

Role of Bank Credits in Development of Agriculture Sector

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ABSTRACT: The purpose of implementing current work was to determine the role of banking services in development and progress of agriculture in Iran. For this purpose, variables associated with bank facilities including long-term, mid-term and current facilities were used as conceptual model of the current research. On the other hand, existing indications and evidences indicate that in the process of development and growth, employment in the agriculture sector has been usually descending due to several reasons such as capital-intensive production and using modern technologies, while this trend has been ascending in two other sectors, namely industry and services. This paper demonstrates that the agriculture sector in Iran has not optimally used all its existing facilities and thus it seems that some employment opportunities have been lost there. This issue was investigated by looking at the agriculture sector and using statistics of time series from 1980 to 2010 as well as econometric models. In this regard, the required information and data were collected in terms of library and field studies, while SPSSwin software was utilized to run statistical tests in addition to a comprehensive review on the existing literature related to agricultural development. Thereby, the role of banking services was assessed in development of progress of agriculture in Iran. The results of this research demonstrated that the credits of Agriculture Bank have positively influences employment and short-term and investment in long-term. Therefore, application of a credit regime at least in short-term can develop employment opportunities in this sector.

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Introduction

It is well known that employment and its rate are influenced by various factors like any other economic and social variable. Some of these factors are production rate, investment rate, level of wages and prices, monetary policies, financial policies, foreign trade and etc. By changing each variable, employment rate is directly or indirectly influenced with both employment and unemployment rates being determined in the market. Each variable might have positive or negative effects on the market process. As a result, consequences and effects of each variable must be studied in order to positively influence the employment rate and provide more job opportunities through identification of the barriers and mitigating or resolving them. In this regard, bank credits are known as an important and influential factor on employment, which develop job opportunities for job seekers by providing investment opportunities for the manufacturers.

Bank credits are allocated to various economic activities in terms of priorities of development goals, while the agriculture sector also benefits from these credits for development of production, investment and finally employment. Most of the bank credits for the agriculture sector (more than 50% of it) are financially supplied by Agriculture Bank (Table 1), which plays a significant role in financing options of the farmer. Therefore, it can have positive and important effects on this economic sector in terms of

production, income, investment and employment. However it has been frequently mentioned in the development literature that employment in the agriculture sector is decreased with its excess labor force being shifted to the sectors of industry and services during the development process, it must be noted that this case is satisfied just when all the existing facilities are completely used (Gharabaghian, 2002, pp. 554-556).

Unfortunately in Iran, land, water, different climates, technology and etc. are not completely and optimally used. Thus, it is still possible to develop employment alternatives in the agriculture sector by proper planning and by using the existing resources or creation of new ones. When believed that the existing agricultural resources are not completely and optimally exploited and there is loss of resources or it is possible to create new facilities for development of the activities in this sector just by small investment, one can expect development of the job opportunities in this sector. So, since the employment is the agriculture sector is not saturated in Iran, this study aims to investigate one of the effective factors on employment in this sector, i.e. credits, in order to evaluate the effect of this factor on employment and development of the agriculture sector and suggest some solutions by analysis of the results.

Importance and Necessity

Agriculture is one of the most important sectors of economy in Iran and a considerable contribution of

the employed people is allocated to it, such that today near one-fourth of the employed population of Iran belongs to the agriculture sector. Therefore, it is inevitably necessary to pay attention to this sector and the large population of employed people in it, as well as development and improvement of its current status. Agricultural development is only possible by material and immaterial supports of the government and other involved parties, because most of the employed people in the great family of agriculture are of low-income classes (Soleimanipour & Nikouyi, 2004). Strategy of the agricultural development is in fact a road map which contributes to government officials, policy makers, society members, and also private sector and public sector investors to achieve

critical and key goals of the agriculture sector, usually including improved productivity and competitiveness, reduction of rural poverty, enhanced food security of families, increased capital savings of rural families, improved management and sustainable management of the natural resources, for proper selection of its way (Azimi, 1994).

Problem Definition

The problem here is indeed the difference between existing situation and desired situation. In other words, this problem means the distance between where the agriculture is located now and where wished to be. The problem is solved when current situation could be transformed to the desired situation (Huber, 1980).

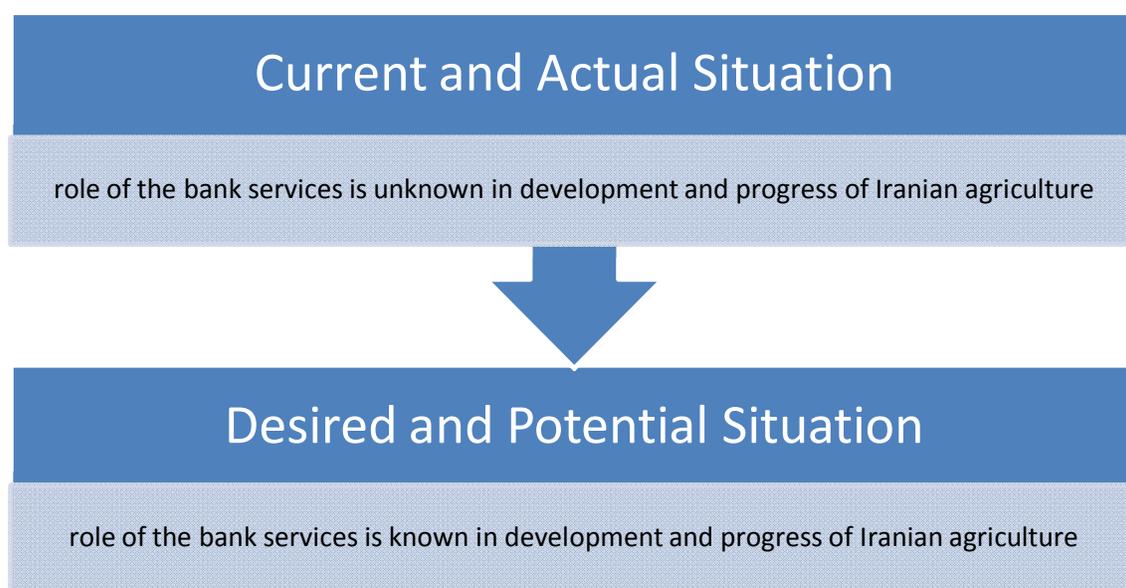


Fig. 1. Problem definition

Conceptual Framework of Research

Each conceptual model is supposed as an onset and base for implementation of studies and researches such that describes the variables under study and the correlations between them (Edwards et al., 2000). In other words, it can be declared that the conceptual model or mental map (Maastricht School of Management, 2001) and analytical instrument (Mirzayi, 1996, p.10) is ideally defined as a strategy to initiate and implement research. Thereby, it is expected that the variables, correlations and interactions between them are examined well, while some modifications are done with some of their factors being added or removed when necessary (Sautter & Leisen, 1999). The following conceptual framework variables are introduced courtesy of Agriculture Bank (Maleki, 2009).

This study will benefit from extraction procedure of component variables under

measurement from the relevant existing literature as well as deeds and documents of Agriculture Bank. It will also use expert survey for finalizing the variables.

Variables: Independent variables (bank facilities including long-term, mid-term and current facilities) - Dependent variable (agricultural development).

Research Objectives: Primary objective (determination of effect and role of banking services on the agricultural development of Mazandaran province) - Secondary objectives (determination of effect and role of long-term bank facilities on the agricultural development of Mazandaran province, determination of effect and role of mid-term bank facilities on the agricultural development of Mazandaran province, determination of effect and role of current bank facilities on the agricultural development of Mazandaran province).

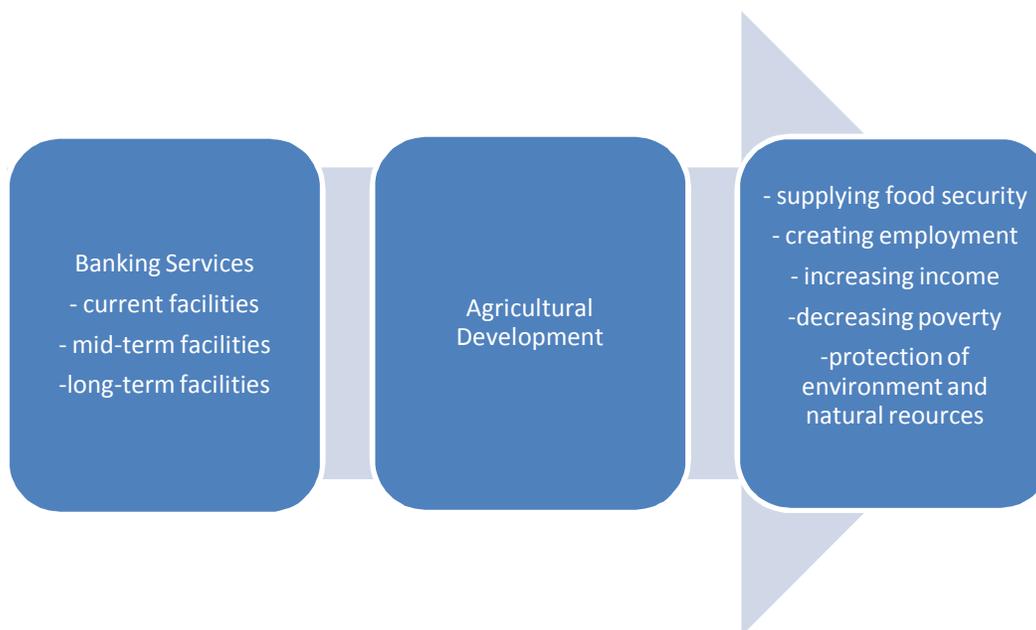


Fig.2. Conceptual framework of research

Definitions

Long-term facilities (capital): Paid for construction of production units or purchase of agricultural machineries. The maximum repayment period is 10 years (Maleki, 2009).

Mid-term facilities (working capital): Paid to supply the required liquidity of production, service, industrial and business units as subsets of the agriculture sector. The maximum repayment period is 4 years when civil partnership contract is used (Maleki, 2009).

Current facilities: Paid to supply current expenditures for one period production of all the units including poultry, farming and cattle. The maximum repayment period is 1 year (Maleki, 2009).

Agricultural development: Agricultural development is the basic and indispensable component of national development. In other words, agricultural development also participates in the socio-economic development. Due to its significant importance, adoption of any kind of socio-economic development plan entails reaching some degrees of agricultural development and progress. Therefore, agricultural development is examined within the framework of national development (Saadi, 1995).

Supplying food security: This may probably be the most reason of agricultural development, since malnutrition occurs upon shortage of proper food, which is a barrier against development.

Creation of employment, increasing income and poverty reduction: Production and supply is enhanced by agricultural development, so do the income. Increasing the income will reduce poverty as

one of the goals of development. Rural subsidiary industries are supported by agricultural development. Thus, some new jobs are created and employment rate is raised in the society. In this regard, part of the hidden unemployment which is evident in the society can be removed.

Protection of environment and natural resources: Natural resources are limited and they will be certainly destroyed if used inappropriately. Conventional agriculture methods often intensify environmental damages, while they do not optimally use the existing resources. By agricultural development and approaching toward sustainable agriculture, knowledge of the producers will be updated about production and they will decide to protect the environment themselves in addition to optimally use the resources.

Experimental Studies

Experimental studies demonstrate that credit and loan have positively influenced the process of production and employment. For example, Burges and Pande have investigated the effect of increased number of new branches established by Central Bank of India on rural development there (during 1969 to 1992). Their results show that these newly established branches have changed the structure of production and employment, and they have finally reduced poverty and inequality (Burges & Pande, 2002). Moreover, Monge-Naranjo and Hall have explored the effect of access to credits on manufacturing companies in Costa Rica. Their research reveals that the access to credits has positive effect on performance and employment of these

manufacturing companies (Monge-Naranjo & Hall, 2003). Furthermore, in Iran a similar research conducted by Ghavam in 1992 indicates that the agricultural credits have not satisfied the expected potential changes in spite of their successes and production growth reported so far (Ghavam, 1992).

Thus, it is observed that production and employment effects of the credits are different among various countries due to their dissimilar social and economic structures, so each country must emphasize it adequately according to its existing conditions. The necessity of this issue is better understood when considering that the first solution to solve production and unemployment problems is always allocation of some credits that is to say investment. Particularly in Iran, where some budgets in terms of imposed facilities, construction credits and bank credits are used to increase production and employment every year. However, there have been just a few researches which have addressed the following questions: What is the effects of these monetary and bank policies in terms of economic sectors? Where are problems and barriers and how they can be resolved? How these policy tools can be improved by offering proper solutions?

Attention to these issues and studying them are of higher importance and position nowadays when unemployment and production crises are major problems of Iran. For this purpose, current paper aims to study the effect of credits provided by Agriculture Bank on employment of the agriculture sector. Thereby, this could be an introduction to future works and optimal policy making for solving the existing problems.

Source of Agricultural Credits in Iran

Farmers have two finance options to increase their profit and production, in addition to improve performance and productivity of their products: (1) using their savings, (2) using credits (Duru et al., 1993, p.9). Rural families in developing countries do not have significant savings to finance their activities due to their insufficient annual income. Then, they must supply part of their financial needs from official and unofficial sources. There are three official credit sources in rural economy:

- 1) Commercial banks: Banks which have special criteria for giving collateral and secured loans. In most cases this makes some problems for the farmers to get their needed credit or loan timely, so they would refer to other official or unofficial sources to supply their financial need.

- 2) Specialized agriculture banks: These banks are established to compensate for inability of the commercial banks in providing adequate services to the farmers. They can thus significantly influence the agriculture either in positive or negative manner.
- 3) Public sector: Includes Funds loan which help the farmers to supply their financial needs (Taleb, 1993, p. 68).

Unofficial sources of loans mainly include the followings: urban shopkeepers or local traders, self buyers, owners, owners of tangible assets such as tractors and etc., friends and relatives, other rich people (Taleb, 1993, pp. 62-66).

Statistically, the existing information demonstrates that Agriculture Bank has a considerable contribution of the credits allocated to the agriculture sector. Table 1 shows that during the period under study, contribution of Agriculture Bank in the facilities devoted to the agriculture sector was in average more than 50%. For example the amount of these facilities has reached from 563.1 trillion Rials in 2001 to 6785 trillion Rials in 2010. Figure 1 shows the importance of Agriculture Bank in financing the agriculture sector. It can be observed that the greatest and smallest contributions of Agriculture Bank are associated with years 2010 (63.6%) and 2005 (38.3%), respectively. In recent years, stocks of Agriculture Bank have been ascending according to the initial goals of establishing it, i.e. financing the agriculture sector. However, evaluation of these credits needs individual scientific research on any field of activity in the agriculture sector.

Table1. Contribution of agriculture bank in total facilities all banks have devoted to the agriculture sector*

Year	All Banks	Agriculture Bank	Contribution
2001	956.9	563.1	58.8
2002	1076.4	546.3	51.0
2003	1725.1	825.9	47.1
2004	2364	1036.1	43.8
2005	3362	1286.8	38.3
2006	3695.2	1585.7	42.9
2007	5288.2	2359.4	44.6
2008	6791.1	3579.6	52.6
2009	8055.1	4235.5	52.6
2010	10664	6785.0	63.6

*References: Balance sheets from central bank of the Islamic Republic of Iran from 2001 to 2010

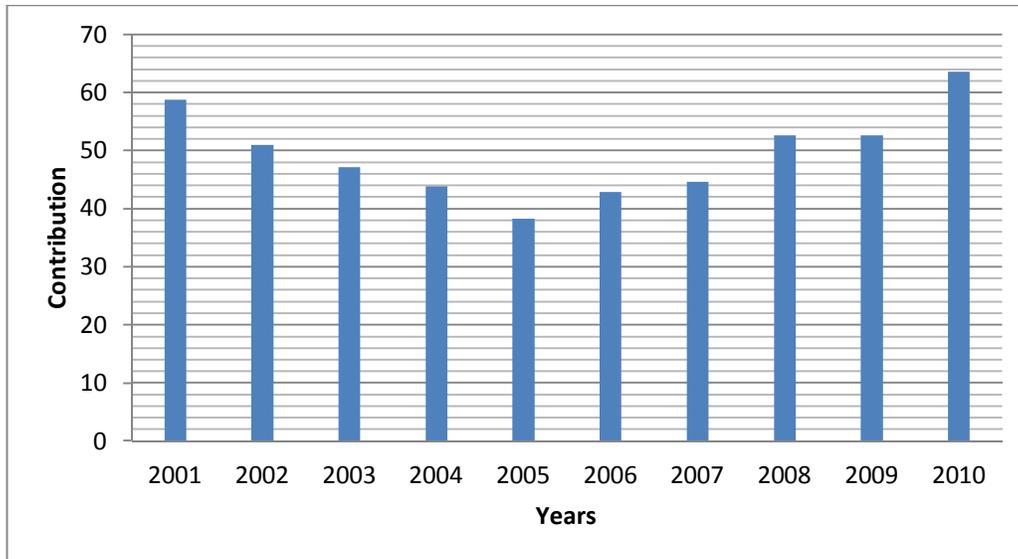


Fig.3. *References: Balance sheets from central bank of the Islamic Republic of Iran from to

Research Data and Method

The following model has been proposed to evaluate the effect of credits of Agriculture Bank on employment of the agriculture sector:

$$E = \alpha_0 + \alpha_1 VADD + \alpha_2 IC + \alpha_4 CREDITC + u$$

Where:

VADD: value added of the agriculture sector to fixed price in 1982 (trillion Rials); *IC*: investment of the agriculture sector to fixed price in 1982 (trillion Rials); *E*: employment rate in the agriculture sector (men), *CREDITC*: credits of Agriculture Bank paid to the agriculture sector to fixed price in 1982 (million Rials). Credits of Agriculture Bank have been entered the mode in addition to these two variables for studying the effect of agricultural credits on employment in this paper. It can be noticed that the correlation between credits of Agriculture Bank and investment in the agriculture sector indicates that there is no collinearity between these two variables. This paper has used the abovementioned model and time series analyses to investigate the effect of credits supplied by Agriculture Bank for the agriculture sector. The required data are collected from statistical yearbooks of Statistical Center of Iran and also balance sheets of the Central Bank of the Islamic Republic of Iran for the years of 1980 to 2010.

Conclusion and Suggestions

This paper can be concluded as follows:

- 1) Estimations reveal a long-term correlation between employment and value added, investment and credits of Agriculture Bank. This indicates that in balanced employment model in long-term, value added and credits of Agriculture Bank are negatively correlated, while investment and employment are positively

correlated. However, it should be declared that the employment rate is decreased during the process of agricultural development so value added and employment are negatively correlated. Although, one reason for the negative correlation between employment and credits of the agriculture sector might be inefficiency of the banking system in allocation of the credits to farmers. Furthermore, bank credits usually make the agriculture sector more capital-intensive in long-term fixed investment. Thus, it can be claimed that the agriculture sector becomes more capital-intensive in long-term periods with its employment rate being decreased. As a result, agricultural development policies must bear in mind that for supporting villages as the primary centers of agricultural production, it is necessary to develop employment policies of other sector along with keeping the rural labor force and increasing income of the villagers.

- 2) Based on the studied conducted so far, whenever a shock is introduced to the employment equation, it will have an ascending effect up to the sixth period, then will cause a descending effect until the tenth period and thereafter will create ascending-descending effects on employment. Meanwhile, this shock will have a small positive effect up to the ninth period, followed by an ascending-descending effect on employment which seems to be persistent. In this regard, whenever the investment equation experiences a shock, it will be ascending until the fifth period with a persistent effect and thereafter, it will have an ascending-descending effect on employment. Thus, the credits of Agriculture Bank are

negatively influenced by the shock applied more significantly which confirms the abovementioned finding.

Since the results demonstrated that the effect of credits on employment is positive in short-term and negative in long-term (due to the balanced correlation in long-term for the agriculture sector being capital intensive), this issue must be emphasized during planning and policy making for employment. Thus, in short-term it is possible to devote credits timely and quickly and support employment growth in this sector via executive and supervisory systems. Nevertheless, the agriculture sector becomes capital-intensive in long-term due to using credits for investment and technology changes. This will not obviously cause positive effects on the employment rate, while it must also be considered in development plans of the country. Consequently, adoption of proper monetary and credit policies by the government as well as accurate and optimal executive, managerial and supervisory mechanisms can at least in short-term develop job opportunities in this section. Thus, the following recommendations can be made:

- A) Supervision and control on allocation of credits to farmers,
- B) Development of rural banking and crediting systems,
- C) Mitigate dominant bureaucracy in crediting systems of Iran,
- D) Organization of unofficial credit sector in villages,
- E) Study on proper job opportunities in villages and allocation of required credits to them,
- F) Pay attention to production issues including market and marketing, price stability and etc., along with distribution and consumption issues (reducing the number of dealers for making rural employment sustainable. However, the development trend of agriculture sector in long-term is such that the employment rate is decreased and the process becomes more capital-intensive. Therefore, it is required to exclusively take into account non-agricultural employment in the development policies of agriculture and rural sectors for keeping the rural labor force and protecting the production centers (i.e. villages).

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