

The Status and Function of Agro-financial Markets in Enhancement of Investment and Development of Iranian Agricultural Sector

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ABSTRACT

The capital and investment play determinant roles in economic growth and development as well as achieving sustainable economic growth and development is one of the essential objectives of all countries. Realization of such objective requires some particular mechanisms in social, cultural and economic fields. Powerful financial markets are one of the special economic mechanisms, and having strong financial markets requires strong financial institutions in turn.

Agro-financial markets can influence significantly agricultural investments through attracting deposits and supplying the necessary resources for investment, investment risks decrease and funds management. This study indicates that in order to develop agro-financial markets, the government has to remove financial intermediation obstacles to amplify financial structures and to develop financial tools while establishing a proper political framework and removing inefficient interventions, hence, several sustainable financial services will be evolved for new investments. At the end, challenges and specifications of efficient agro-financial markets will be analyzed in this paper.

KEYWORDS: Financial Markets, Investment, Value-added, Agricultural Development, Keshavarzi Bank (Agricultural-Bank)

1. INTRODUCTION

Financial market is a place in which financial assets are transacted. From economic point of view, appraisal or determination of ROA¹, liquidity supply and transaction costs decrease are defined as the most important functions of financial markets. The financial market is divided into two parts: money market and capital market. Accordingly, the money market includes short-term dues such as banking loans and facilities and the capital market covers long-term dues such as saving or participation bonds as well as stocks. Given Iran's weak capital market and disregarding the financial tools of this market to supply required resources, a great deal of the required financial resources is supplied by the government via sources out of the financial markets to invest in the agricultural sector. Hence, presently the financial market of the agriculture sector is only restricted to money market and suffers from shortage of capital markets. In other words, paying credits and loans is the sole market-based financing approach for agricultural and rural sectors. On the other hand, the financial market can be categorized into two formal and informal sectors. That part of the financial market which acts under framework of national regulations, rules and monetary policies is known as "formal" or "organized" sector while another sector which acts out of the formal regulations and standards is known as "informal" or "unorganized" sector. The utmost importance of the financial market of the agriculture sector is indebted to its effective role in supplying the required financial resources and capitals for development and investment in the agricultural sector. An efficient financial market which meets the financial demands of farmers with the relatively low transaction costs is one of the substantial prerequisites that the agricultural sector needs to develop. While emphasizing the agriculture sector, the author has tried to represent an overview of the status of this sector in the

¹ Returns on financial assets (ROA)

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national economy and its investment status quo. Specifications and challenges of the Iranian agro-financial markets and institutions as well as the predominant condition of the financial agro-rural market of the country are analyzed in this study, and finally some suggestions are presented to organize the agro-financial market and its function in order to increase investments in the agricultural sector. Recently, many studies are released on the relationship between the development of financial market and economic growth focusing on “endogenous growth theory”.

The relevant literature is employed by economists who work on the development issue with the aim to show that the developed financial sector affects positively the ongoing economic growth rate. Goldsmith (1969), Mckinnon (1973) and Shaw (1973) found a close relationship between development of the financial market and the economic growth in some countries, but they did not specify the casual relationship direction between two mentioned variables. Relying on the experimental evidence, Levine (2000) specified a positive relationship between the development of financial market and economic growth; his initial theoretical and experimental studies pointed out the important role that financial markets can play in economic growth.

In a study on Tunisian economy, Ghali (2008) has concluded that there is long-term relationship between the financial development and economic growth. Levine and Demiguc (2008) have asserted the positive long-term relationship between the financial development and economic growth. Studying Malaysian economy made it obvious for James (2008) that the financial development has brought about high economic growth in Malaysia through enhancing deposits and private investments. In a study on the Middle East and North African countries, Ritab indicated that development of banking sector increases the economic growth and in turn it will result in development of banking sector.

Studying the Poland seasonal economic data, 1994-2004, Kenourgios and Samitas (2007) concluded that the granted credits and facilities to private sector is the driving force of economic growth in this country. Thus, the positive impact of the financial development on economic growth is authenticated. Joan Robinson (1952) believes that financial system follows the real part of the economy; whenever the real part of the economy is developed, the financial part will be developed subsequently. However, others reject the importance of the relationship between the growth and financing. Joseph Schumpeter (1912) argued that good banks amplify technological innovations only by identifying and financing the employers who enjoy the highest chance to develop new products and/or to conduct innovative projects. Karami (2000) has considered lack of financial resources as one of the main obstacles of development of the agricultural sector and has suggested banking credits as one of the best ways to get rid of this problem. He stated that “credits provide the producers with the possibility to enhance their products.” Abdollahi (2003) has introduced the easy and quick access to the financial resources as the key factor to make investment and to develop the agricultural sector. He believed that in order to improve efficiency of the agro-financial markets, the government has to embark on removing financial intermediation obstacles while establishing a proper political framework and removing its inefficient interventions in this sector. Parivash et al (2004) pointed to positive effects of financial markets on agricultural sector growth. They also assumed that development of the financial structure of the country has played a significant role in growing the value added of the agricultural sector. Therefore, this study is aimed at analyzing the status and function of agro-financial markets in enhancement of investment and development of Iranian agricultural sector.

METHODS AND MATERIALS

The necessary information and data of this descriptive and analytical study are gathered through studying and analyzing various articles as well as web browsing and information from websites of the Central Agri-Bank and Central Bank of Iran (CBI). The gathered data are used after performing necessary monitoring and analysis processes. Likewise, SPSS software is applied to analyze the gathered data. Frequency distribution tables, central and dispersion indices as well as diagrams are used to describe data and they are analyzed using simple and partial correlations and multivariate regression analysis.

Findings:

During the recent three decades, the averaged shares of the Iranian agriculture sector were about 13% and 4% respectively in total value added as well as in gross capital formation. During 1974 to 1978, the averaged share of this sector in the whole economy was 7.7% and the average annual growth rate in production was 5.5%, it was culminated during the first decade and in 1978 (15.9%). In this period the average share of the agriculture sector was about 12.6% and the average annual growth rate of the value added was 4.5%. During the mentioned period, the agricultural products share experienced a steady procedure and recorded 15.1% as an average. During the Second Development Plan (1994), the average annual growth rate

of this sector (2.1%) declined to lower than one third of the growth rate of the first development plan. It was associated with the most decreasing (7.3%) in 1999; the average production share of this sector in this course did not changed considerably comparing the first development plan. During the third development plan (1999-2004), the average annual growth rate of this sector and its average value added share have been 4.3% and 13.9% of GDP; generally during the recent three decades, the average annual growth rate of the value added for the agriculture sector has been 4.5% which is beyond the average growth rate of GDP with the fixed price 2.4 in this course. Despite the doubled share of the agriculture sector in the Iranian economy, its gross capital formation to the value added ratio is halved. Also, it became evident that weighted average/mean inflation, facilities, deposits rates during 1979 to 2004 have decreased to 20.1%, 13.4% and 9.7% respectively, so the inflation rate of the mentioned course has always increased rather deposit interest rate and facilities rate, so regarding the high rate of the inflation, interest rate of facilities has become negative. The following interest rates have been defined for this course: <1 year credits: 25 to 40%; 1 to 2 years credits: 20 to 40%; and >2 years credits: 11 to 36%. As mentioned, a great deal of the Iranian agricultural-rural financial markets are controlled by the government, as 75.9% of the required funds of such markets are supplied by formal resources while the informal resources meet 24.1% of the required funds.

The Status of Agriculture Sector in Iran

Concerning its considerable capacities such as over 37 million ha cultivable lands, 130 billion m³ usable water reservoirs, various climatic regions and capability to produce a great deal of crops and garden products, livestock and poultry, renewable natural resources including hectares of forests and ranches, as large as 102.4 million ha, rich resources of aquaculture in both northern and southern waters of Iran, taking advantage of skillful human resources in producing agricultural crops, Iran enjoys a relative advantage. About 14% of Iranian GDP (in fixed price of 1997), more than 25% of non-oil exports, over 20% of employment rate, about 80% of food distribution rate and 90% of raw materials of the agricultural conversion industries in 2004 have been met by the agriculture sector. During the past decade, the share of value added of the agriculture sector from GDP (with the fixed price of 1997) has been varied. During 1974 to 1978, the average share of this sector in the whole economy was 7.7% and the average annual growth rate in production was 5.5%; the share of agriculture sector in national production was increased during the first decade after Islamic Revolution of Iran because of the decreased oil incomes, Iran-Iraq war and industrial sector stagnation and it culminated (15.9%) in 1988. The average share of agriculture sector was about 12.6% and the average annual growth rate of value added was 4.5% in this course. Agricultural products enjoyed a constant growth rate and their average rate received 15.1%. In the Second Development Plan (1994), the annual growth rate of this sector (2.1%) declined to lower than one third of the First Development Plan and the predefined goals such as providing food security and the relative self-sufficiency were not achieved. Because of the drought occurred in 1999, the value added of the agricultural sector experienced the most decrease (7.3%); so, the average share of agriculture sector production did not varied considerably compared to the First Development Plan. During the Third Development Plan (2000 to 2004), the average annual growth rate of the agriculture sector was 4.3% and its average share of the value added reached 13.9% of GDP. Generally, during the recent three decades, the average annual growth rate of the value added for agriculture sector has been 4.5% which is beyond the average growth rate of GDP with the fixed price 2.4 in this course (Table 1).

Table 1: Status of value added and investment in agricultural sector during various periods (percentage)

period	Before Islamic Revolutions (1974-1978)	First period of Revolution (1979-1987)	First development plan (1987-1993)	Second development plan (1994-1999)	Third development plan (2000-2004)	Total (1974-2004)
Share of agricultural value added in GDP	7.7	12.6	15.1	15.2	13.9	12.9
Share of agricultural gross capital formation in gross capital formation	3.8	3.8	4.6	4.4	4.6	4.2
Gross capital formation to agricultural value added ratio	21.5	10.6	9	7.8	11	11.6
gross capital formation to total GDP ratio	44.9	34.7	29.4	26.7	33	33.7

Source: CBI, economic report and balance-sheets of various years

Investment Procedure in Iranian Financial-Agricultural Sector

Investment is considered as one of the most important production inputs and plays a considerable role in enhancing production level of economic activities and consequently the productivity of other factors. For agriculture sector, either capital or investment are sorted out as the key elements of growth and development, as you can see in Table 1 during the past decade the share of agriculture sector in gross capital formation has been 4.2 on average and its range has been varied from 3.8% to 4.8%, while in this course the share of value added of the mentioned sector in the whole economy has been 12.9%; moreover the average gross capital formation to the value added ratios in the agriculture sector and the whole economy have been 11.6% and 33.7% respectively. These values show low investments in agriculture sector on the one hand and unbalanced distribution of capital amongst various economic sectors on the other. In other words, despite increased share and the importance of agriculture sector in the Iranian economy, it has attracted lower capital, similarly, during the recent three years, the gross capital formation to the agricultural sector value added ratio has experienced variations; this ratio was 21.5% in 1974 to 1978. During the first decade after the Islamic Revolution it decreased to 10.6%, the ratio has declined to 9%, 78% and 11% during three economic development periods, respectively. Accordingly, during the recent three decades, the gross capital formation to agricultural sector value added ratio was decreased. Therefore, in spite of the doubled share of agriculture sector in Iranian economy during the past three decades, gross capital formation to the agricultural sector value added ratio has been halved, it indicates high potential of this sector on the one hand and shows declined inclinations to invest in this sector on the other hand which is an obvious contradiction in the Iranian economy.

Specifications and Challenges of Iranian Financial Agriculture Market

The financial resources are exclusively controlled by government in Iran and it pays loans with low interest rates to financial market. Some other formal and informal financial markets have been evolved along with the mentioned market which offer the required financial and credit resources of the agricultural sector with high interest rates and show more sensitivities against market fluctuations. Generally, the analysis of financial markets structures implies lack of promotion. The improper macroeconomic policies of the developing countries affect the performance of the financial markets, likewise, taking sectoral policies such as price controls, commercial policies and investment priorities of the government distort resource allocation via financial intermediation. Moreover, legal and formal limitations increase uncertainty and decrease expected returns for creditors and increases transactional costs and decreases credits and deposits distribution. Furthermore, the financial markets bottlenecks including their inflexibility and incomplete information prevent from optimum allocation of resources. Such limitations generally affect the intermediation and financial transactions of agricultural sector. Seasonal nature of production and sales cycle of the agricultural products as well as numerous income and price shocks of products enhance the financial intermediation risk. On the other hand, low incomes and deposits of farmers and small loans increase the transactional costs in the financial markets of the agriculture sector. The farmers who apply to receive loans, have not enough and standard guarantees requested by the commercial banks, moreover, lack of infrastructures, communication tools and association with other markets cause dispersion and multiplicity of markets which result in limitation of information flow and risk increase. Weak financial markets, limited financial services offered by the formal sector, extended activities of the informal sector and high interest rates of the informal markets are some of the outcomes of such measures. Moreover, governments' intermediations conducted in order to direct their capitals and agencies which try to support agriculture sector, exacerbate many problems of the financial markets of agriculture sector. Formulation of low-rate interests and granting subsidiary credits especially for agriculture sector have increased the requests for facilities by rich farmers who have guarantees and better relations. Moreover, governments obliged the agricultural banks and financial institutions to lend loans for agricultural activities only which led to risk increase for such institutions. The status quo of Iranian financial markets is described with improper organization structures, lack of diversity in financial tools, lack of competitive condition and lack of transparency which all have weakened the role of such markets to meet capital demands and to develop the agricultural sector.

The Status of Iranian Agricultural-Rural Financial Market

The financial market is divided into two parts of money market and capital market; the former includes short-term dues such as banking facilities while the latter covers the long-term dues such as saving bonds and stocks. Given the weakness of Iranian capital market and disregarding current financial tools to supply the agriculture sector financially, a great portion of the required financial resources to invest in this

sector are supplied via external resources and the government. Thus, the Iranian financial market of agriculture is restricted only to money market and is devoid of any capital market. On the other hand, the financial market can be categorized into formal and informal sectors. The sector of the financial market which acts under the framework of national regulations, rules and monetary policies is known as “formal” sector while the other sector which functions out of the formal regulations and standards is known as “informal” sector. At the present time, a great part of the Iranian agricultural-rural financial markets are controlled and monitored by the government directly, as about 75.9% of the supplied funds in this market are met by the formal resources such as Agriculture Bank, rural cooperatives as well as commercial banks; the informal resources including funds, tradespeople, forward purchasers, etc. supply 24.1% of the required funds (Table 2). Accordingly, the formal market is not capable of meeting all loan requests of applicants in this sector which is explained by low interest rate of facilities for this sector, so facility demands will surpass their distribution in the formal sector. Therefore, no more flexibility is observed for such difference in the informal sector because of its higher interest rate (Table 2).

Table 2: Main resources of facilities payment in agricultural-rural financial market

	Resources	Share of suppliers (%)	Excess demand (%)
Formal resources	Agricultural Bank	5.4	26.5
	Commercial banks	25.5	22.9
Informal resources	Funds	2	46.6
	Tradespeople	1.7
	Forward purchasers	2
		18.4
	Grand total	100	

Source: Arab Mazar, Khodarahmi (1999)

Formal and Informal Financial Market of Iranian Agricultural Sector

Agricultural Bank of Iran is specified as the sole active financial institution of the formal market and supplier of required financial resources for Iranian agriculture sector, as 66.4% and 33.6% out of total supplied funds in this sector are supplied by Agricultural Bank and other commercial banks respectively. There are excess demands for facilities in the Iranian agricultural-rural financial market. A great deal of this excess demand is limited to formal sector of financial market, particularly Agri-Bank; it is created because of employing fixed and usually low interest rates by formal sector on the one hand and limitation of financial resources of Agri-Bank and finally reluctance and disregarding of commercial banks to grant facilities to agricultural sector on the other. Similarly, the government supports this sector through paying subsidiary and inexpensive facilities in comparison with other economic sectors, hence, comparing both inflation rate and interest rate of granted facilities to agriculture sector show that the inflation rate is more than the actual interest rate of granted facilities to this sector. In other words, the actual rate of interest rate of banking facilities has been negative. The informal resources are responsible for supplying about 24.1% of required financial resources of agricultural market. Other resources of informal financial market of the agriculture sector barring funds, which are encountered with excess demand for facilities, excess demand for credit because of flexible and relatively high interest rates.

Table 3: Interest rate of credits in informal agricultural-rural financial market (percentage)

Financing resource	Less than 1 year	1 to 2 years	More than 2 years
Tradespeople	40	37	32
Forward purchaser	33	22	25
Relatives, etc.	61	60	47

Source: Research and Development Center of Agricultural Bank of Iran

Table 3: Interest rate of informal market credits granted to agricultural-rural sector differed substantially with the interest rate of formal financial market (Table 3). As you can see in Table 3, the interest rate of credits in informal market varies for various courses and its supplying resources: <1 year credits: 25 to 40%; 1 to 2 years credits: 20 to 40%; and >2 years credits: 11 to 36% (Table 4). The weighted rates of inflation, facilities and deposits during 1979-1999 are 18.9%, 9.8% and 7.5% respectively, they reached 19%, 13.4% and 9% during 1989-1994, 25.6%, 17.2%, and 12.6% during 1995-1999 and finally they recorded on 12.2%, 17.1% and 13.9% during 2000- 2004. As Table 4 shows the weighted rates of inflation, facilities and deposits during 1979-2004 are 20.1%, 13.4% and 9.7%, so the weighted inflation rate is very

higher than the weighted rate of facilities and deposits, hence it can be claimed that the real interest rate of facilities is negative (Table 4).

Table 4: balanced average of real interest rates of facilities and deposits during (1979-2004) (percentage)

Inflation weighted rate	Facilities weighted rate	Deposits weighted rate	Period
18.9	9.8	7.5	1979-1988
19.0	13.4	9.0	1989-1994
25.6	17.2	12.6	1995-1999
13.9	17.1	12.2	2000-2004
20.1	13.4	9.7	Total

Source: CBI, Statistics and Economic Analyses Bureau

Establishment of a Desirable Financial System in Agricultural Sector

The financial supplies of agriculture sector along with the form and approach of offering credits are emphasized in the new literature. Initially, it is emphasized that such services must be comprehensive in order to enable all farmers, either with low or high incomes, to take advantage of them, and then its sustainability as well as continuation have been regarded as they must be ongoing and while they should be reimbursed. Decreasing contract cost is recommended as well. Paying credits with low rates along with subsidies, establishing integrated agriculture financial markets, and making them competitive and complete are other items which have been focused on in the literature. All of these goals and items are formulated with the purpose to determine capital balanced return rate of such markets, to enhance depositing inclination and to allocate the capital resources to their best applications. The optimum allocation of financial resource with the minimum transaction and information costs via attracting and equipping facilities, allocating resources, improving and managing risk and risk distribution, transparency of information and analyzing them, correct determination of price of funds and capital and facilitating transactions are the main tasks of the financial system. Relying on their fundamental functions, i.e. collecting deposits from various private resources and directing them towards producing investments, the effective financial systems decline risks and related capital supply costs while streamlining goods and services transactions.

Major Specifications of an Efficient Financial Market in Economy

1. Coordination with the current culture of society: financial system, institutions and applied tools in any society primarily must be accommodated to the general culture of society, particularly its religious beliefs; otherwise they will fail and have to abandon the transactions area gradually.
2. Alignment with the goals and incentives of partakers: a successful financial system has to pay attention sufficiently to the goals and incentives (both funds suppliers and applicants) to be able to attract productively their attention to participate in the system.
3. Appropriateness with partakers' moods: the financial markets participants are classified into three groups in terms of their moods: risk-averse, risk-taker and normal. The owners of risk-averse funds try to work with institutions and organizations who pay certain and predefined interests at the certain times; risk-taker group members have accepted all the risks while normal applicants usually select a combination of different financing tools (e.g. stock sales and borrowing). An efficient financial system should meet moods and demands of all customers by way of designing various financial institutions and tools.
4. Compatibility with the international financial markets: Although the main concern of the financial market is restricted to adaptation to culture, goals, incentives and moods of the domestic partakers, focusing on a closed financial market does not seem reasonable in regard to recent development of international financial markets and extended transnational correlations and cooperation. The application of the maximum levels of accuracy and capacity upon designing financial institutions and tools is necessary for making interaction with either cash supply side or demand side of international financial markets.
5. Financial markets divide the investment risk. If the investors have to invest in projects directly, their diversification ability will be decreased drastically. However, higher liquidity in stock market and ability to purchase a diverse portfolio of stocks enable the investors to immune themselves against company-based risk.

DISCUSSION AND CONCLUSION

This study indicated that development of financial markets intermediation affects positively on the growth and development of agricultural sector. Given the positive impact of financial markets on Iranian agricultural sector growth, extension and diversification of Iranian financial markets either publicly or privately, particularly for agriculture sector, are recommended. The financial market of Iranian agriculture sector has functioned very weakly and has failed to meet its demands. The sole method of supplying the market-based financial requirements of agricultural sector has been payment of credits and facilities. Financial institutions, tools and intermediaries are very limited and suffer from low efficiency and their activities are restricted to payment of credits and facilities. Therefore, despite the doubled share of agriculture sector in Iranian economy during the recent three decades, the gross capital formation to value added ratio in this sector has been halved. Undeveloped financial institutions and market for agriculture sector, lack of efficient financial market for this sector and inability to meet the required financial resources for investment can be enumerated as some of the critical obstacles for investment on agriculture sector. There is excess demand for facilities in the formal part of financial market caused by payment of subsidiary credits and establishing low interest rates, in contrast interest rate of payment facilities is very immense in informal market of agriculture and low-income farmers have to supply their required funds via such resources. It is specified that the average weighted rates of inflation, facilities and deposits during 1979-2004 have reached 20.1%, 13.4% and 9.7%. Therefore, inflation rate has always increased more than interest rate of deposits and facilities; hence the real interest rate of facilities in Iranian economy has been negative. Improper sectoral policies, the notion of lack of proficiency and structural weakness of inputs and agricultural financial markets and inefficient involvements of the government in this market, establishing preferential interest rate and granting subsidiary credits, granting directed credits by banking system are the most important challenges and bottlenecks of Iranian agricultural financial market which have not been removed in spite of numerous agricultural credit plans and increased distribution of lendable funds.

Recommendations

1. Iranian agriculture sector needs to implement both political and sectoral reforms to provide profitable investment opportunities for investors; it also needs to develop various financing methods, resources and tools for agricultural sectors including publishing bonds, saving bonds and inventive bonds with various interests.
2. Development and dynamicity of the agricultural sector depend on developed agricultural financial markets, thus, structural reforming of Keshavarzi Bank (Agricultural Bank), as the most important formal institution to meet demands of this sector, are necessary which can be achieved via independent and strong management, financial self-reliance, developing various loan portfolio, extension of range of authorities. It is worthy to say that these reforms all depend on free financial markets in the economy.
3. Government interventions must be restricted only to solving special deficiencies of the agricultural-rural financial market, in other words, incentive, exhortative and supportive activities as well as solving problems and obstacles should be considered among governmental performance in this sector.
4. Reforming and developing agricultural financial markets and particularly developing and extending new financial tools to equip, set and direct financial resources towards the consolidated locations, to encourage people to construct financial organizations and investment on agricultural sector in order to provide necessary liquidity for production and to strength plans will result in more incomes and employments in rural regions and increase of job opportunities.

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