealing activity in the industry, which is the guarantor of food and economic security. System of supporting institutions, which was a high level of governmental involvement, especially in the initial stages of their formation was created in every country.

Agricultural credit system which established and functioning with the participation of the state, is the most important mechanism of state regulation, the development and improvement of elements of which are the main tasks of the agrarian reform and policy of Azerbaijan. It is implemented in the framework of the State Program on social and economic development of regions (2004–2008th year, 2009–2013th year and 2014–2018th year).

About the problem

The need for active state regulation of the financial and credit system is determined by the characteristics of the organizational and economic relations in agriculture: by the duration of the production cycle, seasonality, high manufacturing risk of natural-biological nature, the monopoly situation of suppliers and consumers of products industry that dictates unilaterally the conditions of economic interaction.

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Elements of market's self-regulation mechanism are not able to provide not only expanded, but also a simple reproduction of the industry. In addition, the need for state support of agriculture in Azerbaijan today is much higher than in developed countries. This is determined by climatic, material and technical, economic, social, and historical conditions. Production in agriculture is more risky, as well as one of the most capital-intensive and power-consuming. In this regard, the industry is less attractive for lenders and investors. This hinders the inflow of private capital from other industries and economy sectors. Lack of resources associated with the sale of agricultural products, involves a high dependence of the industry on the recurrent funding.

Reformation of the agricultural sector has revealed the problems associated with the formation of a specialized system of financial and credit support industry, ensuring access of agricultural goods producers to external sources of financing fixed capital formation and interaction of elements of this system. Current forms and methods of state regulation of agricultural credit system did not lead to a significant increase in the rate of agricultural production. This branch is still low-profitable.

Agriculture need money to work normally like any other business. This is an important element for carrying out of the daily tasks, making the payment of salaries of employees and achieving equipment. Due to a change in the chargeable income of the farmers from the previous year, the profit is not enough simply to save. Farmers need money to access assets, stop cash flow, maintain a consistent work and for expansion. Simply to maintain its presence in some areas of agriculture loans in need, while others prosper and expand the use of agricultural loans. (Culp, 2013).

Now, it was revealed that in both developed and developing countries the demand for agricultural credit in the special funds, sources cannot be paid. (Khan, 1963). In its internal financial resources of economic entities in the agricultural sector and non-institutional forms of foreign financial resources (loans to non-financial institutions); financial institutions (banks), financial resources (loans); large companies and financial institutions "unnecessary" financial resources in the form of money; financial resources in the form of state support and assistance is available. (Széles et al., 2014).

Either small farmers, or large farmers and non-rural population of agriculture are faced with a shortage of capital. Requirement to credit increased after green revolution and technological changes. (Ahmad, 2011). The expansion of the use of fertilizers, biocides, mechanisms and improvement of seeds in the past few decades in agrarian sector increased the demand for loans. (Muhammad et al., 2003).

Marketing of agricultural production timing, and the product is characterized by the fact that a few months of time. Access to working capital and, consequently, to the credit market, thus playing an important role in the decisions of the farmer's production; distribution of access to credit, in turn, tends to be an important determinant of income distribution. (Eswaran and Kotwal, 1986).

Agriculture is particularly sensitive to interest rates, because it is one of the most capital-intensive industries in the economy. Interest rates are key determinant of land values, the basis of wealth in agriculture on farmland prices depend on the relationship between expected return and interest rates. For agriculture financial constraints lead to a progressive reduction of farm support programs (Niles and Orden, 2003).

The sentences above leads to the conclusion that the agricultural sector is quite specific to a market economy, self parking enforcement mechanisms to ensure the functioning of the credit system, manufacturer and rural population and, consequently, of innovative development of industry.

Summary of the Literature Reference

Questions and various aspects of state support for agricultural production are widely reflected in the world literature.

Literature used as a basis can be divided into three parts:

An analysis of subsidies

One of the main goals of agricultural policies is to support farms' productive efficiency through subsidisation (Kleinhanb et al., 2007). Distinct advantage of participation of state, as special and creditor relatively informal sectors in agrarian credit bazaars is it can give subsidies or can stop them. It has legal monopoly strength. Some developing countries' (some developed) practice shows that state sometimes lost its ability to use from these superiorities (Hoff and Stiglitz, 1990).

In some research materials European Union's agricultural market stabilization, improve the living standards of farmers and agriculture to develop a system of direct payment subsidies were compared simplified subsidies in the agricultural market stabilization, improvement of the living standards of farmers and development of agriculture as a source of information (Střeleček et al., 2006), after accession to the EU, the role of subsidies in the agricultural sector and the results were compared and examined in Czech Republic, Slovakia, Poland and Hungary, (Střeleček et al. 2009b), the Czech Republic and the EU's agricultural subsidies in many countries were compared, and their role in the development of agriculture, information, economic results were comparable to the effect of subsidies and incentives structure (Střeleček et al., 2009b), the volume and efficiency of government subsidies allocated for agriculture in the Czech Republic and other member states of the Eu-

ropean Union, subsidies for unit of land and their stimulated role were analyzed and the effectiveness was valued (Jánský and Živělová, 2007). Conducting research on the impact of incentives to improve the effectiveness of other authors articles subsidies subsidy system performance in different areas, the effect of which was rated to Slovak farmers (Bielik and Sojková, 2006), investigated the role of operational risk management in agriculture subsidies, relationship between subsidies and farmers studied and the current operational risks, the risks of uncertainty in the increase of farmers' income in the future, the role of short-term production and long-term planning has been difficult. Further, in the article development of agriculture insurance was stressed in case of not only prices, costs and anticipated products, but also some difficulties in direct payments, the current subsidies affect the stability of the income of the farmers and their risks, especially before the fall in production and revenue management change risks In addition to the instruments, such as the improvement of agricultural technology were considered as price fluctuations rated as emollients (Špička et al., 2009), it was drawn a conclusion that in accordance with the conclusion on direct payment modelling of agriculture and analysed of it to Czech economy and usage from general balance model, subsidies negative influence to increase of general income product and completely rejection negative affected to employment, at the same time decrease of limitation of positive influence of direct payment to farmers' income and increase of life level of farmers are also necessary. (Křístková and Habrychová, 2011). In addition, government subsidies for agriculture and micro-economic aspects of the investigation, have been analyzed in relation to price subsidies, the prices of agricultural products, with the help of subsidies given to farmers to guarantee the provision of adequate income, it was found (Severova et al., 2012), the Czech agriculture and the role of commercial loans and direct subsidies (Janda, 2009), Greece has been the effectiveness of direct subsidies to agriculture (Karagiannis and Sarris, 2002). Djurovic and Bulatovic (2014), with the increase in its research budget is no clear correlation between the funding of the agricultural sector have come to the conclusion that there is no link between the agricultural budget is high enough to get into the EU must comply with the obligations arising from the view that the proposed talks.

The role of green subsidies to agriculture was compared after accession of Czech Republic to EU, purposes of ecological subsidies were analyzed, non-economic effects of these subsidies and also their influence to employment was mentioned, among the reasons for the rejection of its production of green subsidies are not linked to economic facts till the end of the 1990 year, having low market value supported with subsidies and subsidies addresses and reasons of appointment changes were enumerated. (Lapka, 2011). Minviel and Latruffe (2014) analysed influence of subsidies to technical effectiveness of farmer agriculture and they divided subsidies allocated to farmers into 6 categories: (I) the combined subsidies (crops and livestock); (ii) intermediate consumption subsidies; (ii) environmental subsidies; (iv) subsidies to farmers in less attractive areas; (v) the financial aid allocated to production and (vi) the investment incentives. Karel (2011) said in his article on guaranteed loans and subsidies aimed at the comparison between credit market the subsidies given to the probability of a successful conclusion of the project. Karel (2005) then also mentioned that guarantees and subsidies have high quality effects.

Scientists thought that the discretion subsidies to farmers in Europe are gift for European farmers and other world's consumers by European taxpayers. If developed countries will request subsidies food of rest part of the world and it will be useful for poor population in underdeveloped countries (Eswaran and Kotwal, 2005).

Microfinance and development of the agrarian sector

Other books used in article preparation covers microfinance of the agricultural sector. In these articles were investigated dates between non-official to official establishment of microfinance, new tasks and perspective were determined, its influence to environment and poverty reduction, role in villages and agriculture was analyzed and importance of microcredit was mentioned (Srnec and Havrland, 2009), income of microfinance in accordance with the microfinance performance in Latin America against to international finance crisis, attractiveness of the financial institutions was studied (Ramirez et al., 2010), microfinance was investigated as main tool of Czech and Europe coorporation development and three form importance of microfinance were mentioned: (i) distribution of funding from government grants and local microfinance institutions and non-governmental organizations; (ii) distribution of funds through branches in developed and developing countries;(iii) distribution of funding by agents in developed countries without any mediator to local microfinance enterprises of developing countries were analyzed and role in Czech agrarian sector was mentioned (Srnec et al., 2011), effectiveness of microfinance and credit in India was investigated and valued (Kundu and Mitra, 2010), it was mentioned that being part of non-adequate accessible of "poverty trap" to finance services during application of microfinance to agriculture, four difficulties of credit in agrarian area were mentioned as below: (I), many in rural and re-

gional areas are located far from each other; (ii) climate and weather conditions increase the risk of financial instability; (iii) bank system busy with financing of city's business and their lack of knowledge of the business of agriculture make difficult offer affordable financial products; (vi) lack of knowledge of banking enterprises by agriculture owners (Kloeppinger-Todd and Sharma, 2012), microfinance institutions in Latin America and the Caribbean Sea macroeconomic factors that affect interest rates without collateral for the study of agriculture microfinance, in addition to the risk related to its interest rates to be much higher to raise the issue and put forward deposits (Janda and Zetek, 2014).

Credit role in agrarian field

Credit plays important role in development. So, farmers or owners addressed to it for new investment or adopt new technologies. It is able to mitigate the consumption of working capital and reduce poverty (Khandker and Faruqee, 2003). Credit is the important component of agriculture modernization and capital investment is requested for it and economic growth (Baker and Holcomb, 1964).

Role of SGAFF was theoretical-empiric analysed in farmers' finance in one of research work accepted as an example to the article, at the same time it was mentioned that credit is cornerstone of finance flows either in production level or in investment level, credit market is characterized with the information asymmetric, taking into account the limitations of real estate collateral loan obligation to bring domestic regulation loans is a key part of the farmers' capital investment and support the development of production, the department said, the credit market to guarantee the distribution of credit to agriculture, agro-industry, capital markets and risk banking support to farmers and the state of division concluded (Čechura, 2008). Nature of agriculture relations between bankers and farmers strength assimmetric information and it raises the possibility of the formation of the settlement of the loans (Čechura, 2008). Normalized credit role was analysed in big agriculture subjects, enterprises of other research works of agrarian area credit and it was mentioned that CR-AS sused from Kobb-Duglas function based on example econometric (Čechura, 2006). It was also mentioned that normalized loans to farmers if their production will be reduced, there is a limit credit replacement of capital stock, limit the cost of production is high, create demand for new loans, it also stimulates growth of the economy and its creditors increases. The model takes into account the risks, and for her payments, the prizes are planned. The credit interest, foreign policy, adapted to the expectations and rational decision-making process is also taken into consideration, taking into account the importance of the establishment of micro and macro factors noted in any of the models, large enterprises to set up their own financial resources to avoid shocks that may occur in the credit market will help spoke (Čechura, 2006). Later in this article, commercial loans and direct subsidies play an important role in Czech agriculture announced (Janda, 2009), India's agricultural loan portfolio of banks to manage credit risk models (Bandyopadhyay 2008), agriculture lending, commercial banks have been investigated (Betubiza and Leatham 1995), analyzed the problems of stimulating agriculture loans granted to farmers in Poland (Tomasz, 2008), the financial index and financial skills, financial skills, financial literacy index calculated through the agrarian economy in Poland examined the effects of financing and lending (Horska et al., 2013), China econometric analysis of the effects on the financial support of agriculture (Yuandong et al., 2013)

Difficulties in obtaining capital and high capital cost when it can be obtained, can act as important barriers to improvements in performance. Capital markets in the agricultural sector often seem to be underdeveloped. (Khandker and Faruqee, 2003). In contrast to the formal, official finance, informal finance, perhaps, are not as conducive to development, because: (i) it is expensive, (ii) it is short-term and largely used for consumption, and (iii) it does not encourage enough investment and growth (Khandker and Faruqee, 2003).

In many developing countries, especially in rural areas, access to financial services has limited, including credit and formal savings mechanisms. Even where financial services are available, they are often unprofitable small farmers (Obuobisa-Darko, 2015). Households receive credit through formal and informal lenders, but the official loans almost entirely to asset accumulation and production (Barslund and Tarp 2006). Unfortunately, credit is not easy accessible for the majority of farmers due to collateral and other documents which are typically required by commercial banks and other credit institutions (Nnamocha and Charles, 2015). The poor are often faced with a lack of capital and assets. Without access to the markets of mortgage loans are more difficult situation (Cuong, 2008). Usually, it is clear that the bank's experience, they were poor, the financial needs of poor families do not pay easy task (Andersen and Osvaldo, 2000).

Credit of Agriculture has given farmers an independent economic and social identity (Anka, 1992). Agricultural credit - an integral part of the process of agricultural modernization and commercialization of agricultural economy. Initiation of easy and cheap credit - is the fastest way to increase agricultural production (Khan et al., 2011). It was noticed that short-term debt and long-term debt contribute

to the growth of farmers' products. This is achieved through the purchase of improved seeds and pesticides technology using short-term debt of one side. On the other hand, long-term debt is used to purchase capital equipment used on the farm (Chisasa, 2014). At the end of the study, after econometric analysis Chisasa concluded that farmers should use more long-term debt than short-term debt in order to maximize performance. Households receive credit through formal and informal lenders, but the official loans are almost entirely used for asset accumulation and production.

Mohiuddin (1993) examining the loan recognized that a potent tool to reduce poverty in developing countries. Zuberi (1989) noted that the loan solves not only the problem of the food crisis, but also increases separate areas of the country as a whole, economic growth, savings, employment.

Values in India Soundararajan and Vivek (2015) studying the financing of the agricultural chain came to the conclusion that the financial value chain offer the opportunity to expand financing for agriculture, improve the efficiency of payment and financing ... It can improve quality and efficiency in the financing of agricultural chains. It should be noted that, throughout the world, the banking system as a function of economic, political and legal system, within which the Bank operates, plays a fundamental role in the growth and development of the economy (Akpansung and Gidigbi, 2014).

Other articles in the agriculture and agro-market, monetary, financial and credit problems and their dynamics, money supply, exchange rates, interest rates, the export of agricultural products, the general price level and the mutual relationship between financing were discussed (Order, 1986). In Hungary the opportunities and challenges of financing of agriculture were discussed. industrial sectors of the relatively long duration of the self payment the loan, given that the main cause of the funds flow of trade and industry, agriculture financing has three objectives: (i) an increase in the Competitiveness and profitability; (Ii) to protect the environment, increase the resource base of agriculture and forestry; (Iii) an increase in the level of development in this area could lead to the development of other areas, including the rise of farmers' income and social status (Cecilia et al., 2007).

From the view of world-famous scientists conducting research in the field of labor and capital credits to agriculture have to be increased productivity (Feder et al., 1985), the rational use of technology (Zeller, 1999), efficient allocation of resources, farmers' technical efficiency, revenue rise (Carter, 1989), food production an increase in agricultural production loans of nobility (Ammani, 2012), the agricultural sector, loan status, activities and determinants (Kumar et al., 2010), the agricultural sector and the role of credit loan (Asiedu and Fosu), total agricultural loans (Tilakaratna, 1963). Credit is an important component of the modernization of Agriculture and a huge capital is required for economic growth (Baker and Holcomb, 1964). Households with loans from formal and informal lenders, but loans official production is spent on absolutely

Agriculture lending in this area will adversely affect the credit demand of some factors to be able to pay by a bank, agrarian existence of asymmetric information on the financial market. Low profitability can be attributed to economic entities (Salko, 2001). The analysis of credit institutions with the ability to meet the needs of farmers loans to farmers at as an economic unit be able to return fully repaid their loans from considering all sources of income. Based on the foregoing, the most important sources of income for farmers units, such as air-climatic conditions, supply and demand for agricultural products are necessary for agricultural commodities, depending on the offer, which comes from the sale of agricultural products and transfers (Zeller, 2003).

In addition, many studies gave great attention to the balance of credit market (Besanko and Kanatas, 1993), credit and aggregate demand (Bernanke and Blinder 1988), monetary policy and credit provision (Kashyap and Stein, 1994), the choice between lending and borrowing (Diamond, 1991). Swinnen and Gow (1999) studied the effect of monetary policy to agricultural loans, Melitz and Pardue (1973) concerned monetary policy instruments that affect agricultural loans, agricultural loans per cent per cent of the credit to other sectors, the mandatory reserve requirements, open market operations, deposit interest rates on deposits of non-economic factors.

The results show increase in interest rates for agricultural loans in terms of growth in agriculture and non-agriculture, whereas the increase in interest rates causes a decline in the volume of credit in the agricultural sector (Von Pischke and Adams, 1980). Thraen and others (2000) said in the volume of credit in the agricultural sector and agricultural loans to the size of the change in the number of banks in lending.

Betubiza and Leatham (1995) emphasized 13 factors affecting the agricultural sector loans of commercial banks, including the composition of the bank's 5 factor in the bank's deposits, competition levels, organizational structure, space, shares the core of the agricultural sector are 6 factors, risks, helpful the cost of land and building, agriculture associations covered by the amount of land suitable property, mechanization level, population and oil produc-

tion, which attributed it to 2 factors.

Akram and Hussain (2008) analyzed assigned loan, the perception and attitude, by official institutions such restrictions, which are used for agriculture, pledged property, the purpose of loans from credit institutions for the official activities of the delays in the payment of loans, bank location, determinants of credit restriction, consumer spending were analyzed. Agricultural households by the financial institutions as well as the production and consumption of the existing credit restrictions will affect alignment was reached (Zhao et al., 2014).

Small farmers have been identified factors that increase the credit limit or their use, requirements for loans and loan waiver criteria for the distribution of determine the cause of the CORE (Dzadze et al., 2012). 1981 - 2010 In Nigeria, agriculture and manufacturing sectors during the period analyzed the role of banks in financing commercial banks' investments in agriculture in the GDP is weak, but with commercial bank loans a significant positive correlation between the presence of agriculture to the GDP, agriculture and manufacturing sectors, increasing the role of economic growth is still largely confined to the conclusion that banks' activities were (Toby and Peterside, 2014).

Methods Applied in the Investigation

We also fixed production factors of other loans that will adopt the methodology of the study. Indeed, Ammani has three simple regression models. The analytical framework of this study based on the following assumptions: (i) a loan is the only form of variable capital, provided for agricultural production, all the other factors of production remains constant; (ii) a loan for the acquisition and use relate to the agricultural production of the same year; (iii) there is no change in the price level; (Iv) no change in technology; (v) the output of each sub-sector of agriculture GDP is equal to the sub-sector (Ammani, 2012).

For the purposes of this article at the time of the writing of the article economic and mathematical methods were used. In this case, the support of the agrarian sector during the first research fund for more specificity in the processing of agricultural products and agricultural products separately for agriculture and processing of bank loans and preferential loans for agriculture, forestry and fishing GDP agricultural enterprises in the amount of profit and loss, balance income (damage), the cash proceeds from the sale, the income derived from the sale (damage), income derived from the sale of the crop as a whole (damage), income derived from the sale of livestock as a whole (damage), gross income, investigated the effects of agricultural products. In this case, the absolute and relative performance indicators adopted in 2005, indexes have turned 100. However, when performing a look at the statistics in the fund for the production of agricultural products and agricultural products in the amount of loans to separately identify significant changes and differences, all of them connected to a variable, as it was regarded as an influential factor in the next stage according to the quadratic, cubic, logarithmic, S equations built, estimates and projections of results have been taken.

Other scientists Heijman and Koch (2011) used from Kobb-Duglas funtion for sharing of financial resources and their forecasting during 2007–2013 years: (i) $\tilde{A}_i = \alpha + \beta P_i + \gamma l_i$; (ii) $\tilde{A}_i = \alpha P_i^{\beta} l_i^{\gamma}$. Its important to emphasize that Asiedu and Fosu in own articles mentioned line of agriculture credit influence: $S_i = E(Y) = 1/X_i = \beta_0 + \beta_1 X_i$ and logistic: $S_i = E(1/X_i) = 1/(1 + e^{\beta_0+\beta_1 X_i})$ model formation. At the same time Széles et al. (2014) analysed credit tendentions to agriculture in Humgary during 1995–2012 by the using of line and exponesional functions: $Y = a + bx$, model equation: $y = 25.585x + 70.718$ ($R^2 = 0.918$) və $Y = ab^x$, model equation: $y = 0.1027e^{-0.056x}$ ($R^2 = 0.858$).

Bashir and other scientists mentioned the main role of agriculture credits to agriculture transformation and influence of increasing participation of farmers in production process by the use of complex regression analysis (was appealed to Kobb-Duglas production function). Kumar et al. (2010) in own research article, the loan is dependent on the agricultural sector, households borrowed model mentioned 15 factors – so, household age, sex, composition, soil area, 3 type of social groups. 2 type of education level, secondary education, being of higher diploma specialist, household type-agriculture labor, household type-other labor household type-own labor and other employment.

Thomaj (2014) in own model accepted 5 main changes: (i) price index of agriculture products; (ii) loan to agriculture; (iii) inflation; (iv) GVP at agriculture; (v) import of goods included to "food, drink and tobacco" category. Model shows that bank sector finance agriculture as giving season short-term loans. In this way, internal production is stimulated, import is decreased, agriculture prices become low. This means that selling and income for it will increase and payments will be carried out. Data shortages and short-term will be accepted as shortage.

Statistic Information

Information for researches were used from publishes of Azerbaijan State Statistic Committee, annual report of Ministry of Economy and Industry and monthly and annual reports of Central Banks, quarterly and annual reports of NFES. In this situation, indications were turned into indexes and accounts were carried out (Table 1).

Table 1. Agricultural enterprises, the main economic indicators (thousand AZN)

	NFES credits for process-ing of ag-riculture products (thousand AZN[1])	NFES credits for produc-tion of agri-culture products (thousand AZN)	Bank credit to process-ing and agricul-ture (thousand AZN)	GIP.Agri-culture. forestry and fishing (thousand AZN)	Profit (thousand AZN)	Loss (thousand AZN)	Balance income (thousand AZN)	Money income from sell-ing (thousand AZN)	Income from total selling (-loss) (thousand AZN)	Income from total selling (-loss in plant) (thousand AZN)	Income from total selling (-loss in Live-stock) (thousand AZN)	Total income (with actual prices) (thousand AZN)	General agricul-tural products (with actual prices of proper years) (thousand AZN)
	X1	X2	X3	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
2005	7053.4	12987.8	97.6	1145.5	7098	1207	5891	70882	5886	2769	3117	14757	79683
2006	12576.5	23484.0	136.49	1329.3	15798	1132	14666	113561	10333	3572	6761	27908	98903
2007	13940.6	24130.4	197.24	1854.8	21890	1057	20833	157826	17369	5639	11730	39076	136783
2008	8442.5	28759.7	261.47	2236	28013	980	27033	197079	25346	6775	18571	50101	160464
2009	19643.5	22573.3	394.76	2179.5	36605	2209	34396	190167	28769	4708	24061	67149	175461
2010	10350.0	55651.9	441.35	2344.9	32385	4728	27657	188635	21876	8855	13021	71604	187694
2011	16853.0	70358.5	466.72	2643.5	41912	4992	36920	207904	34021	8980	25041	71623	198806
2012	27860.0	99968.5	546.23	2783.1	52250	4050	48200	294726	43645	14609	29036	86045	263180
2013	32679.0	149511.0	733.25	3057.8	56340	4057	52283	333604	45067	17534	27533	91903	304766
2014	22204.5	164191.0	847.28	3111	67331	3367	63964	402402	42076	16234	25842	102723	359315
Index 2000=100													
2005	100	100	100	100	100	100	100	100	100	100	100	100	100
2006	178.3	180.8	139.8	116.0	222.6	93.8	249.0	160.2	175.6	129.0	216.9	189.1	124.1
2007	197.6	185.8	202.1	161.9	308.4	87.6	353.6	222.7	295.1	203.6	376.3	264.8	171.7
2008	119.7	221.4	267.9	195.2	394.7	81.2	458.9	278.0	430.6	244.7	595.8	339.5	201.4
2009	278.5	173.8	404.5	190.3	515.7	183.0	583.9	268.3	488.8	170.0	771.9	455.0	220.2
2010	146.7	428.5	452.2	204.7	456.3	391.7	469.5	266.1	371.7	319.8	417.7	485.2	235.6
2011	238.9	541.7	478.2	230.8	590.5	413.6	626.7	293.3	578.0	324.3	803.4	485.3	249.5
2012	395.0	769.7	559.7	243.0	736.1	335.5	818.2	415.8	741.5	527.6	931.5	583.1	330.3
2013	463.3	1151.2	751.3	266.9	793.7	336.1	887.5	470.6	765.7	633.2	883.3	622.8	382.5
2014	314.8	1264.2	868.1	271.6	948.6	279.0	1085.8	567.7	714.8	586.3	829.1	696.1	450.9
Source: authors' calculations													

X1 – NFES credits for processing of agriculture products; X2 – FES credits for production of agriculture products; X3 – Bank credit to processing and agriculture; Y1 – GIP. Agriculture. forestry and fishing; Y2 – Profit; Y3 – Loss; Y4 – Balance income; Y5 – Money income from selling; Y6 – Income from total selling (-loss); Y7 – Income from total selling (-loss in plant); Y8 – Income from total selling (-loss in livestock); Y9 – Total income (with actual prices); Y10 – General agricultural products (with actual prices of proper years)

[1] 1 AZN = 0.52 Euro

Econometric Results

We used a method of multifactor correlation and regression analysis, which was carried out using SPT "PASW Statistic 18" (Figure 1).

Y1=	94.769	+0.039x_1	-0.050x_2	+0.281x_3
Sig.	(0.004***)	(0.719)	(0.430)	(0.027**)
Correlations		(0.751)	(0.863)	(0.942)
t-statistic	(4.559)	(0.377)	(-0.846)	(2.897)
Std. Error	(20.789)	(0.104)	(0.059)	(0.097)

F = 17.89663; R^2 = 0.89948; DW = 1.659

Y2 =	27.596	+0.333x_1	-0.110x_2	+1.073x_3
Sig.	(0.630)	(0.267)	(0.499)	(0.005***)
Correlations		(0.815)	(0.919)	(0.978)
t-statistic	(0.508)	(1.223)	(-0.720)	(4.235)
Std. Error	(54.350)	(0.272)	(0.153)	(0.253)

F = 57.909; R^2 = 0.967; DW = 2.270

Y3=	48.143	-0.026x_1	-0.145x_2	+0.619x_3
Sig.	(0.658)	(0.962)	(0.636)	(0.237)
Correlations		(0.529)	(0.633)	(0.714)
t-statistic	(0.463)	(0.050)	(0.499)	(1.282)
Std. Error	((103.480)	(0.519)	(0.292)	(0.482)

F = 2.267815; R^2 = 0.531376; DW = 0.983

Y4=	23.386	+0.407x_1	-0.103x_2	+1.166x_3
Sig.	(0.759)	(0.307)	(0.633)	(0.014*)
Correlations		(0.786)	(0.781)	(0.815)
t-statistic	(0.322)	(1.116)	(0.503)	(3.440)
Std. Error	(72.734)	(0.365)	(0.205)	(0.339)

F = 41.24149; R^2 = 0.953748; DW = 2.139

Y5 =	86.443	+0.063x_1	+0.087x_2	+0.376x3
Sig.	(0.073)	(0.764)	(0.466)	(0.089)
Correlations		(0.785)	(0.043)	(0.964)
t-statistic	(2.175)	(0.315)	(0.778)	(2.030)
Std. Error	(9.737)	(0.199)	(0.112)	(0.185)

F=30.01182; R2=0.937523; DW=1.654

Y6 =	3.317	+ 0.825x_1	-0.205x_2	+ 0.864x_3
Sig.	(0.969)	(0.092)	(0.411)	(0.065)
Correlations		(0.861)	(0.850)	(0.913)
t-statistic	(0.040)	(2.001)	(0.883)	(2.255)
Std. Error	(82.225)	(0.412)	(0.232)	(0.383)

F = 18.44826; R^2 = 0.902192; DW = 1.992

Y7 =	59.423	+ 0.267x_1	+ 0.348x_2	+ 0.059 x_3
Sig.	(0.277)	(0.326)	(0.048*)	(0.806)
Correlations		(0.826)	(0.786)	(0.781)
t-statistic	(1.195)	(1.070)	(2.480)	(0.257)
Std. Error	(49.716)	(0.249)	(0.140)	(0.232)

F = 35.9975; R^2 = 0.947365; DW = 2.414

Y8 =	-46.527	+ 1.320x_1	-0.696x_2	+ 1.579x_3
Sig.	(0.735)	(0.092)	(0.109)	(0.042*)
Correlations		(0.809)	(0.786)	(0.781)
t-statistic	(0.354)	(2.005)	(1.879)	(2.579)
Std. Error	(131.39)	(0.658)	(0.370)	(0.612)

F = 10.75322; R^2 = 0.843177; DW = 2.187

Y9 =	51.764	+0.167x_1	-0.263x_2	+1.093x_3
Sig.	(0.227)	(0.420)	(0.051**)	(0.001***)
Correlations		(0.771)	(0.786)	(0.781)
t-statistic	(1.345)	(0.865)	(2.525)	(6.093)
Std. Error	(38.492)	(0.193)	(0.109)	(0.179)

F = 61.64113; R^2 = 0.968574; DW = 2.050

Y10 =	71.541	+ 0.027x_1	-0.057x_2	+ 0.330x_3
Sig.	(0.008***)	(0.776)	(0.313)	(0.008***)
Correlations		(0.791)	(0.786)	(0.781)
t-statistic	(3.883)	(0.297)	(1.100)	(3.851)
Std. Error	(18.423)	(0.092)	(0.052)	(0.086)

F = 89.69836; R^2 = 0.978189; DW = 2.041

Note:*** p < 0.01; **p < 0.05; * p < 0.1

It can be said accordance with the indications of calculations that increase of NFSE credits for agriculture products processing and production and allocated bank credits for agriculture products processing and production resulted with both either microeconomic or finance indications of agrarian field. Ahmad (2011) thought that agriculture credits actual indirect influence to agriculture products.

To express both either macroeconomic or finance indications influence of NFES and bank credits to agrarian field the following functions were selected: (a) cubic for GIP in Agriculture. Forestry and fishing; (b) profit logarithmic, cubic and S; (v) quadratic and cubic for loss; (q) logarithmic, cubic and S for balance income (loss); (d) cubic for money income from selling; (e) logarithmic and cubic for income from total selling (loss); (f) quadratic, cubic for income for total selling (-loss in plant); (g) S for income from total selling (-loss in Livestock); (h) cubic and S for general income; (i) quadratic and cubic for agriculture total products

Cubic	y1=	8.096	+1.118x	-0.002x^2	+9.840E-7x^3
	Sig.	(0.885)	(0.050*)	(0.195)	(0.133)
	Standardized Coefficients Beta		(5.905)	(-10.266)	(5.299)
	t-statistic	(0.150)	(2.446)	(-1.736)	(1.458)
		(53.826)	(0.457)	(0.001)	(0.000)
F = 16.738; R^2 = 0.893					

Logarithmic	y_2=	-1425.515	+335.426lnx
	Sig.	(0.000**)	(0.000**)
	Standardized Coefficients Beta		(0.959)
	t-statistic	(-7.040)	(9.616)
	Std. Error	(202.497)	(34.880)
F = 92.476; R^2 = 0.920			

Cubic	y_2=	-190.803	+3.714x	-0.006x^2	+3.112E-6x^3
	Sig.	(0.404)	(0.085)	(0.220)	(0.287)
	Standardized Coefficients Beta		(4.323)	(-7.039)	(3.694)
	t-statistic	(-0.898)	(2.057)	(-1.367)	(1.168)
	Std. Error	(212.510)	(1.805)	(0.004)	(0.000)
F = 22.741; R^2 = 0.919					

S	Ln(y_2)=	6.996	-233.967(1/x)
	Sig.	(0.000**)	(0.000**)
	Standardized Coefficients Beta		(-0.960)
	t-statistic	(60.709)	(-9.719)
	Std. Error	(0.115)	(24.073)
F = 99.463; R^2 = 0.922			

Quadratic	y_3=	-129.859	1.734x	-0.001x^2
	Sig.	(0.141)	(0.004***)	(0.009***)
	Standardized Coefficients Beta		(3.972)	(-3.395)
	t-statistic	(-1.657)	(4.207)	(-3.596)
	Std. Error	(78.358)	(0.412)	(0.000)
F = 13.204; R^2 = 0.790				

Cubic	y_3=	-195.913	+2.347x	–0.003x^2	+9.480E-7x^3
	Sig.	(0.296)	(0.158)	(0.425)	(0.674)
	Standardized Coefficients Beta		(5.375)	(-6.972)	(2.214)
	t-statistic	(-1.145)	(1.615)	(-0.855)	(0.442)
	Std. Error	(171.102)	(1.454)	(0.003)	(0.000)
F=7.856; R^2=0.797					

Logarithmic	y_4=	-1606.139	376.617Lnx
	Sig.	(0.000***)	(0.000***)
	Standardized Coefficients Beta		(0.947)
	t-statistic	(-6.152)	(8.375)
	Std. Error	(261.058)	(44.968)
F=70.146; R^2=0.898			

Cubic	y_4=	-189.756	+3.994x	-0.006x^2	+3.556E-6x^3
	Sig.	(0.509)	(0.133)	(0.281)	(0.335)
	Standardized Coefficients Beta		(4.089)	(-6.821)	(3.712)
	t-statistic	(-0.701)	(1.738)	(-0.855)	(1.048)
	Std. Error	(270.532)	(2.298)	(0.005)	(0.000)
F = 17.734; R^2 = 0.899					

S	ln y_4=	7.119	-240.609(1/ x)
	Sig.	(0.000***)	(0.000***)
	Standardized Coefficients Beta		(-0.952)
	t-statistic	(54.087)	(-8.751)
	Std. Error	(0.132)	(27.495)
F = 76.582; R^2 = 0.905			

Cubic	y_5=	-2.774	+1.553x	-0.002x^2	+1.528E-6x^3
	Sig.	(0.982)	(0.171)	(0.320)	(0.340)
	Standardized Coefficients Beta		(3.382)	(-5.773)	(3.394)
	t-statistic	(-0.024)	(1.554)	(0.002)	(1.037)
	Std. Error	(117.581)	(0.999)	(0.002)	(0.000)
F = 21.083; R^2 = 0.913					

Logarithmic	y_6=	-1180.274	+285.824 lnx
	Sig.	(0.001***)	(0.000***)
	Standardized Coefficients Beta		(0.925)
	t-statistic	(-4.895)	(6.882)
	Std. Error	(241.127)	(41.535)
F = 47.357; R^2 = 0.855			

Cubic	y_6=	-43.773	+2.167x	-0.002x^2	+ 4.159E-7x^3
	Sig.	(0.868)	(0.350)	(0.724)	(0.899)
	Standardized Coefficients Beta		(2.853)	(-2.556)	(0.558)
	t-statistic	(-0.174)	(1.013)	(-0.371)	(0.132)
	Std. Error	(251.764)	(2.139)	(0.005)	(0.000)
F = 11.770; R^2 = 0.855					

Quadratic	y_7=	4.101	+1.021x	+0.000x^2
	Sig.	(0.935)	(0.005***)	(0.143)
	Standardized Coefficients Beta		(1.631)	(-0.670)
	t-statistic	(0.085)	(4.022)	(-1.652)
	Std. Error	(48.266)	(0.254)	(0.000)
F = 86.976;R^2 = 0.961				

Cubic	y_7=	51.777	+ 0.579x	+ 0.001x^2	-6.843E-7x^3
	Sig.	(0.639)	(0.539)	(0.756)	(0.621)
	Standardized Coefficients Beta		(.925)	(1.131)	(-1.115)
	t-statistic	(0.494)	(0.651)	(0.325)	(-0.521)
	Std. Error	(104.750)	(0.890)	(0.002)	(0.000)
F=52.040;R^2=0. 963					

S	ln(y_8)=	7.129	-231.901(1/x)
	Sig.	(0.000***)	(0.001***)
	Standardized Coefficients Beta		(-0.879)
	t-statistic	(33.547)	(-5.224)
	Std. Error	(0.213)	(44.394)
F=27.287;R^2=0.773			

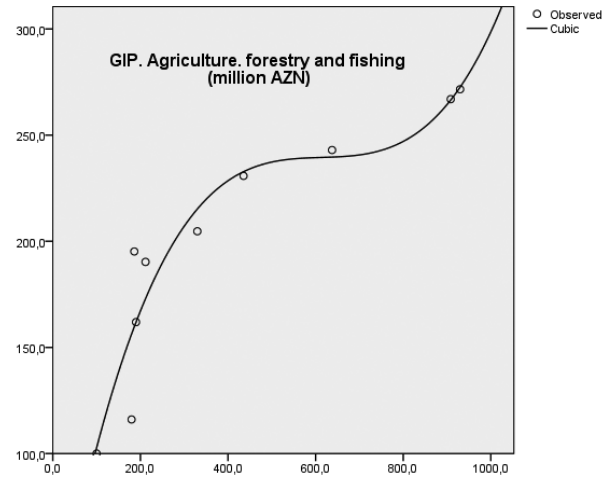
Cubic	y_9=	-228.035	+3.895x	-0.006x^2	+3.571E-6x^3
	Sig.	(0.212)	(0.031)	(0.087)	(0.131)
	Standardized Coefficients Beta		(6.211)	(11.064)	(5.807)
	t-statistic	(-1.398)	(2.810)	(-2.044)	(1.746)
	Std. Error	(163.155)	(1.386)	(0.003)	(0.000)
F = 20.365;R^2 = 0.911					

S	ln(y_9)=	6.747	-209.326(1/x)
	Sig.	(0.000***)	(0.000***)
	Standardized Coefficients Beta		(-0.951)
	t-statistic	(58.793)	(-8.733)
	Std. Error	(0.115)	(23.970)
F = 76.262;R^2 = 0.905			

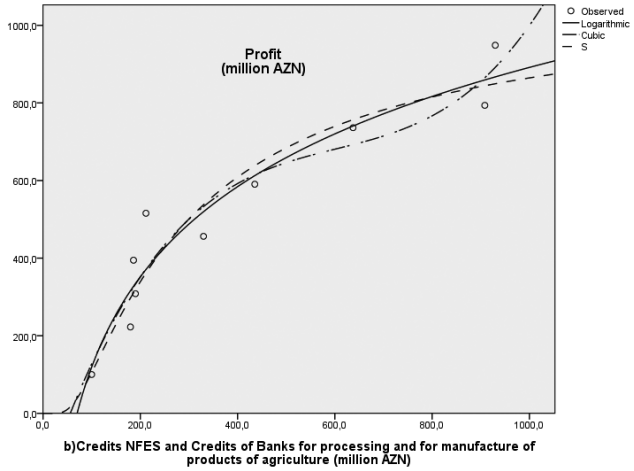
Quadratic	y_{10}=	79.481	+0.493x	-0.000x^2
	Sig.	(0.071)	(0.040)	(0.471)
	Standardized Coefficients Beta		(1.369)	(-0.415)
	t-statistic	(2.130)	(2.513)	(-0.761)
	Std. Error	(37.322)	(0.196)	(0.000)
F = 46.645; R^2 = 0.930				

Cubic	y_{10}=	0.729	+ 1.224x	-0.002x^2	+ 1.130E-6x^3
	Sig.	(0.992)	(0.100)	(0.240)	(0.270)
	Standardized Coefficients Beta		(3.396)	(-5.582)	(3.199)
	t-statistic	(0.010)	(1.942)	(-1.303)	(1.215)
	Std. Error	(74.183)	(0.630)	(0.001)	(0.000)
	F=33.708;R^2=0.944; DW=2.041				

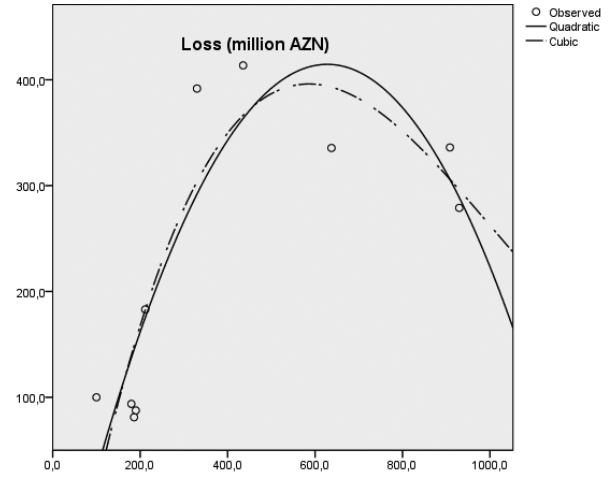
Note:*** p < 0.01;**p < 0.05;* p < 0.1



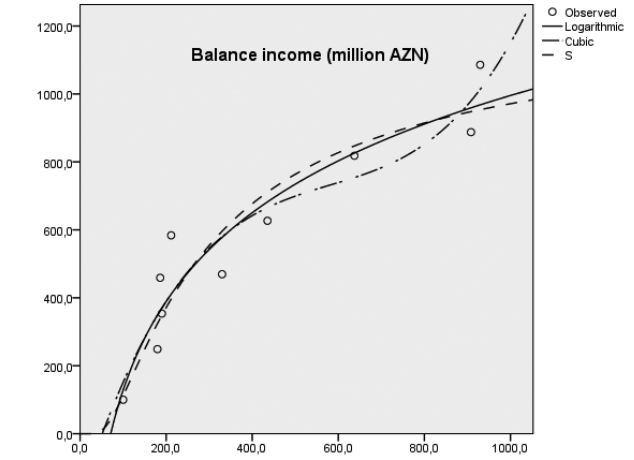
1a a)Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)



1b b)Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)

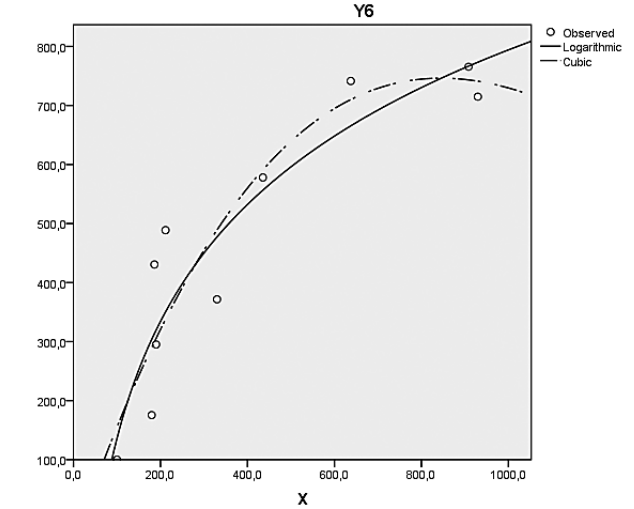


1v v) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)



1q q) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)

1d d) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)



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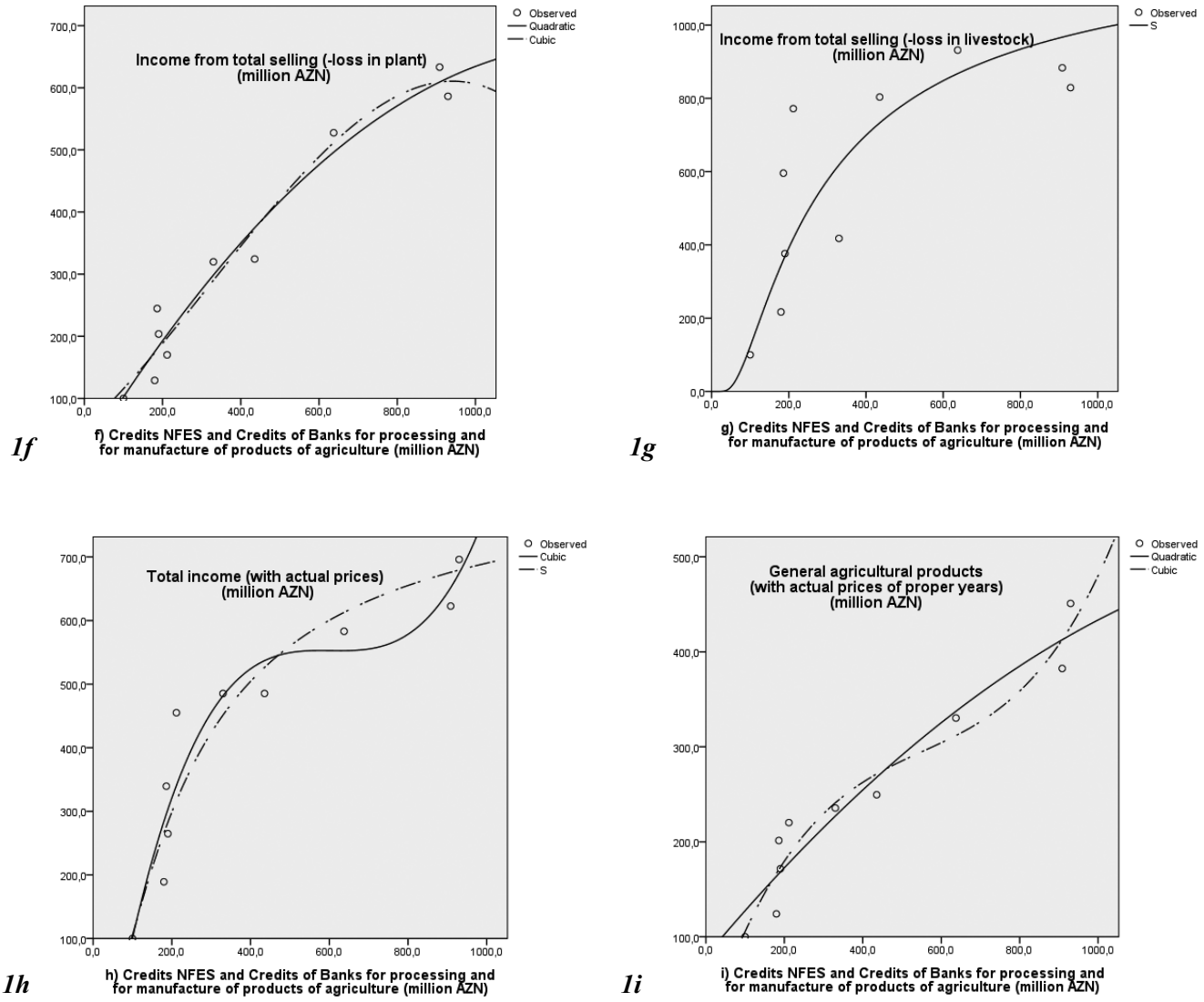


1f f) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)

1g g) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)

1h h) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)

1i i) Credits NFES and Credits of Banks for processing and for manufacture of products of agriculture (million AZN)

Fig. 1. The selected functions of dependence of macroeconomic and financial indicators of agrarian economy of Azerbaijan from credits NFES and from bank credits

Difficulties and Discussions

Difficulties during article preparation were connected with the having of Azerbaijan Republic to independent policy and independent economy as former Soviet republic and some aspects related with it. So, notwithstanding some signs of market policy in Eastern Europe countries are available now, but access to market policy of present CIS countries has been started from 1991-1992 years and first full collective and state farms cancelled and lands were issued to local population and property of village laborers. And it resulted with difficulties because liberalization works of economy carried out and state support minimized. However, with the launch of the full power of oil contracts for oil exporters and oil prices in the world market due to a favorable level of support for the agricultural sector have been restored, we started to give grants and soft loans. Increase in soft loans for agriculture products processing by NFES during 2006-2007 years, decrease in 2008 year and rapid increases during 2009 year, 47.3% decrease in 2010 year and relatively

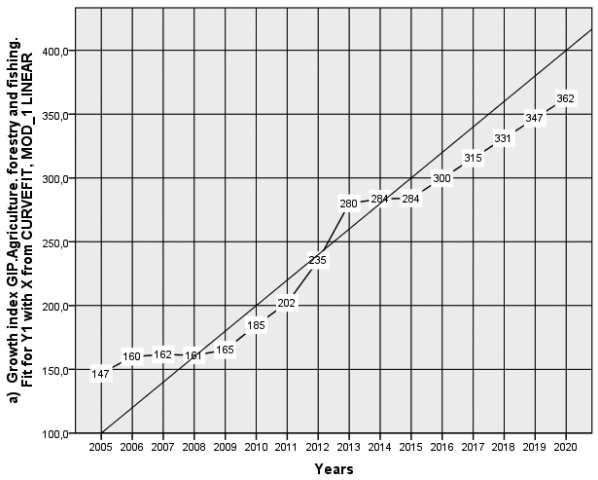
stable growth of next years and 21.5% decrease on credits allocated for agriculture production by NFES, 2.5 increase for next year and relatively stable growth of next years and at the same time reality of forecasting could raise doubts. However, commercial banks are focusing on production and processing of agricultural products has not been sharp fluctuations in the volume of loans. That's why we tried to make simple models using from complex correlation-regression model for determination influence of soft loans by NFES to agriculture products processing and production and credits by commerce banks for agriculture products processing and production to main macroeconomic and finance indications.

Then a bit of research to the deep agrarian sector loans allocated by combining these three as an influential factor agreed. As part of the active factor in the development of the agricultural sector waking up, to analyze the impact of macroeconomic and financial indicators and forecasts and models were selected to provide the appropriate curves, curves to be visual graphics model was given.

In particular, it is necessary that the dependent and independent variables, though in different ways, are built using curves RASW Statistics18 program, but they will have to apply to functions through the provision of forecasts. These forecasts are provided in Figure 2.

The General Results

As you know, Azerbaijan is agrarian-industrial state based on natural resources. This state met with first profit of oul contracts with Western Companies concluded in 1994 during 2005-2006 years. Baku-Tbilisi-Jeyhan main export oil pipeline began pumping oil in the world market and the favorable conjuncture increase of oil exports, namely the Republic of high oil prices has enough oil in dollars. The socio-economic development of these funds and special state programs were sufficient funds. One of these fields was agrarian field. In



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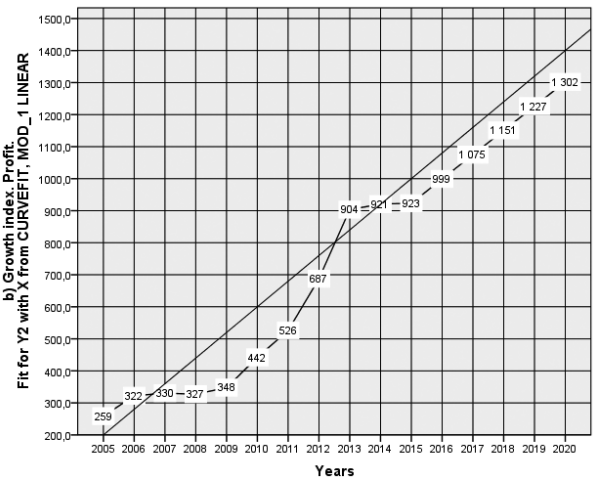

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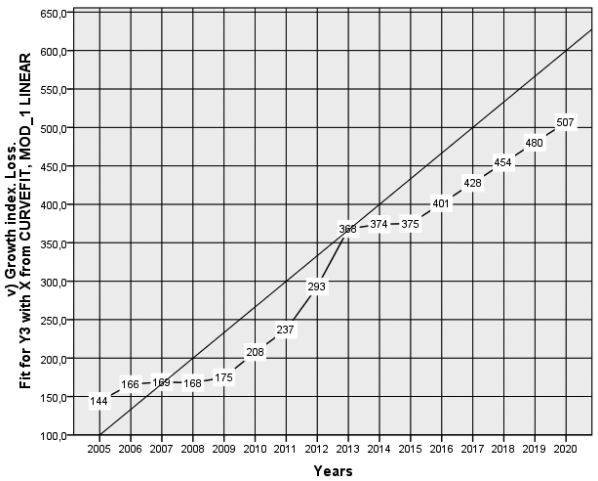

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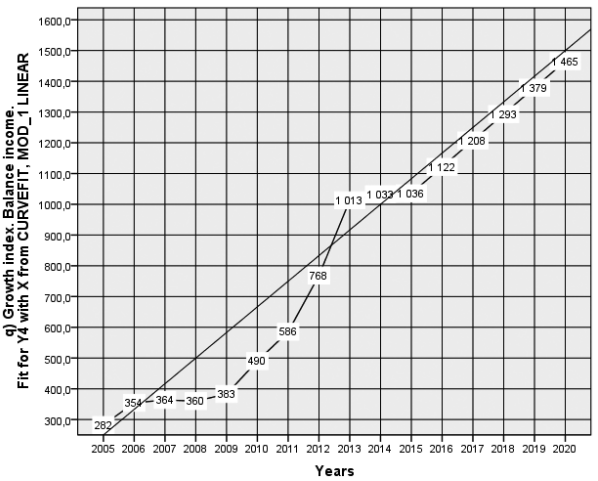

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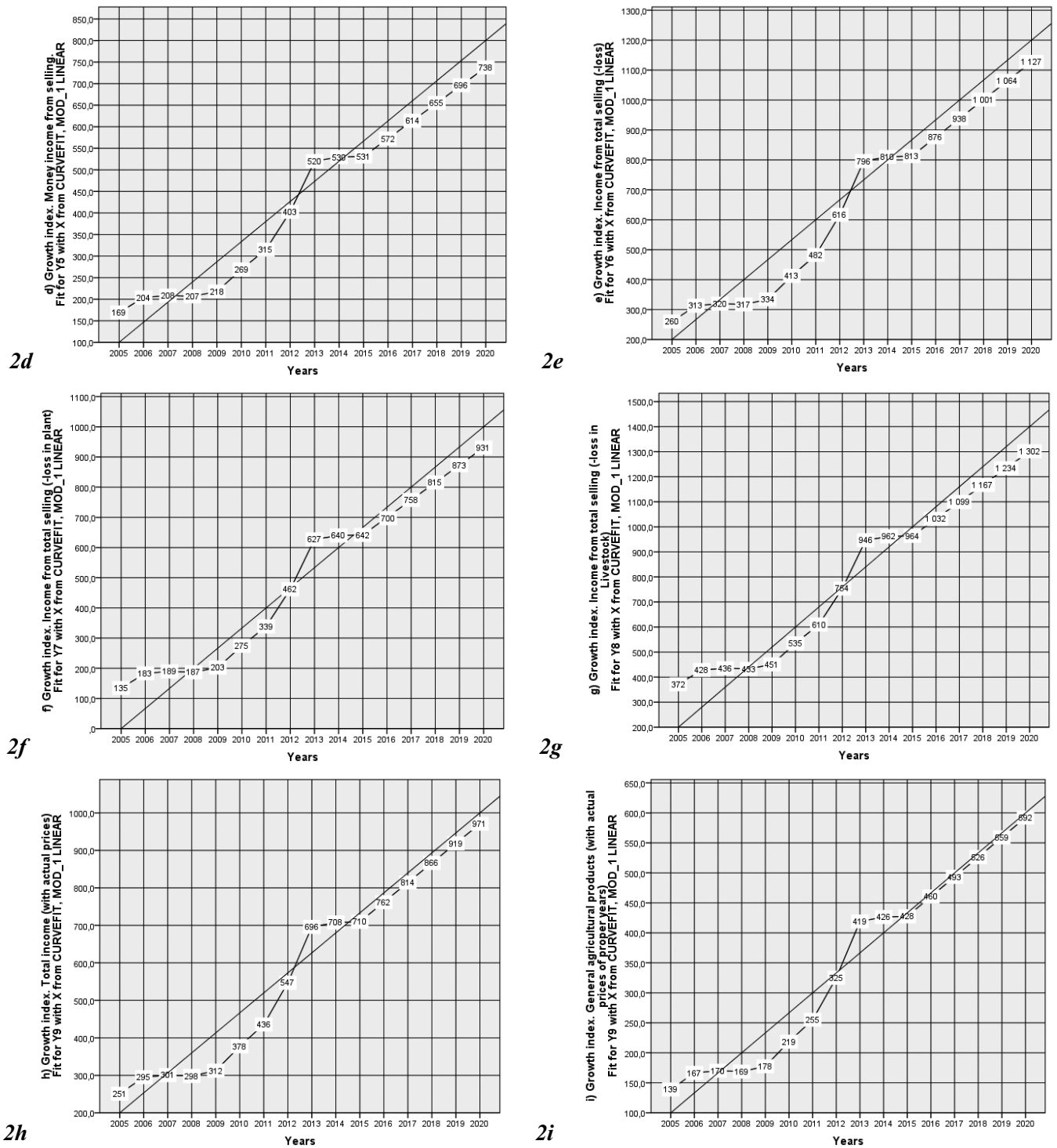

Fig. 2. Forecasts of an index of growth of macroeconomic and financial indicators of agrarian economy of Azerbaijan depending on credits NFES and from bank credits (on years)

Note: X – Credits NFES and bank credits

this situation NFES started to direct its main resources to agrarian field. But fluctuations in the market price of the agricultural sector funding and as a result, have caused a lot of change in the macroeconomic and financial indicators in 2008-2010 years. General statistics and data analysis as well as a visual look at the table prepared for the fluctuations were observed in all indicators except for bank loans. So, descent and rise sharply of credits by NFES to agriculture products processing and production during 2008-2010 years were resulted with the decreasing in GIP of kənd təsərrüfatı, meşə təsərrüfatı və balıqçılıqda during 2009, decrease of profit in 2010 year, increase of loss during 2009, decrease of mone income from total balance income selling (lost), decrease of income from total selling (loss), decrease of income from total selling of plant in 2009 and cattle-breeding in 2010 year. Generally, general income, general agricultural products increased. Available of such situations raised difficulties during calculations. And being of some doubts are inevitable. But of course, we can substantiate with we have seen in the last two years, the visual indicators of lower oil prices and other economic uncertainties.

In other words, the financial resources allocated to the agricultural sector through the forecast for the years specified in the loan, then the analysis of macroeconomic and financial performance of the agricultural sector forecasts were dependent on loans from the free factor. Such an option may be the difficulty in forecasting the probability of selection on the basis of their primary functions is associated with forecasting of 2015–2010 years.

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