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Investigating the Role of Development Banks in Fixed Investment Formation in Iran

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ABSTRACT

This paper delves into the role of development banks in shaping fixed investment and the economic growth of the country, emphasizing the facilities provided by these banks. To accomplish this, quarterly data from the country's development banks spanning the period 2006-2020 are utilized. Experimental tests are conducted to explore the causal relationships between variables and estimate long-run connections through the Granger causality test and the vector auto-regression method (VAR). The results highlight the positive and significant impact of development sector facilities on fixed investment formation and other payment facilities within the banking network. In the context of the connection between liquidity and the total payment facilities of the banking system with the variable of fixed investment formation, it is revealed that all payment facilities exhibit positive and significant effects, while liquidity bears insignificant effects on fixed investment formation. The outcomes of the long-run relationship analysis demonstrate that development sector facilities and liquidity volume share a significant relationship with fixed investment formation in the Iranian economy over the long term. Furthermore, in terms of the short-run relationship, development sector facilities exert positive and significant influences on fixed investment formation and overall investment in the economy.

1 Introduction

Development banks are banks that play an important role in accelerating and facilitating a country's economic development by equipping and allocating medium- and long-term resources and encouraging the private sector to contribute to the economic development. The difference between these banks, which are created with the support of governments to play a role in certain sectors of the economy, and commercial banks is that development banks are usually invest in high-risk and long-term projects that commercial banks are reluctant to make. The activity of these banks is focused on the providing support facilities and making profit, is their next priority. Of course, this does not mean that the activity of development banks is not profit-oriented, nor can it be unprofitable; rather, it should have a coherent

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structure as an economic enterprise and there should be no inefficiency within it. In other words, despite widespread changes in banking tools, methods and the widespread interest in privatizing banks and expanding commercial banking, developed and developing countries still need the development banking services. Businesses with characteristics such as profit maximization, combination of mostly the short-term resources, attention to short-term, low-risk and high-yield investment are not able to meet the needs of development investment, which leads to the importance of development banking in the economies of countries.

The necessity to achieve economic development in developed and developing countries led to the establishment of institutions to guide investments in the economic development of countries in the form of banks and development organizations. To date, more than five hundred development banks and institutions around the world in developed and developing industrial countries have provided the necessary financial and technical resources and directed private and non-private sector investments towards productive investments. According to the economic development policies of each country, these investments include the expansion of economic infrastructure and the development of industrial, agricultural and even the growth of the cooperative sectors. In other words, development banks have an important mission to solve the problems of economic development of countries and eliminate the existing bottlenecks. To achieve industrial development and consequently economic development in some countries that were backward or less developed, the development banks played an effective, positive and constructive role, and for this reason, they have been helped to create and expand them worldwide as a tool for the economic development programs of the nations of the world [8].

In fact, due to their specialized nature, these banks invest in the relevant sector and finance the specialized proposals of each bank. These banks operate in accordance with the objectives set forth in their articles of association. Development banks are established by explicit legal order to achieve socio-economic goals in a region or sector. These banks are an important tool for governments to accelerate the economic growth through lending, investment guarantees and other financial services, as well as providing a wide range of consulting and capacity building services to institution that cannot afford development projects. They are financed through the capital market or private-commercial banks. Development banks in the developed countries, with a strong presence of private financial institutions and the capital market, play an active role in the economy and have been created in areas such as lending to specific sectors and investing in activities such as clean energy, biotechnology and the environment. Among these, we can mention to the Development Bank in Germany, the Development Bank of Japan and the Trade Development Bank of Canada [9]. The most important activities of development banks are as follows:

• Achieving the economic growth with limited private sector;
• Creating productive employment through micro-financing, especially for small and medium-sized companies;
• Protecting of the vulnerables from the damage caused by crises;
• Supporting long-term infrastructure investment plans.

One of the main problems of Iran's economy is the lack of investment, which is the main engine of economic growth. Increasing the efficiency of financial markets and financial development can reduce this problem to some extent. The importance of the development of the country's financial sector comes from the fact that the efficient financial sector plays a fundamental role in providing financial resources for investment, encouraging the entry and equipping of foreign capital and optimizing the resource

allocation mechanism. Given the recession in economy of Iran, the development banks may play a leading role in financing industrial and social projects.
This article examines the importance of development banks in the economy and the need of the developing these banks in developing countries and Iran. Then, the duties and requirements of the development banks are discussed. Therefore, the purpose of this article is to investigate the effects of facilities and credits granted by development banks on the economy and investment in the country. in order to more accurately examine the performance of the development banks in the economy, the role of development banks in the formation of fixed capital and economic growth is examined by using macro data, including liquidity, GDP, paid facilities of development banks, total paid credits of the banking system and fixed investment in Iran. Therefore, the research questions are:

- What is the relationship between the facilities granted by development banks and fixed investment?
- What is the effect of development bank credits in the long and short term?
- What is the relationship between liquidity and other payment facilities on the formation of fixed capital in the country?

Regarding the innovation of this research, it can be mentioned that the studies conducted on the effects of the Development Bank on economic growth have examined the effects of these banks on the growth of the GDP. However, considering the main mission of these banks, i.e. the development of investment and production in the country, this study has investigated the effects of the facilities granted by development banks on fixed investment in the country, which is a new window of studies in the field of development banking and their effects.

2 The Importance of the Development Banks in Economic Development

Banks, as one of the most important business units, have a special reliance on the concept of profitability and their performance is significantly influenced by macroeconomic conditions. The main factor in establishing and using development banks has been the inability of the market to provide long-term financial resources on the one hand and to create the entrepreneurs needed to implement productive and development projects on the other hand. The experience of most countries in the world shows that the focus of development banks is on empowering entrepreneurs and helping to create the right environment for the private sector to implement the projects [5].
The most obvious executive role of development banks is when they implement projects with the participation of companies to encourage the private sector, or fill the investment gap of the private sector by directly entering the field of investment. If the material aspect of the development process is emphasized, but its immaterial aspect is less considered or is fundamentally neglected, the development will not be achieved [6]. Due to their extensive capabilities in the field of economic activities, these banks play major roles in the economic development of countries. These roles can generally be divided into two categories; the first category is executive roles and the second category is staff roles. The executive roles of the development banks, which are usually more prominent than their staff roles, are related to the activities of manufacturing and service companies. The most important executive role of the development banks is their vital assistance and services to the process of forming the private sector in the economic scene of countries.

One of the acute problems in the developing countries, especially in the early stages of economic development, is the severe shortage of entrepreneurs and the great weakness of the private sector. Development banks use a variety of ways to shape and strengthen the private sector, the most important of which are incentive and support activities.
The Next step is the creation or assistance of family-owned institutions such as insurance, auditing, financial management, management and marketing companies. The development role of development banks is less often mentioned in the development banking texts; this may be due to this fact that staffing roles are not considered the main roles due to the excessive reliance of experts on the executive roles of the development banks. But the fact is that the very close relationship of the development banks with all stages of corporate life, provides a vast empirical information to these banks, information that is really valuable for economic decision makers and planners. Development banks may be considered as the best arena for feedback on the performance of economic programs and policies of governments [8].

3 The Nessecity for a Development Bank

A standard argument for why development banks should be upgraded is that such banks can fill the gaps created by private financial institutions, which often lead to commercial activities. The main gap is usually insufficient funding for economic transformation. The latter usually involves large-scale projects with long maturities that require long-term financing and therefore involve risks that commercial banks are reluctant to undertake. In addition, many large-scale projects produce positive externalities which resulting greater social returns than private returns. Also, since financing of commercial financial institutions is often short-term, there is no long-term financing. This is because long-term financing requires a change in maturity, which involves the risk that the commercial banks usually prefer to avoid. For these reasons, development banks have been designed and tasked to play this role. At national level, development banks can not only play an effective role in addressing market failures, such as long-term non-financing due to existing risks and uncertainties, but also can serve as a vital tool in supporting an active development strategy.
Specifically, development banks finance long-term investments, including invest in investment industries. In addition, such banks both lend and participate in stocks, meaning that they have a clear interest in closely monitoring projects, thus creating a special form of banking relationship. This means that banks have a practical approach by which they not only closely monitor the project, but are in a position to nominate managers to the board of directors of the companies to which they lend and hold shares. In addition, development banks have in-house technical expertise that allows them to participate in decisions about technology, scale and location. Development banks can also help raise capital elsewhere by underwriting the issuance of securities. Development banks can increase resources by attracting other lenders who do not have the same technical capacity to assess project capability and capacity, as well as by providing guarantees. In addition, development banks can play an anti-cyclical role and help maintain the overall level of investment and protect a country's productive structure during a recession.
In a survey, the World Bank defines a development bank as: "A bank or financial institution with at least 30% of state-owned shares that has been explicitly mandated to achieve socio-economic goals in a particular region, segment or market segment [10].

4 Duties and requirements of development banks

Development banks are financial institutions that equip capital with appropriate conditions to invest in productive activities, by themselves, others or jointly, in line with the goals of economic development programs of the countries. The tasks, roles and activities of the development banks can be explained mainly in relation to the process of economic development [25]. Unlike commercial banks, the development banks have many difficult tasks, and in general, the tasks of development banks can be examined at both micro and macro levels:

A Duties of the development banks in micro-levels

The most important micro-tasks of these banks can be mentioned as follows:

1- Finding suitable and justified plans for potential private sector investors.

2- Evaluating the projects which selected by the bank itself or submitted by the applicants.

3- Granting long-term suitable loans to the private sector

4- Providing economic, technical, legal and managerial advice to companies applying for loans and, if necessary, executive cooperation in their management.

5- Underwriting the securities and issuing them.

6- Issuing guarantees for transactions between companies.

7- Training the plans to new employees or included banks or employees of other companies, organizations and economic institutions.

8. The micro-tasks of development banks are mainly focused on strengthening entrepreneurial characteristics and encouraging the private sector to enter the field of economic activities, especially high-risk areas.

B Duties of development banks in macro-levels

Tasks at this level include the activities that these banks have as a connector between policy makers, government planners and economic companies (private and public). These banks, on the one hand, transfer the policies and goals of the government development programs to manufacturing companies and manufacturing services, and on the other hand, transfer executive issues and problems to the countries policy makers and planners.

Due to the many conflicts in all stages from the establishment to the activity of companies, development banks have a high level of empirical knowledge, so they have a great ability to analyze executive issues and provide practical suggestions in the field of economic programs and policies of governments. The main tasks of these banks are to coordinate with government development programs and policies and adjust their implementation. The goals of the governments' economic development programs may also include the following:

1- Prioritizing a certain pattern of consumption

2- Prioritizing the production activities over the service activities.

3- Prioritizing some kind of industries such as light or heavy industries, consumer or intermediaries or capital industries.

4- Prioritizing the investment in certain regions of the country.

5- Prioritizing the policy of import substitution or export development.

6- Prioritizing one of the sectors of the economy such as agriculture, industry or services.

7- Prioritizing the user or investor economic activities.

Given the variety of tasks and business models used by public development banks, no one has a distinctive definition of what constitutes good health for development banks. However, there are common parameters and characteristics that can provide a general definition under a flexible and comprehensive framework. These tools are factors to help development banks to achieve the goals of the economic development, and finally three common parameters of the development banks were identified as the health of their performance, which are: public policy and Corporate Governance, development effects, financial and operational performance. Table 1 shows the dimensions of the three health factors of the performance of development banks. [8]

Table 1: Diagnostic factors of health performance of development banks

factors	**Dimensions**
Public policies and corporate governance	1. The government should have a clear strategy for developing and upgrading a target area, and this strategy should have a draft strategic plan and budget for public development banks. 2. The description of the mission of public development banks and the resources of these banks should be clearly defined by law and implemented by the company's by-laws. 3. Public development banks should have a strong corporate governance guideline. 4. Public development banks should clearly define the market gap and play a complementary role in securing private sources of investment.
Development impacts	5. Development goals should be clearly defined for the development banks. 6. Development banks should clearly define the development criteria recorded in the lending and investment policies. 7. Development banks regularly link perspectives on the impact of development and the experiences learned from it to their next strategic plans. 8. An independent evaluation unit examines the development effects of the public development banks.
Operational and Financial performance	9. Development banks have a comprehensive marketing strategy that is consistent with its commitments. 10. Development banks have an independent risk management system that covers all their risks everywhere (credit risk, market risk, liquidity and operations). 11. Development banks have a clearly defined risk strategy. Supported by a risk-adjusting financial reporting system and development and investment management framework.

In many countries, including Turkey, Germany, Malaysia, Russia, and Brazil, the rules that governing development banks differ from those of the commercial banks, and this difference stems from their role and function. In these laws and regulations, issues such as capital adequacy, limitation of holding real estate, limitation of granting facilities, facilities and obligations related to the single beneficiary, facilities and large obligations, observance of risk management standards, etc. have been formulated differently from the commercial banks. The resources of the world's development banks are financed by people's deposits, managed funds and government budgets.
The paid facilities of these banks are guaranteed by the government and the subsidy related to the difference in the interest rate of their paid facilities is foreseen in the annual budgets. The permanent access

of these banks to the debt market helps them to provide the necessary resources quickly in case of liquidity problems [14].

Proponents of government intervention in the financial sector argue that in the form of development banking, it is the government that plays the main role in financing underdeveloped economies for projects that are not welcomed by commercial banks. In general, financing of infrastructure projects with the impact on the overall economy of countries are in the scope of development banks.

Development banks are currently used as an economic policy tool to overcome periodic and structural problems in the economy.

5 History of development banks

In the 20th century, the lack of liquidity created by the Great Depression of 1929 and the post-World War II reconstruction, made the need for development banks to be felt again. In ordre to solve these problems, several development banks were established by government support.

Some of these institutions were respossible to provide the necessary finance after World War I, such as the Development Bank of Japan. The first development banks had successful experiences. This success is related to the private ownership, executive independence, sever budget constraints, co-financing with the private sector, and having a professional management team. The success of these banks encouraged poor countries to set up their own development banks, but many of them failed. Development banks which established in poor countries have shown inefficiencies, losses, budgetary pressures, poor goods and services, and poor success of non-commercial goals. Despite the establishment of the development banks in poor countries, a number of problems, including the following, led to their failure.

1- Interference by corrupt leaders or governments, usually in the duties and activities of these banks;
2- Poor institutional space in the developing countries;
3- Limited basic managerial, financial and executive skills;
4- Weak legislation and management of these banks;
5 - Lack of integration and separate operation of the financial system;
6- Strict and inappropriate licenses of these banks.

Many development banks were stopped in the 1980s and 1990s with the privatization of financial institutions, but the governments continued to use them as a policy tool for three reasons; 1) Financial crisis and the need for anti-cyclical financing 2) The need for long-term financing and development services such as technical and research assistance along with the efforts to strengthen capital markets 3) The existence of successful examples of the development banks [10].

In fact, by providing anti-cyclical financing, these banks facilitated the access to credit, job creation, strengthening the capital market, building project valuation capacity and influencing government policies. Therefore, according to the experiences of different countries regarding the use of development banks, it can be seen that despite the many criticisms regarding the development banks, most development banks in the world are more than three decades old and still continue to operate.

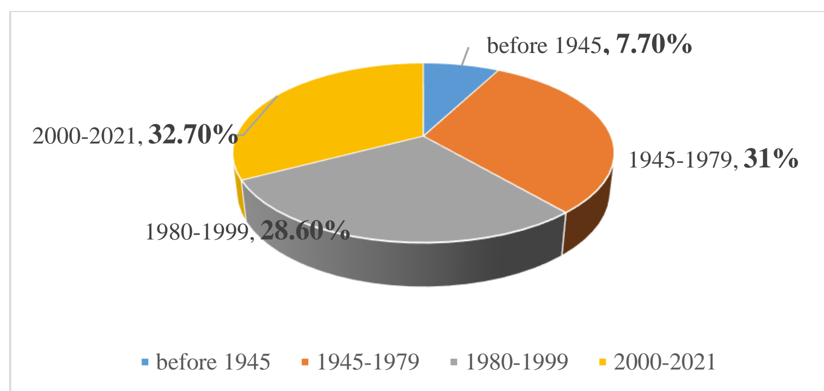

Fig.1. Establishment of Development Banks

As shown in the Figure (1), 3% of development banks has been established before 1945, 7.7% between 1945 (after the end of World War II) to 1979, 31% between 1999-1980 and 32.7% between 2000 to 2020. The large number of development banks, some of which are more than three decades old, indicates that governments continue to consider the development banks as a useful tool for promoting the economic growth.

Today, despite the government efforts to privatize the state-owned financial institutions, many countries have established new development banks, including Bulgaria, Thailand, Mexico, Oman, India, Angola, Serbia, Bosnia and Herzegovina, Malawi, Mozambique, and the United Kingdom.

5.1 Research Background

In a study, Ritab [13] has examinied the development of the banking sector and economic growth for seven countries in the Middle East and North Africa from 1965 to 2002. According to the results of this study, the development of the banking sector in six countries has led to economic growth. In three countries, economic growth has also led to the development of the banking sector. The results of this study also show that there is a long-term equilibrium relationship between the financial sector development and the economic growth in the seven countries studied, but in the short term, the banking sector development has not had a significant impact on the economic growth in these countries.

In a study entitled Financial Development and Economic Growth, Considering the new experiments of panel data and their geographical areas, Hassan et al [6] have concluded that there is a two-way relationship between the economic growth and financial development, but in some areas with low per capita incomes, this relationship is from financial development toward the economic growth.

In a study entitled the triangle of financial development, the economic growth and the foreign trade in Iran, Armen et al [2] examined the causal relationships between the three macroeconomic variables including the economic growth, financial development and foreign trade. In this study, several hypotheses were simultaneously tested. Regarding the relationship between the financial development and economic growth, the hypotheses of pursuing demand and supply direction and regarding the relationship between the economic growth and foreign trade, the hypotheses of export-oriented growth and import-oriented growth have been tested. Hypotheses have also been tested on the relationship between the financial development and business. The results indicate a causal relationship between the economic growth and financial development and confirm the demand pursuit hypothesis in Iran. The two-way causality between the economic growth and exports was also confirmed.

In an article entitled "The relationship between the financial development in Iran", Fitras et al. [4] extracted a financial development index by using the factor analysis method and then used this index in a growth model and tested the causal relationship of Granger in which the results confirm the positive relationship between the economic growth and financial development variables as well as the direction of causality from the economic growth to the financial development.

In a study, Salimifar et al. [18] investigated the causal relationship between the economic growth and financial development in Iran. Granger causality test and Johansson co-integration test were used. According to the findings of long-term research, there is a two-way causal relationship between the deep financial development index with economic growth and a one-way causal relationship between the efficiency index and the overall financial development index towards the economic growth. In the short run, only the existence of a one-way causal relationship from GDP to the FDI has been confirmed. In other cases, the existence of a Granger causality relationship has not been confirmed.

In another study, Sadeghi et al. [17] investigated the relationship between the financial development and economic growth in Iran by using the VAR model during the period 1973-2009. The results indicate a significant relationship between the financial development and physical capital stock variables, real interest rates and revenues from oil exports with economic growth. Also, the existence of a one-way causal relationship between the financial development and economic growth indicates the compatibility of the results with some experimental studies conducted in this field.

Dehghani et al [4]) have studied the role of the development banks in the economic growth in Iran during the years 2005-2014. In this study, the relationship between the financial market development and economic growth in Iran by using Johansson's cumulative method and vector error correction model during the period 2005-2014 with quarterly data is investigated. For this study, the indicators of the ratio of assets of development banks to internal assets of the banking system, the ratio of private sector deposits of development banks to GDP, the ratio of loans granted by the development banks to the private sector to GDP and the ratio of total investment to GDP as market development indicators has been used. The results of the model estimation show a significant and positive relationship for the studied indicators on the economic growth and therefore development banks have played an important and influential role in the economic growth during the study period.

5.2 Relationship Between Fixed Investment and Credit

Economic development requires the historical conditions and structures that without which the investments and efforts will go astray. In the meantime, accessing the right information and planning based on it can help as a guide to navigate the path to identify weaknesses and correct errors. Accordingly, here we have tried to provide an accurate illustration of the status of the most important economic variable, namely investment and capital formation, by analyzing the available information and highlighting the important points of this information in the last 15 years, because the information of investment formation is very important in development issues and economic patterns.

This study examines the relationship between the development banking and fixed investment in Iran during the period of 2006-2010 by using the variables of DIC development credits and FI gross fixed investment. By doing so, the share of the development banking facilities in the country's economic growth and development is examined. It is also examined whether all TC Bank credits or non-development credits (OTHERCRs) are related to the fixed investment variables.

Data analysis was performed by examining the existence of a co-integration relationship between the existing variables and the use of the vector error correction (VEC) models. The existence of a correlation relationship between FI and DIC indicates that there is a long-term relationship / balance between DIC and FI.

Fig.2: Change in total credits and fixed investments during the years 2007-2021
Source: Statistics Center of Iran, Central Bank of the Islamic Republic of Iran

Figure 2 shows the change in total fixed loans and investments over the under review period. The two series follow a similar pattern which indicate a long-term relationship.

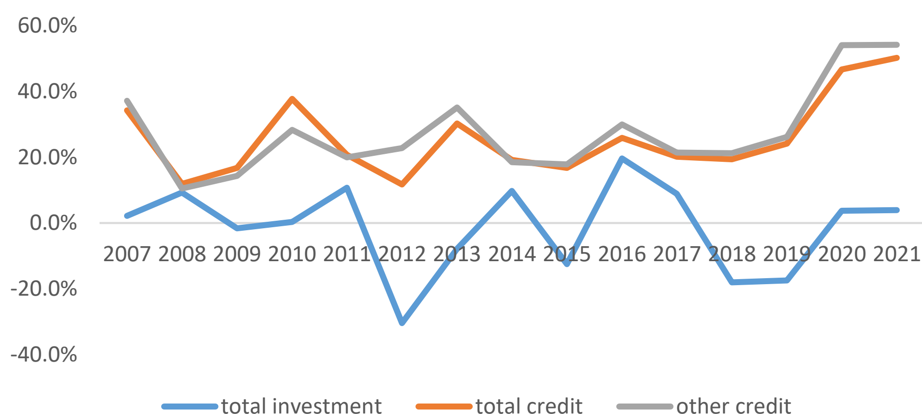

Fig.3: Relationship between the investments, development investment credits and total credits except the development investment credits
Source: Statistics Center of Iran, Central Bank of the Islamic Republic of Iran

Figure 3 shows the relationship between the investments, development investment credits and total credits other than the development investment credits. It is interesting to note that while other credits (OTHERCRs) have shown significant increases over time, the development credits (DICs) have failed to reach them. FI and OTHERCR seem to follow a similar pattern, which show that the fixed investment (FI) is mainly influenced by trade credits rather than the development credits.in summary, Figure 4 shows the stages of research implementation in the form of a flowchart.

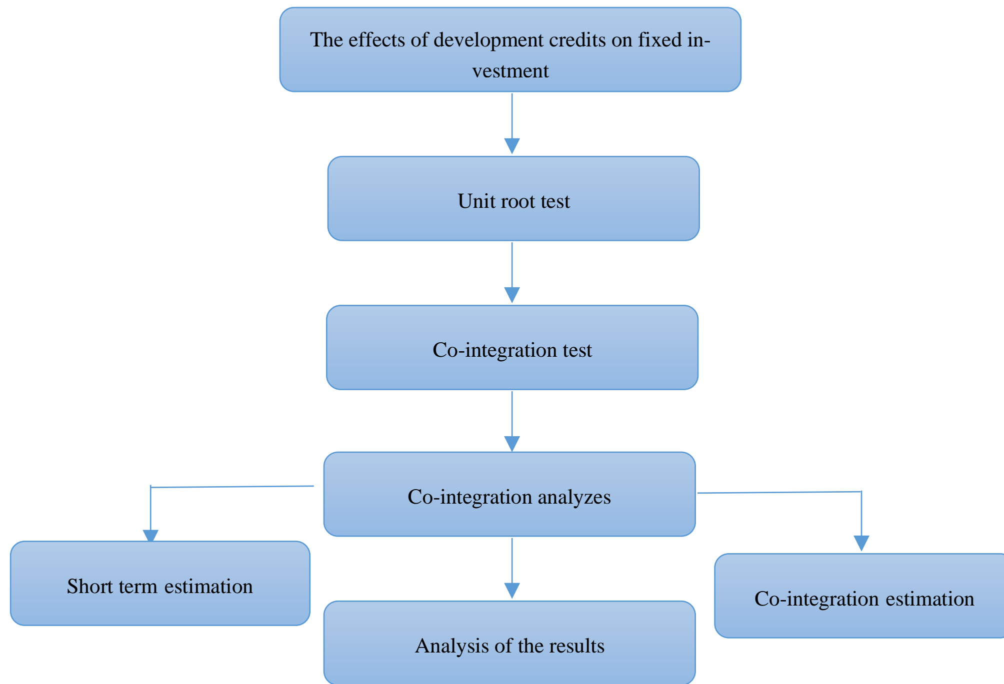

Fig.4: Flowchart of research implementation

6 Estimation of Experimental Research Model

As stated, the main purpose of this paper is to examine the relationship between the gross domestic product formation and economic growth with an emphasis on the payment facilities of the development banks. For this purpose, quarterly data of specialized banks with a development approach (development of cooperatives, industry and mining, export development, agriculture, housing and post bank) in the period 2006-2021 have been used. The variables used include the fixed investment, liquidity, GDP, total lending facilities of the banking system and lending facilities of development banks. In order to examine the relationship between the research variables, at first the diagnostic tests are performed on the model variables and the long-term relationship between the variables is examined. Then, the model is fitted using the generalized method of moments and finally, by using the Granger causality test, the causal relationship between the variables of the gross domestic product and development facilities is investigated.

6.1 Unit root test

To test the unit root on the model variables, we use the generalized Dickey-Fuller unit root test. For this test, one of the following models must be selected:

$$\Delta y = \gamma y_{t-1} + \sum \beta_i \Delta y_{t-i} + \varepsilon_t$$
$$\Delta y = \alpha_0 + \gamma y_{t-1} + \sum \beta_i \Delta y_{t-i} + \varepsilon_t \tag{1}$$
$$\Delta y = \alpha_0 + \gamma y_{t-1} + \alpha_2 T + \sum \beta_i \Delta y_{t-i} + \varepsilon_t$$

The generalized Dickey-Fuller unit root test is actually a test of the following hypothesis:

$$H_0 : \gamma = 0$$
$$H_0 : \gamma \prec 0 \quad (2)$$

Failure to reject the null hypothesis indicates the existence of a single root in the series and its non-stationarity. [Nofaresti, 1999, 41]

Table 2: Results of generalized Dicky-Fuller unit root test on level and difference of data

variable	Constant Only		Constant and Trend	
	level		First difference	
Level	interruption	Test statistics	interruption	Test statistics
RFI	5	1.91	4	-8.29*
RDIC	5	1.81	4	-7.82*
RTC	7	2.35	0	-24.21*
LIQ	5	-2.92*	-	-

* Null hypothesis of non-stationarity is rejected at 1% significance level

In this section, based on one of the above models and based on the significance of trend and constant components, the generalized Dickey-Fuller test for 3 variables is tested. The Schwarz-Bayesian (SBC) criterion has been used to determine the number of optimal interruptions in these models. The results show that the model variables (except liquidity growth) are stationary at the data level.
However, the repetition of this test on data differences shows that all variables, except for the growth of liquidity after one difference, remain stationary and their non-stationarity hypothesis is rejected at the level of 5%.

Model Estimation

$RFIt= \beta_1+ \beta_2RDIC_t + \beta_3LIQ_t +\varepsilon\ t$ (3)
$RFIt= \beta_1+ \beta_2RTC_t+ \beta_3LIQ_t +\varepsilon\ t$ (4)
$RFIt= \beta_1+ \beta_2RDIC_t+ \beta_3RTC_t + \beta_4LIQ_t +\varepsilon\ t$ (5)
Where:
RFI: Real Fixed Investments
RDIC: Real Development-Investment Credits
RTC: Real Development-Investment Credits
LIQ: liquidity growth rate
RFIt= β1+ β2RDICt + β3LIQt +ε t
Dependent Variable: RFI
$RFIt= \beta_1+ \beta_2RTC_t+ \beta_3LIQ_t +\varepsilon$

Table 3: Results of model estimation (1)

variables	coefficients	Standard deviation	Test statistics	prob
LIQ	-11.52081	100.1087	-0.115083	0.9088
RDIC	0.977535	0.005587	174.9629	0.0000
C	-48.76397	28.46589	-1.713067	0.0918

In the above relationship, following the relationship between the liquidity and total paid facilities of the banking system (except the development sector), we deal with the variable of fixed investment formation (economic development index) which results show that the total paid facilities have positive and significant impacts and liquidity has insignificant impacts on fixed investment formation.
In the above relation, following the study of the impacts of development sector facilities, the entire banking network facilities (except the development sector facilities) and liquidity on fixed investment formation have been discussed. As the results of the model estimation show, the facilities of the development sector have positive and significant impacts on the formation of fixed investment and other payment facilities of the banking network except the development sector and the volume of liquidity have no significant effects.

Table 4: results of estimation model (2)

variables	coefficients	Standard deviation	Test statistics	Prob.
LIQ	25.12842	1841.414	0.013646	0.9892
RTC	1.164324	0.197589	5.892668	0.0000
C	-355.8705	508.8198	-0.699404	0.4870

Table 5: Estimation Results of model (3)

variable	coefficients	Standard deviation	Test statistics	Prob.
LIQ	119.1958	73.37157	1.624550	0.1095
RTC	-0.078260	0.000111	-0.774199	0.2573
RDIC	1.002390	0.005118	195.8658	0.0000
C	-57.00903	20.33095	-2.804052	0.0068

$RFIt= \beta_1+ \beta_2 RDIC_t+ \beta_3 RTC_t + \beta_4 LIQ_t +\varepsilon\ t$

In order to study the model in the next step, considering that we have encountered a combination of stationary and non-stationary variables, the subject of examining the existence of a long-term relationship between variables is raised. There is a long-term relationship between variables based on the test statistics, the results of which are listed in Table 6.

Table 6: Co-integration analyzes for fixed investment

Independent variables(RFI, RDIC,LIQ)							
Co-integration relationship							
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				trace test			
Hypothesis H0	Noll Hypothesis	Test statistic	Critical Value ٩٥٪	Hypothesis H0	Noll Hypothesis	Test statistic	Critical Value ٩٥٪
r=0	r=1	36/48	29/79	r=0	r=1	22/66	21/13
r≤ 1	r=2	13/78	15/49	r≤ 1	r=2	9/9	14/2
r≤ 2	r=3	3/84	3/84	r≤ 2	r=3	3/84	3/84
Co-integrated vector							
dependent variable		RFI		RDIC		LIQ	
$Ecm= (m-m^*)$		1		-0.83		-444.2	
				(-21.6079)		(-2.19422)	

1

As can be seen in the above table, the Johansson test confirms the existence of a long-run equilibrium relationship between the mentioned variables. According to Granger's theorem, a long-run equilibrium relationship requires the existence of the error correction mechanisms or patterns. In fact, error correction mechanisms ensure a long-term relationship. Therefore, each of the device variables may be adjusted for a fixed investment imbalance. As the adjustment coefficient of the sentence in the equation of fixed investment growth shows what part of the imbalance of fixed investment is compensated by changes in the payment facilities.
RFI=0.83RDIC + 444.2 LIQ (-21.607) (-2.194)
According to the trace test and the test of maximum eigenvalue, the correlation relationship between the fixed investment and development credits was investigated. Also, based on the results of the long-run relationship between the development sector facilities and liquidity volume in the long run, there is a significant relationship in fixed investment formation in the Iranian economy.
Now, after proving and examining the long-term relationship, we will examine the short-term relationship.

Short-term relationship:

$$\Delta RFI = \alpha_1 + \sum_{j=1}^{q^1} \beta_j \Delta RDIC_{t-j} + \sum_{j=1}^{q=1} \delta_j \, \Delta LIQ_{t-j} + \gamma_1 ECT_{t-1+\varepsilon_{1t}}$$

Table 7: Short-Term Relationship

Error Correction	ECM	D(RFI(-1))	D(RDIC (-1))	D(LIQ(-1))	C
coefficient	-9.608579	5.741296	5.771313	-2353.808	134.2118
Standard errors	(2.11412)	(2.58680)	(2.46648)	(3922.96)	(134.902)
t-statistics	[-4.54496]	[2.21946]	[2.33990]	[-0.60001]	[0.99488]

According to the results of the short-term relationship, the development sector facilities have positive and significant impacts on the fixed investment formation and investment in the economy. Therefore, it can be concluded that the development sector facilities in both short-term and long-term have been able to have a positive and significant impacts on the fixed investment in the economy.

7 Summary and Conclusion

Development banks are financial and credit institutions that usually equip long-term and low-cost financial resources to invest it by themselves, others or jointly in line with the goals of the country's economic development programs in a desirable way in the productive activities. The tasks, roles and activities of development banks can be basically expressed in relation to the economic development process. The share of domestic fixed investment formation represents the investment in total GDP and is calculated as a percentage of GDP. This index shows the processes and patterns of the economic production activities and is considered as an important factor in the process of sustainable development in developing countries, the increase of which is considered as one of the goals of all countries.ng
In Iran, various studies have examined the relationship between the banking sector and economic growth, but the effects of the development banks (facilities of these banks) with the formation of fixed capital, have not been specifically seen. Also in this study, the effect of liquidity on the fixed capital

formation has been shown. If liquidity investe in the production sector in the long run, the formation of fixed capital in the country will increase.the results of this research have highlighted this issue. Also, the role of development banks on fixed capital formation and GDP based on the relationships between macro variables has been studied.
Therefore, in this study, the role of the development banks in Iran's economic development has been addressed through the fixed investment variable as a representative of economic development and facilities provided by the development bank (banks of Maskan, Tosse and Taavon, Tosse Saderat, Sanat o Madan, Keshavarzi and Post bank) as an effective independent variable in the economic growth.
The answer to the first question: the results show that the facilities of development sector, total banking network facilities (except development sector facilities) and liquidity have had positive and significant impacts on fixed investment formation and other banking network payment facilities except development and liquidity volume have had no significant effects. The answer to the second question: based on the results of the long-run relationship between the development sector facilities and liquidity volume in the long run, there is a significant relationship with fixed investment formation in the Iranian economy. According to the results of the short-term relationship, development sector facilities have positive and significant effects in the short term on fixed investment formation and investment in the economy. Therefore, it can be concluded that the development sector facilities in both short-term and long-term have been able to have a positive and significant impact on the fixed investment in the economy.
The answer to the third question: regarding the relationship between the liquidity and total paid facilities of the banking system (except development sector), with the variable of fixed investment formation (economic development index), the results show that total paid facilities have positive and significant impacts and liquidity has insignificant impacts on fixed investent formation.
Given the poor role of the country's development banks in investment, it is suggested that the challenges facing these banks in order to participate in investment and economic development, including the rules of the development banks in order to facilitate the activities of these banks be completely reviewed. Since the experience of the most developing and developed countries in the world shows that the development banks can help the investment and employment sector in various ways and thus reduce poverty.

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