

Financial Markets and Growth in Iran
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Introduction

In the real world where information and transaction costs are significant and markets including those for state-contingent claims are incomplete financial intermediaries emerge to mitigate the effect of market frictions—that is, the costs of obtaining information, enforcement of contracts, and exchanging financial claims. Well functioning intermediaries can improve the allocative process and facilitate capital accumulation. There is a broad spectrum of theoretical models linking financial market performance to growth and there are several strands of thought. Some models are constructed on the intuition that financial intermediaries provide liquidity (Diamond and Dybvig 1983) and tend to alter the composition of savings in a way that induces capital accumulation. In this way intermediaries promote long-run growth in an endogenous growth model setting (Bencivenga and Smith 1991). Financial intermediaries that perform the above tasks better can have a causal effect on growth (Levine et al. 2000). In some models the causality runs both way between financial development and growth (Greenwood and Jovanovic 1990, Greenwood and Smith 1997). There are models that see no causal effect running from financial sector development to economic growth hence do not regard finance as a determinant of growth (Lucas 1988) or that financial development follows economic growth, (Robinson 1952). A large number of empirical studies in recent years have supported a positive correlation between growth and indicators of financial development using large sample of countries and panel data (Khan and Senhadji 2000, Benhabib and Spiegel 2001, Levine 2000). Moreover, this relationship has been found to be robust (King and Levine 1993b, Benhabib and Spiegel 2001). The empirical models that show a positive relationship between financial development and growth however do not establish the direction of causality and this complicates drawing policy inferences from the available empirical findings. This issue is particularly relevant to the debates between “financial repression” models and their financial liberalization policy perspective (McKinnon 1973) and their critiques (Stiglitz 1994, Wijnbergen 1985).¹ More recently, the causality issue is discussed in Levine et al. (2000) and they interpret the data as supportive of the hypothesis of a causal effect by financial development on growth but the matter remains far from conclusively settled.

This paper discusses the emergence of financial institutions in Iran and their evolution of the financial sector since the 1950s and reviews the

¹ For more details on financial sector policy issues in the context of the Iranian economy see Jalali-Naini (2000).

trends in financial development indices. We also examine the general stance of financial policies, the structure of interest rates, and the pattern of sectoral credit allocation in different periods. Finally, we test for the effect of financial variables on economic growth in Iran.

1. Financial Intermediaries and Growth

Functional (technological) explanation for the existence of financial intermediaries is based on the potential economies of scale in banking, which amongst other things can result in risk-reduction (via diversification) and maturity transformation. The incentive explanation is based on the existence of information/transaction costs and incomplete contracts. Hence, economic agents form financial intermediaries to mitigate market frictions and reduce transaction costs. Lower transaction costs induce a greater number of transactions thus allowing for more specialization. Moreover, it is costly for individuals to acquire information and to evaluate and monitor firms and their managers. Since financial intermediaries can economize on the costs of acquiring information they have an advantage over individuals and non-specialized entities to intermediate between borrowers and lenders. Therefore, financial intermediaries can contribute to economic growth by facilitating the exchange process, monitoring performance of firms, and due to their information acquisition capabilities, improve resource allocation in the credit market.

The more recent interest in financial development can be credited to the works of Goldsmith (1969), McKinnon (1973) and Shaw (1973). Goldsmith emphasizes the relationship between financial development and efficiency of investment. A more obvious way in which financial development can influence growth is through mobilization of savings to finance physical and human capital accumulation. The others point to the positive effect of financial development on savings (more appropriately financial savings) hence on the levels of investment. Schumpeter (1912) thoughts on entrepreneurship have influenced the more recent versions of the relationship between growth and finance. In this spirit, financial intermediaries through evaluating investments, facilitating risk management, and allocating funds to selective investments contribute to more innovations and higher productivity and thus influence growth (King and Levine 1993a, Levine 1997 for a review). Financial intermediaries have an advantage in gathering information on investment projects and hence allocate the funds to high-return investments and can positively affect growth (Berthelemy and Varoudakis 1996). In

Greenwood and Jovanovic (1990) model both financial intermediation and growth are endogenous. Intermediaries collect information on alternative projects and invest the funds to investment projects that yield highest returns. The process of growth also stimulates higher participation in financial markets and their expansion. In Bencivenga and Smith (1991) the intuition is that financial intermediaries provide liquidity to individuals that face an uncertain future liquidity need. The individuals can invest in a liquid asset with a low risk and low productivity or in an asset with liquidity risks and higher productivity. The law of large numbers creates a more predictable liquidity demand for banks. In the presence of financial intermediation the individuals are not forced to liquidate illiquid investment when the need for liquidity arises. Therefore, financial intermediaries tend to alter the composition of savings in a way that induces more investment in high productivity assets and in this way they promote long-run growth in an endogenous growth model setting.

In the three decades following the WW II development economics and development policy was primarily focused on the design of policies to boost the national saving rate to finance investments. In the absence of a developed financial market and in the context of Keynesian “big-push” thinking taxation was considered as an alternative strategy to mobilize resources to launch public-investment led growth. The pioneers in development finance (Nurkse 1953) thought taxes can substitute an underdeveloped credit/money market as a mechanism to mobilize resources and government institutions can handle the job of allocating the funds to capital investment efficiently. Under funding and rationing by a rudimentary financial market with costly information was later shown to be pervasive (Stiglitz and Weis 1981, Stiglitz 1994). When asymmetric information exists, moral hazard and adverse selection problems can result in credit rationing since the riskiness of projects and individual borrowers cannot be determined a priori. The implied market failure and under-funding of investment projects were thought to be rectifiable by reallocation of savings to the public sector through a higher tax ratio.² Or as practiced in a large number of developing countries, including Iran, through directed credit programs and government intervention. Development thinking up to the early 1970s reflected this general view but did not have the policy-friendly endogenous growth models in its arsenal to deliver the case for intervention more convincingly. Although the emergence and popularity of AK and endogenous growth models (Roemer 1986) since mid-1980s have made the case for raising saving, investment, and policy intervention more potent, the ideas regarding how

² It was implicitly assumed that positive externalities of a higher investment rate (Rosenstein-Rodan 1943) financed in this fashion outweighed distortion effect of taxes.

to tap the sources of finance have changed. In the more recent years the emphasis has been on the financial sector development as the strategy for mobilizing sufficient funds to finance physical and human capital accumulation. If market imperfections and borrowing constraints on investment projects put a cap on the volume of capital investments and liquidity constraints contribute to under-investment in human capital, financial reform and appropriate government interventions in the financial sector should be the policy response. Stiglitz (1994) argues that market failure in the credit market warrants government intervention--directed credit programs being an important instance--but there are the limits to government interventions. Intervention can also be achieved through prudential regulation, supervision, and implementation of better accounting and risk-control standards. Institutional development, greater specialization, better monitoring, and more transparency can improve information acquisition and reduce credit risk leading to better fund allocation and a higher average efficiency of investments.

2. A Historical Overview of Emergence of the Financial Sector in Iran

The historical school subscribes to the view that once capitalist relations begin to develop and become the prevailing relationship, the role of money goes beyond its original and simple function of the displacement of commodities between parties to an exchange (the C-M-C syllogism). When money enters the circulation process in the form of buying in order to sell it “becomes capital, and, from the point of view of its function, already is capital.”³ At this stage demand for money as the store of value and as social capital becomes crucial. The creation of demand for financial capital creates profitable opportunities for financial intermediaries, in short, where the enterprise leads finance follows (Robinson 1952).

The emergence of modern financial capital in Iran can be traced back to the late 19th century. Market production increasingly supplanted “natural economy” during the last decades of the 19th and the first half of the 20th century in Iran. Demographic changes, migration, urbanization, oil discovery, and transportation breakthroughs accelerated this process (Jalali-Naini 2002a). With the development of domestic and international commerce hence the growth of circulation capital, domestic merchant houses with fairly extensive money lending activities increased in number and foreign banks came to Iran to take advantage of the growing business

³ Karl Marx, Capital, Volume I, Pelican edition, p. 248.

in internal and especially foreign trade. The Imperial Bank of Persia, a subsidiary of the Bank of England was established in 1889.⁴ Four decades later the first Iranian bank, the National Bank of Iran, was founded in 1933. It began operations as a commercial bank and since its creation has been the largest commercial bank in Iran. It had the monopoly right of issuing notes and coins and was the government banker, also a de facto Central Bank. In spite of the increase in the number of banks and the growth of financial intermediation, Iran had until the early 1960s been a country of “dear money”. The market rates of interest were fairly high in spite of the fact that apart from the periods of political crisis (e.g. occupation of Iran by Allied forces during 1944-45) the rate of inflation in Iran was low by international standards until the early 1970s.⁵

2.1. The 1950-72, Institution Building Period⁶

The 1950-72 was a period when a number of financial institutions with different specialties and market focus emerged and the institutions for banking supervision, and monetary and credit policy were created. Prior to 1946 there was no formal set of regulations regarding banking practices and operations in Iran.⁷ Two different draft proposals providing guidelines and regulations of the commercial banking system were introduced (one in 1946 that was rejected by the parliament and the other in 1955 that was approved) but none became effective.⁸ A bill detailing laws and regulations governing banking practices and operations was passed by the parliament in 1955. This legislation was replaced in 1960 by a more comprehensive Banking and Monetary Act and provided a legal base for the creation of the central bank. The role and authorities of the central bank over monetary and credit matters were defined. On this basis the central bank was to start operations on a provisional basis. This legislation was further revised and became the Monetary and Banking Law of 1351 (1972). The major policy issues like sectoral allocation of credit, deposit and sectoral loan rates were determined by the Council on Money and Credit, the central bank being the executor for the policies of

⁴For more details see Bharier (1968) and Jalali-Naini (1985).

⁵ From mid-1930s up until 1960 short-term loans were mostly priced about 10 to 15 per cent per annum for first class signatures and longer-term loans at about 15-20 percent. For more risky borrowers the rates were about three times the good risk rates. For more details see Bharier (1971), pp. 81-82.

⁶ In Persian Calendar year 1950 corresponds to 1329 and 2002 corresponds to 1381.

⁷ For a detailed account on the history of banking and monetary laws see. Ali A. Hedayati, “A Critique of Developments and Evaluation of the Laws Governing the Banking System in the Islamic Republic of Iran,” in the Proceedings of the Sixth Annual Conference on Islamic Banking, The Banking Institute of Iran, Tehran, 1995.

⁸ The banking system observed the existing business law and certain directives issued by the cabinet.

the council. In the same period professional accounting standards and a professional monitoring body was formed.

The 1950s witnessed a multiplication of the number of banks in Iran. Between 1950 and 1961 twenty one new banks began operations of which seventeen were private banks, one with foreign participation, and four were state-owned banks. While in terms of numbers the private banks dominated, in terms of the asset base and capital this was not the case (Jalali-Naini 1985). The commercial banks were by and large active in the short/medium term loan market and discounting of bills. Because of the absence of an active debt (e.g. bond or commercial paper) market for the private companies and a fairly shallow equity market, which started trading shares in 1967, several specialized banks were created to fill the gap in the long-term credit market. The first specialized agricultural bank, a government-owned entity, was created in the 1930s. The bank was activated after its recapitalization by the Rial Devaluation Fund in land 1958⁹ after nearly a quarter century of ineffective operation.¹⁰ Prior to the passage of the land reform law (1962) landlords, who had better information regarding the local conditions and individual credit risks, were the main providers of agricultural credit. Due to higher risks private financial institutions were not active in the small-unit agricultural credit market as they were in the (domestic and international) trade and the industrial sector. After the land reform the Agricultural Bank was reorganized and renamed as the Agricultural Cooperative Bank of Iran. Agricultural Development Bank was established in 1969 and provided loans to large operators in the agricultural sector.

The state-owned banks were also present in housing and industrial finance where the private banking sector was much more active than in agriculture. The first industrial development bank, state-owned, was founded in 1953 and was initially named the Industrial and Mining Bank of Iran and later named the Industrial Credit Bank (ICB).¹¹ ICB provided loans for working capital and term loans for capital investment to medium size industrial units at preferential rates.¹² The largest industrial development bank in Iran, privately owned, was founded in 1959. The shares of Industrial and Mining Development Bank of Iran (IMDBI) were the first to be traded in the Tehran Stock Exchange. The bank obtained financial resources from deposits, low interest loans from the

⁹ For more details see Jalali-Naini (1985).

¹⁰ For more details on this and the history of banking in Iran see Bharier (1971).

¹¹ This bank was to take-over the operations and management of the state-owned industries. However, this scheme was not successful and after three years it merged with the Plan Bank (1956). After a few years it was reorganized and became ICB.

¹² For more details see Jalali-Naini (1985).

government, and from foreign borrowings.¹³ Aside from financing projects the bank also participated in investment projects and provided technical services. The bank also provided loans to agribusiness firms. In addition to ICB and IMBDI there were two other industrial investment institutions. Together, they comprised for a small share of the industrial credit market.

A part of specialized banks' financial resources came from government development funds at no or low interest rates. This was a medium through which the government provided subsidized credit and hence created both the incentives and resources to direct funds to the targeted sectors and projects. Consequently, the term loans to industry and agriculture were in many cases lower than the commercial banks' short-term loans. However, the volume of industrial loans was limited particularly at the beginning of the Third Development Plan (1963-67). With mobilization of more financial resources specialized banks were able to expand their lending scale. The difference between the number of loan applications and loans approved and paid was quite significant in the early 1960s but the gap narrowed significantly by the end of the decade (Table 1).

The rise in the number of both commercial and specialized banks, a low-inflation macro environment, and stable real yield on financial savings (figure 1) contributed to a significant increase in financial deepening during the 1960s until the mid 1970s as indicated by the ratio of M2 to GDP (figure 2). Absorption of financial savings by the financial institution and a significant increase in volume and scope of financial intermediation by banks contributed to risk pooling. Using liability management and subsidized government resources to expand lending capacity and growth of lending by development (specialized) banks in the market for long-term credit contributed to a flatter interest rate structure. Thus the differences between short and long-term loans narrowed and the cost of capital for investments with longer gestation periods declined, particularly for companies with access to the official market (see table 2 for interest rates in different sectors).

2.2. 1973-1977 Period, Credit-Boom and Inflation

The macroeconomic environment changed dramatically with the oil-price jump of 1973-74. Government expenditures grew rapidly and since oil-financed expenditure have expansionary monetary effects a huge increase

¹³ During 1959-73 period more than two-third of IMDBI's resources came from low interest loans from the World Bank and from the Euro-dollar market.

in monetary base and domestic liquidity occurred in this period. With a rapid increase in deposits and growth of financial resources, the banks expanded credit. This coupled with emerging production bottlenecks, limited domestic production capacity, and shortage of labor intensified inflationary pressures and inflationary expectations. Monetary policy, like other oil-exporting MENA countries, did not react sufficiently and quickly to mop up excess liquidity and/or to raise domestic interest rates by a very large magnitude. The rate of inflation (based on CPI) rose from about three percent in 1972 to near 25 percent per annum in 1977. As a result, real-interest rates became negative (figure 3) by a wide margin and a few percentage increase in short-term nominal rates engineered by the central bank was not sufficient to cool-off the boom. A significant reduction in the real cost of capital stimulated demand for credit. With a greater lending capacity and low real interest rates the companies borrowed heavily. As a consequence, the cost of debt was significantly lower than the cost of equity and/or internal funds. There was a significant increase in the ratio of bank-financed capital investments in this period (Jalali-Naini 1985). The banks made profits in this inflationary environment by lending at low real interest rates because the burden could be shifted to depositors.¹⁴

The alternative financial investments were limited and could not influence the rates in the banking sector, which the central bank controlled. The equity market rate of return was fairly high compared to one-year certificate of deposits but the market was shallow and could not absorb large amounts of funds. There was no corporate bond market and the market for government bonds was limited in size. The main player in the market was the central bank that manipulated the rates in this market to keep them in unison to those in the banking sector. At any rate, the credit boom in the 1973-1977 period facilitated financing a massive increase in private investment (figure 4). The political upheavals during 1978 culminating in the Islamic revolution (February 1979) put an end to the oil-boom cycle of the 1973-77 period. It is difficult to make a definitive judgment whether the credit boom was a case where the banking sector over-allocated funds by financing too many investment projects or that the financial sector endogenously responded to higher demand for loans due to a rapidly expanding real sector. Up to 1977 the banking system did not

¹⁴ Banking was a profitable and in the early 1970s with limited risks. In fact levying two percent reserve for questionable loans (not bad loans) on the commercial banks by the Central Bank in 1972 drew widespread criticism and resentment from the bankers. Because it was deemed an unreasonably high reserve since the ratio of non-performing loans to assets were very low at the time. Jalali-Naini acknowledges, without implication, very useful discussions he had on the working of the banking system with Mr. B. Zarin Ghalam and Mr. H. Mahdavian, at the Central Bank of the Islamic Republic of Iran, and is grateful for their valuable insights.

have a significant problem-loan ratio. The stock prices for the private banks were increasing at a fairly strong clip until a few months before the revolution indicating profitability of the banks.

The private banks outnumbered the government-owned banks and their assets grew significantly during the 1970s. In terms of the volume of banking activity four banks accounted for 63 per cent of the commercial bank assets, indicating a fairly high concentration ratio. The two largest government-owned banks accounted for more than 38 per cent of commercial bank assets and the three largest private banks accounted for more than 30 per cent of the assets.¹⁵ Specialized (development) banks, particularly, industrial development banks were able to increase the volume of lending and private credit through liability management. The private banks had access to foreign syndicated loans and were able to raise significant funds from the Euro-dollar market. There was no active market in financial instruments and debt to signal a term structure of interest rates. The informal market was basically a short-term market. The long-term lending rates in the specialized banks were subsidized and had introduced a bias in the time structure of interest rates in the banking sector. In fact, one reason commercial banks remained in the short-term sector was the rate structure of the specialized banks. In 1977 development banks' long-term loan rate was 10 per cent while commercial banks' short-term rate was about 14 per cent. This inversion of rates did not give incentives to commercial banks to extend long-term credits.¹⁶

Monetary policy in this period, and more generally in the pre-revolution period, aimed at controlling credit aggregates instead of the conventional approach of controlling the money supply by managing the monetary base. Active monetary policy through interest rates adjustments was a rare occurrence. Certain aspects of the operation of the financial sector in Iran during the 2nd, 3rd, and 4th plans (1956-1977) such as directed credit programs in conjunction with import substitution policies were in some ways similar to the same type of financial/industrial policies practiced in Latin America and Asian countries with the usual shortcomings and not all of its strengths.

3. Sectoral Credit Allocation

This section reviews the pattern of sectoral credit allocation during some selected periods corresponding to duration of formal economic

¹⁵ See Jalali-Naini (1985) for more details.

¹⁶ "Moreover, since the most short-term trade lending generates additional fees, the bottom line impact makes it even more attractive. It is also less risky and easier to administer." *Euromoney*, June 1978, p. 129.

plans during 1955-1977. The period 1956 to 1973 covers the 2nd, the 3rd, and the 4th development plans prior to the Islamic Revolution. During the above period the banking system and the money market were the main sources of finance. The Second Development Plan (1956 -1962) relied heavily on foreign financial sources. Investments in infrastructure, particularly in communication sector, received the largest share of development funds. The Plan did not attain its sectoral investment targets and certain sectors, like agricultural, could not absorb the financial resources the plan initially had allocated to it. Table (3) shows the distribution of development funds. Total credit granted to various sectors increased quite considerably from 9.2 billion Rials in 1955 to 61.5 billion Rials in 1962. Hence the ratio of credits to GNP at the end of the 2nd plan was far higher than it was at the beginning of the period. This may be considered as a rise in efficiency of the financial system.

Compared to the previous plan, the Third Development Plan (1963-67) was comprehensive and included financial planning within the framework of development planning. The Plan allocated the development funds mainly to communication (25.6 %), agriculture and irrigation (21.5 %), energy (15.8 %) and industry and mines (12.3 %). It was assumed that the banking sector and the private sector would follow-up the pattern of sectoral investments envisaged for the Plan. During the plan period financial resources accommodated high GDP and industrial value-added growth rates. In fact these growth rates were higher than the rates initially envisaged for the plan. During the 3rd Plan, the banking sector credit to the private sector also grew rapidly and supported growth of non-oil GDP.

The Fourth Development Plan (1968-72) relied more on financing from the domestic savings and the banking system than the previous ones. During this period financial flows became less in harmony with the real flows and liquidity growth was much higher than the real growth rate of the economy required. Higher oil prices resulted in a significant increase in financial resources and also a large increase in the volume of credits granted to the private sector. Distribution of financial resources for this Plan is given in Chart 1.

Table (4) shows sectoral credit shares during the 1967-73 period. Domestic commerce received the highest share of banking system credit, an average of 27 per cent. The export sector received an average of 4.9 per cent of banking sector credits. The share of the import sector averaged twice as much. The agriculture sector received an average of 8.9 per cent

of banking sector credits with a clear downward general trend. The industry and mining sector received an average of 16.3 per cent of the credits of the banking sector with a steady upward trend. The decline in the agricultural sector's credit share reflected the fact that agriculture grew significantly less than GDP, the industry, and services sectors. The construction sector received an average of 13.0 per cent of banking sector credits. The total volume of bank credits rose sharply during the whole period, particularly during the early 1970s.

The upward revision of development expenditures during the Fifth Development Plan (1973-77) financed by higher foreign exchange receipts from the oil sector raised aggregate demand beyond the production capacity and intensified inflationary pressures. The sectoral loan rates were modified upwardly though not in proportion to the rise in the rate of inflation. Low real rates of interest caused by a significant jump in the rates of inflation and a limited increase of the nominal rates stimulated demand for credit in all sectors of the economy. Total credit granted by the banking system increased sharply from 712.0 billion Rials in 1974 to 2,199 billion Rials in 1978 (Table 5). Sectors with lower growth rates, exports and agriculture, saw a decline in their share. On the other hand, high growth sectors like industry and construction's share rose. As mentioned previously, after the Islamic Revolution in 1979 the structure of the banking system and the credit market changed significantly so did the pattern of sectoral allocation of credit.

3.1. 1979-1988: Nationalization and Institutional Change

The lull in normal economic activity, social and political upheavals during the revolution, and expropriation of private companies disrupted the operation of the financial sector. In some cases business borrowers fled the country owing the banks large amounts of money. In some cases the post expropriation companies appropriated the revenues but did not recognize their pre-expropriation bank debts. The end result was that banks took-over a number of companies in difficult financial conditions and volume of non-performing loans rose.

The new constitution stipulated that banks and insurance companies be government-owned entities. The commercial and specialized banks were nationalized and were consolidated into eight banks. The Higher Council of Banks (composed of several cabinet members, the heads of Plan Organization and the Central Bank and also the CEOs of the banks) were the highest authority for setting general administrative policies for the

banking system. The Council of Money and Credit remained in charge of formulating general guidelines for monetary and credit policies. Thus ownership, the governance, and control of the banking system came under full control of the government. As a result, competition in the banking sector diminished and bureaucratic practices prevailed. These changes had a significant influence on the incentives, personnel policy, lending practices, and the efficiency of the banking system. The increased the influence of the Ministries over the banking system resulted in a more bureaucratic allocation system. The implication was that loans were granted according to the wishes of the Ministries and efficiency criteria for allocation was not a priority. A good deal of financial sector credits could be described as quasi-fiscal activities with little justification on the efficiency side.

Aside from the above structural changes in the banking sector, the most important institutional change in this period was the passage of the Islamic Banking Law in 1983. The essence of this law was to replace conventional banking practices with regard to fixed-interest contracts with the Islamic principle of equity participation. The law defined new operational procedures for paying depositors and “expected profit” on bank facilities. Subsequently, the banks were required to conduct their lending activities according to the Islamic contracts.

The distinguishing characteristics of the 1979-1988 period are complete government ownership of the banking system, severe government restrictions on the banking sector, e.g. deposit and lending rate ceilings, extensive directed credit programs, and high reserve requirements. Moreover, due to negative real yield on deposits and uncertain macroeconomic environment (as reflected by high black-market exchange rate premiums) a significant reduction in the depth of financial intermediation, as indicated by the ratio of the liquid liabilities of the banking system to GDP, took place (figure 5). The change in ownership and governance of the banks, a massive nationalization of private companies, and the exigencies of the Iran-Iraq war (1980-1988) all contributed to a significant increase in quasi-fiscal activities, a drastic change in the pattern of credit allocation, and a growing share of bank credit going to the government sector (figure 6)¹⁷.

This period should be recognized for financial resources shortages and extensive controls on capital flows. Over the period the public sector

¹⁷ Note that private sector here refers to non-government sector. We use these terms interchangeably in this paper.

expanded its domain. Hence the private sector became less active in the economy and distribution of financial resources between various economic sectors changed to be a fiscal variable and not a financial criteria. Moreover, due to rapid takeovers of private establishments by the public sector, it became a difficult job to distinguish between the public sector and the private sector. Along the same approach, the Central Bank changed its role as the Monetary Authority to an informal General Manager of the Banking System. Day-to-day operations of the banks came to be the main concern of the Central Bank. Monetary policy kept using discretionary instruments. This provided the Central Bank a power that had not existed at any period before this time. Although it is very difficult to discuss allocative efficiency criteria under such situation, it is still possible to consider the share of various sectors in total banking sector credits to non-Government sector. The highest share of credits went to the construction and housing sector. Average share of this sector amounted to 31.9 per cent over the period (Table 6). Industry and mines received an average of 19.7 per cent of credits and the average share of unclassified section of credits amounted to 16.8 per cent. Considering total amount of financial flows, it is evident that the rise in the credits granted has been a direct result of public sector control and public sector requirements (Chart 2). It seems unjustified to consider the rise in the credits as an indication of increased financial services and that the financial system has been efficient as far as allocation of resources is concerned. During the period, the specialized banks concentrated their lending activities on their specialized fields though they were gradually permitted to engage in other banking activities. Some banks, like Agricultural Bank, expanded their branches considerably to increase their deposits (Table 7). In the post revolution era the difference between specialized and commercial banks narrowed. The commercial banks entered project financing and provided long-term facilities.

3.2. 1989-2001 Period

This period witnessed an episode of a relatively abundance of financial resources and a fairly mobile international capital flows, also a period of limited resources and severe restrictions on international flows. Also, a period of massive diversion of funds to the government sector followed by a retreat.

With the increase in financial resources of the banking system the government began to tap into this source instead of borrowing from the central bank and after a while the government began to treat bank resources like budgetary funds. The fact that the banks were all government owned

was an important factor in this regard. For the most part of this period the financial sector was basically controlled by the public sector with the objective of channeling funds to the public sector. In this capacity the financial sector did not act as a vehicle for efficient allocation of financial resources to investment projects and sectors. At times, the financial system was not able to utilize idle due to inappropriate policy or inadequate management. Table (8) shows the balance of credits granted to the non-government sectors. Chart 3 shows the outstanding amount of banking sector credit.

Since the mid 1990s annual monetary targets of the Central Bank has set planned sectoral allocation of credit for the private sector (table 9). The quantitative sectoral credit allocation is a general target set by the Council on Money and Credit and monitored by the central bank for close observation by the banking system. These allocations are not based on detailed and exact estimates of sectoral credit demand. In practice, the banks do not observe the planned sectoral allocations in their lending practices. Since 1997 the share of industry and mines in the total credits of the banking system has declined drastically. Construction and housing sector have in the more recent years been receiving the highest share of credits.

In this period a number of reforms intended to partially reverse the restrictions imposed on private banking and rigidity of the deposit and lending rates were implemented. In the earlier part of this period some rate reform were attempted. The first reform came with a major adjustment of the deposit and loan rates in the banking system that had been kept significantly below inflation for nearly fifteen years. The sectoral loan rates, set administratively by the Council on Money and Credit, were upwardly revised. As always, the priority sectors, like agriculture had the lowest loan rates (or “expected profit”) and those for domestic commerce had the highest rates. Table (2) shows the sectoral rates for some selected years. The deposit rates were also upwardly revised and certificate of deposits with different maturities were introduced (see table 10 for the deposit rates). These changes were meant to reduce “financial repression” in the banking sector and by raising financial savings increase the lending capacity of the banking system. This policy was initially successful in reducing cash holdings relative to deposits, increasing non-sight deposits and “term-investment” deposit in the banking system. However, fiscal/monetary policies were inconsistent with the new deposit and loan rate policies. With a big surge in the rate of inflation in the early to mid 1990s the real rate on five-year deposits (longest maturity deposit in Iran) began to decline quite substantially (figure 3). The real return on 5-year

deposits became positive again in since 1999, though since the average gap between short-term investment deposits (monthly) and five-year deposits are nearly ten percent, the short-term deposit have not enjoyed a positive real return for decades. The magnitude of inflation tax during the 1990s has been substantial and a reflection of a substantial degree of "repression" in the financial sector.¹⁸

Since 1995 a number of private non-bank financial institutions--which are credit and saving institutions without permission to issue checks--have started operations. An important structural reform in the banking system during this period was issuance of permits for the creation of non-bank financial institutions, which was made possible in the context of the 3rd Development Plan law. As a result, since 2000 five private banks have been given permission by the central bank to begin operations. The combined assets of these private institutions are still less than three per cent of the assets of the commercial banks. The new rules and regulations can potentially become effective in bringing the informal credit institutions under the supervisory umbrella of the central bank.

Until the late 1990s the banks could not compete over the rates as the Central Bank had nearly administered the rates for all banks. With the re-introduction of the private banking system, the banks may now pay interest on a daily basis and private banks can set their deposit and lending rates, hence introducing some flexibility in the rate structure. As part of the 3rd Plan reforms to allow more flexibility in lending practices, the amount of directed credits is to decline gradually.

The average margin between loans and deposits are estimated to be between 5-6.5 per cent. This spread is even larger for the newly created non-bank financial companies and the new private banks. If, as expected, more private banks enter the market the margins should be squeezed to more competitive levels. The government-owned banks until recently had a relatively high reserve ratio and that had a significant effect on their potential earnings.

As part of the reform process and creation of incentives for more private sector participation, the Tehran stock Exchange began trading shares after about ten years lull. There are different views regarding the effect of the stock market on the economy. Keynes regards the stock market transactions as speculative and mainly resulting in changing the ownership of equity

¹⁸ See Jalali-Naini (1999) for an estimate and comparison of Seniorage in MENA countries.

with no effect on the allocation of capital. As argued by Bencivenga et al. (1996) and Demirguc-Kunt and Levine (1996) an important function of equity markets is to provide liquidity to the owners of illiquid assets. This makes long-term investments less risky and with the rise in capital market efficiency economic agents are induced to undertake more long-term, transaction-intensive investments, resulting in a higher return on savings. Thus the growth of the equity market can positively influence savings and investment. In Bencivenga et al. (1996) model the same conclusion is obtained if the above outcome does not result into changes in the composition of savings; in this case the rate of capital accumulation increases.¹⁹

The number of companies accepted in the Tehran market has risen to about 307 at the end of 2000 and market capitalization ratio has increased significantly (capitalization value as a percentage of GDP). Market capitalization ratio is presumably correlated with the ability of an economy to mobilize capital and diversify risk. As suggested by Gurley and Shaw (1960) and empirically shown by Demirguc-Kunt and Levine (1996) at low levels of development commercial banks are the dominant financial institutions and in the process of economic growth equity markets and specialized financial intermediaries develop. Stock market capitalization ratio also increases continuously from the average for low-income to middle-income and high-income countries. However, there are substantial variations for individual countries and is lower compared to a number of MENA countries like MENA. The market capitalization ratio in Iran has increased from less than one percent in the early 1990s to about 10.5 percent of GDP at the end of 2000. This ratio is lower than the average value for middle-income countries. The equity market's contribution to raise investment fund for the private companies has been rather limited.²⁰ Aside from generating liquidity and hence potentially reducing the risk of holding illiquid long-term assets in the economy, the growth of the stock market has had two additional potentially positive byproducts. Firstly, many of public enterprises have been transferred and auctioned-off through the stock market. The recommended method of privatizing public enterprise in the 3rd plan (1999-2003) is through the equity market. Hence a deeper, better functioning, and more liquid stock market can facilitate

¹⁹ However, a change in the composition of saving such as to increase holding of the existing equity can have the opposite effect.

²⁰ Since the mid-1990s a new financial instrument called "Participation Shares," a security for medium-term financing of investment projects have been introduced. Although there have been instances where private companies have used these shares to raise investment funds, they are primarily issued by the government agencies and government corporation for investment finance. Since a couple of years ago the central bank also occasionally issues these Shares for conducting monetary policy. See Jalali-Naini and Toloo (2001).

and accelerate the privatization program. Secondly, managers of publicly traded corporations are under pressure to deliver results as they are required to disclose their financial statements on a regular basis. Moreover, the managers are often grilled by their shareholders in the annual meetings and it keeps them under some pressure to perform.

4. Informal Credit Institutions

Prior to the early 1970s, the largest informal financial system in the urban areas was based on the merchant's (Bazari's) informal credit system. This was a two-tier market: one for the trade system and the other for non-trade businesses. The former consisted of a special circle of Bazari lending at rates significantly higher than the official market and in close observance of the informal market rates and conditions. The rates and conditions in the informal market have often been inconsistent with monetary policies of the Central bank. The Second type consisted of gharz-ol-hassaneh loans. The eligible demander of such credit had to be known by the network and should be introduced to the system by one of the members. In a sense, the informal financial network was a closed system. Although no estimate is available about the size of this market, it is widely believed that the market was small compared to the formal market. However the relative size of the informal market depended on geographic specifications. In areas like Yazd, the informal market was large compared to the formal market.

Due to severe limitations placed on private banking, rate controls, a large increase in the share of the government sector in bank credits, and high transaction costs imposed on borrowers by over-bureaucratized banking system, a growing market for informal financial intermediaries have grown since the 1980s. A number of these units operate as charities and provide small amounts of credit to the needy or are organized as gharz-ol-hassaneh units. Many of the gharz-ol-hassaneh organizations started as interest-free institutions but changed to high-rate credit institutions and a number of them have become quite active as financial intermediaries. Many of these units have low over-head and administrative costs, have limited service fees, and their loan application/approval process is much quicker than the formal banking system. However, they charge significantly higher rates, partly because their borrowers are of a higher risk category. The great majority of their customers are those with limited or no access to the formal market. The growth of informal credit units has forced the Ministry of Interior to register these credit organizations and to make some limited monitoring

over them. The central bank has limited control over their activity and has not been able to gain supervisory right over these financial units. One of the best-known semi-informal financial intermediaries is Bonyad Credit Institution with an extensive branch network and a very significant volume of deposits. This institute also issues a form of a bank draft as a close substitute for a check.²¹ Aside from informal non-bank financial institutions there are also independent NGO's involved in provision of funds for specific purposes. These are non-bank credit institutions and are under the control of the Ministry of Interior. The NGO's have their articles of association and they have regular customers who are often of a special background. The structure and taxonomy of the informal institutions is given in table (11).

5. Empirical Analysis of the Effect of Financial Variables on Growth

In this section the effect of the indices of financial development on economic growth in Iran will be tested. There has been a number of empirical works on the relationship between financial variables and economic growth (Benhabib and Spiegel 2000, Levin and King 1993, Levin et al. 2000, Khan and Senhadji 2001). They are all supportive of the hypothesis that better functioning financial markets and financial deepening can improve growth performance. These tests are based on large and diversified samples and use a common set of financial ratios, each reflecting a different aspect of the financial sector performance, as the regressors. In table (12) we compare the mean and median value of three commonly cited financial ratios for Iran and for a selected sample of oil-exporting countries (OECs). The liquid liability ratio (the ratio of liquid liabilities of the banking system to GDP) is supposed to measure the “depth” or the overall size of financial intermediaries in an economy. This variable may not accurately measure the effectiveness of the financial sector in easing transaction costs and ameliorating informational asymmetries (Levine et al 2000). A commonly used proxy for this variable is currency plus sight and non-sight deposits of the banking system to GNP (or M2/GDP).²² Another popular financial indicator is the ratio of the commercial (and specialized) bank credit to commercial bank credits plus domestic credits of the central bank (CCB). This ratio measures to what extent financial intermediation is conducted and financial resources are allocated by the central bank versus the commercial (and specialized) banks. An important financial indicator in

²¹ After several years of operations Bonyad Credit Institute is in the process of becoming a formal commercial bank.

²² The OECs are Algeria, Indonesia, Iran, Kuwait, Saudi Arabia, U.A.E., and Venezuela.

the empirical tests of finance and growth is the ratio of bank credit extended to the private sector to GDP (BKCRP). Finally, we compare the ratio of commercial bank credit to the private sector to the total assets of commercial banks is shown in table (12). This financial ratio is supposed to be a productivity indicator for the banking system.

As shown by table (12) the value of CCB is lower for Iran compared to OECs, indicating a smaller role by the commercial and specialized banks in credit allocation process. The indicator for financial depth is higher for Iran compared to OECs. The BKRPC ratio is lower for Iran indicating a smaller share of credit per unit of GDP is flowing to the private sector. Higher levels of private credit are presumed to indicate higher levels of financial services.²³ The productivity ratio has a similar value in Iran and in OECs. Note that the above mentioned financial indicators for the Southeast Asian countries, in particular BKRPC, is higher than this ratio for OECs (Rastad 2001). Countries with higher levels of private credit per unit of GDP tended to have higher growth rates during the 1960-1995 period (Levine et al. 2000).

The correlation coefficient between the measure of financial depth, total credit per unit of non-oil GDP, and total investment per unit of GDP is quite high for the 1959-1977 period. Indicating that greater mobilization of financial saving and credit allocation activity by the banking system were closely related to the aggregate investment rate for the economy, and these ratios were moving in the same direction. Figure (7) shows Hodrick-Prescott time trend for total investment/GDP ratio and change in the stock of liabilities to the banking system to GDP ratio. The same trends can also be observed about the above ratios for the private sector.²⁴ However, the correlation coefficient falls off very significantly during the 1978-2000 period, particularly between measures of financial depth and intermediary activity and the investment rate. The correlation coefficient between private liquidity and private investment became negative while the positive correlation coefficient between private credit and investment fell significantly. One reason was that while in the 1938-1957 much of private financial saving financed private investments, during the 1979-1999 period a large proportion of private liquid savings (as approximated by M2) was used in financing the government sector (figure 8). This is an indication of inefficient allocation of funds since the banking system directed resources to a less efficient sector given our discussions in

²³ Services that ameliorate information and transaction cost and contribute to risk management and improved allocation of funds.

²⁴ For more details see Jalali-Naini (2002b).

section 3.1 that the public sector dominated the process of credit allocation without due regard to efficiency criteria.

Many recent papers support the existence of a positive relationship between financial ratios and economic growth in large cross-section sample of countries. Levin et al. (2000) finds strong support for the hypothesis that, the exogenous components of financial intermediary development (such as the ratios discussed above) positively influence growth. They also show that cross-country differences in legal and accounting systems explain differences in the level of financial development. In this way, institutional developments in the financial sector can influence growth. King and Levine (1993b) find support for a positive correlation between financial variables and growth. They also show that financial development has predictive power for future economic growth and they interpret this result as supporting the direction of causality running from financial development to growth. Benhabib and Spiegel (2000) suggest that indicators of financial development be correlated with both investment and factor productivity. Khan and Senhadji (2000) utilize a database that includes securities markets measure of financial depth. They reach similar results and support robustness of the results. A panel test for the oil exporting countries (Jalali-Naini 2002b) lends only a lukewarm support to the above relationship. A panel test comparing the effect of financial development and economic growth for the oil-exporting countries (OECs) and Southeast Asian countries (Rastad 2001) indicate that the absolute value of the conventional indicators of financial development are higher in Southeast Asian countries. Also the effect of the financial variables on growth in Southeast Asian countries are significantly stronger than OECs. The variables used in the empirical tests here are similar to those used in large-sample time-series/cross section panel tests. They include the financial depth, CCB, the ratio of the banking system credit to the private sector to GDP, and the ratio of banking system credit to the government sector to GDP. The regressions cover the 1962-1999 period. In the regressions changes in the stock of credit outstanding (the stock of liabilities to the banking system) of the private sector (and also the government sector) was used as the proxy for new (flow) credit.²⁵ Moreover, our dependent variable is the growth rate of non-oil GDP. We also use three control variables to capture the effect of investment, uncertainty, and macroeconomic instability on economic growth. These variables are private investment to GDP ratio, inflation rate, and the

²⁵ Note that the data we have access to do not differentiate between pure private companies and non-governmental, semi-private, foundations (bonyaads). Using the flow or the first difference of the stock of the variables mentioned above also rendered the RHS variables I(0).

black-market exchange rate premium. The latter reflects trade/exchange rate/price distortions and the inflation rate is included to capture the effect of macroeconomic instability hence uncertainty on growth. The results of our tests are shown in tables (13) and (14). The ratio of private credit to GDP has the expected positive sign, as private investment/GDP. The inflation rate has the expected negative coefficient. The black market exchange rate premium was not significant and therefore was dropped. The expected sign of CCB is positive since it is presumed that commercial considerations are the banks' priority, hence they are more likely to identify better investment projects and monitor the managers and markets than the central bank. In our regressions the coefficient of this variable has the expected sign and is significant. The coefficient of the ratio of government credit to GDP was negative but highly insignificant. This result may well have been affected by unification and devaluation of Rial in 1993 (1372) which resulted in a significant increase of the volume of the outstanding liabilities of public enterprises. On a broader level, it can be argued that one reason that lending to the government sector and public enterprises do not configure as significantly as for the private credit is that lending may be subject to other factors than economic criteria. If political, rent-seeking, and quasi-fiscal influences are relevant variables in deciding to allocate funds to a government enterprise, or for that matter a private companies, then much of the argument regarding transaction/information cost amelioration and efficient allocation of financial intermediaries is inapplicable. This is a shortcoming of large sample tests in that they are not able to account adequately for differences in the quality of financial aggregates in different countries. Guidoth and Gregorio (1995) note that because of poor regulatory environment in Latin America a higher degree of financial intermediation resulted in over-lending by the financial system resulting in a lower efficiency of investments and a negative influence on growth.

Importantly, the coefficient of the financial depth variable did was not significant even at the 15 percent level, indicating the absence of a well-defined relationship. Financial deepening is expected to positively influence economic growth. It may be argued that financial deepening has a non-linear relationship with growth or that there is a threshold effect (Berthelemy and Varoudakis 1996). To test for non-linearity the square of the financial depth variable was also included. Since a case for the simultaneity of the variables in the above regression can be made we also made several regressions using instrumental variables. Since financial variables in Iran are influenced by changes in oil revenues, we used value-added in the oil sector as one of our instruments. Table (14) the result of a regression equation estimated by TSLS is reported. We obtain results

similar to the OLS estimation with respect to the sign of the variables. Again the coefficient of financial depth variable was highly insignificant. In this regression the size of the government, as approximated by the ratio of its current and investment expenditures to GDP was included as another control variable, although the coefficient was negative it was not significant and hence dropped. The nominal and real interest rates for long-term deposits--to test for the effect of financial repression--and an average of lending rates were included in the regressions and none were statistically significant.

In sum, the results of our tests do not reject the hypothesis of a positive correlation between financial variables and economic growth in Iran. The findings in this paper are consistent with large sample tests only with respect to two financial indices: private credit and the CCB ratio, and differs with them with respect to the financial depth variable. The usual caveat regarding the quality of data and the reliability of the data remains nonetheless.

6. Summary and Conclusion

Banks and financial intermediation through the banking system has always dominated financial sector activities in Iran over the last fifty years. Only for a brief period during the mid 1970s and since the late 1990s equity market capitalization have been of some significance. A private debt market for issuing and trading long-term corporate bond and short-term debt instruments has never materialized. Institutions for long-term credit (development banks) and monetary/credit policy institutions, formal laws, and regulations emerged during the 1950-1972 period. The commercial banking system grew rapidly in terms of assets and the geographical coverage during this period. The financial system accommodated economic growth and private investment under a fairly conducive macroeconomic environment with low inflation rate and stable exchange rates. The positive correlation between private credit growth and non-oil GDP is corroborated by the reported regression tests. The real rates of interest in this period were positive and in many cases higher than those prevailing in other developing countries (Fry 1978).

During the 1973-77 the economy was affected by a huge increase in oil revenues and experienced an enormous credit boom. Liquidity grew rapidly, the rate of inflation picked up significantly, the real rates of interest declined, asset prices rose rapidly, and the ratio of credit-financed investments rose significantly. This is also a period of more openness, and

a relatively high rate of growth of private investment and GDP.²⁶ In contrast to the previous period, this boom exacerbated inflationary pressures and was not sustainable.

The structure of the financial sector in Iran has been similar to those prevailing in developing countries and also in large MENA countries.²⁷ It has always been a highly concentrated industry with broad government interventions and extensive directed credit programs. Prior to the revolution private banks were active in both the short and long-term credit market. After the revolution all private banks were nationalized, the concentration ratio rose and competitive forces in this sector nearly vanished. Although ever significant, the degree of government control in credit flows and has changed from period to period. The banking sector during the 1950-1977 was a two-tiered system. The commercial banks specialized in the short to medium term credits and although they did not have too many controls on their loan portfolios, they had limited control on their deposits and lending rates. Specialized banks were the medium in the financial sector to supply subsidized credit to the favored sectors. Directed credit programs mixed with import substitution policies characterized directed lending programs in the framework of the 2nd, 3rd, and 4th economic plans. The trade/industrial (ISI)/credit policies during the 1960-1973 period were pretty much the general framework used with varying degree of effectiveness in Latin American and the Asian countries (Jalali-Naini 2002a) during the 1950s up to the early 1970s.

After the oil and credit-boom of 1973-78, a period when much of the controls on both the current and capital accounts were lifted, the protective trade/capital account/industrial policies returned in the post revolution period and during the war. In the financial sector government involvement and control increased significantly and formal private institutions were closed. Private sector financial intermediation, by and large, was limited to the informal market transactions. Financial sector policies and flows during the 1988-2001 were still dominated by the public sector financial resource requirements; however, a gradual trend in the direction of reversing the severe limits placed on the private sector activity began after the war. In 1989 the Tehran stock exchange resumed its activity. Since 1996 the authorities have allowed non-bank financial institutions to begin operations. Since 2000 five private banks have been given permit and have since started banking services. Until the late 1990s the banks could not compete over the rates as the Central Bank had nearly

²⁶ A simple Tobin q model should predict accumulation of capital given the above mentioned economic conditions.

²⁷ Large here applies to countries with more than ten million population.

administered the deposit and loan rates for all banks. With the re-emergence of private banks and non-bank financial institutions, the intermediaries may now pay interest on daily basis and they can set their deposit and lending rates. In this way some flexibility in the rate structure has been introduced. Since the late 1990s the banks have also had more freedom in their lending activities.

During the decades of 80's onwards, annual monetary policies also included a minimum rate of interest for loans given to various sectors. For the past decade, annual budgets have provided some financial resources to pay for the subsidized rate of interest of some directed credit programs. Quantitative control on Bank lending and setting deposits and loan rates have always been the policy instruments prior to and after the revolution. Partly due to the supremacy of fiscal policy the central bank has limited control over the monetary base. Consequently, the bank has used quantitative credit control as the ultimate policy to manage financial flows. The policy is usually a mixture of controlling the growth of credit aggregates and sectoral allocation of credits, which have seldom been observed scrupulously by the banking system.

Not much institution building and instrument development to signal the cost of capital has taken place in the Iranian financial markets. The administered bank rates are not very responsive to market and macroeconomic conditions. With a fixed rate structure the signal to noise ratio falls and the rates become distortive under high and highly variable inflation rates. The average inflation rate has risen significantly in Iran since 1974 and its variance has increased. Monetary policy has not generally had the flexibility to be able to respond to business cycles and economic shocks. Variations in the deposit (particularly the short-term) and loan rates have been either very limited or absent under highly different inflation rates. The empirical results reported in this paper shows that inflation rate has been negatively correlated with growth while bank credit to the private sector is positively correlated with growth. On the other hand, growth in lending to the government did not significantly influenced economic growth. Government control of the banking system increased the extent of quasi-fiscal activities during the 1979-1997 period and the banking system redirected a significant proportion of private saving to finance the government sector. Limited competition, bureaucratic structure, poor incentives, and inadequate personnel policy have affected the performance of the banking system. This together with administrative allocation of funds reduced the quality of financial intermediation in the banking system. Not only financial development

matters but also the quality of financial intermediation, which is affected by institutions and economic policies, matter a great deal. Although the scale of financial intermediation increased during this period we cannot say the same thing about the quality.

It has been argued (Stiglitz 1994) that due to market failure in the credit market government intervention is warranted--directed credit programs being an important instance. Directed credit programs as a policy to promote industries and economic sectors have been in existence in Iran for a long time. However, there are the limits to successful government interventions. At best, the issue is that of information; it is difficult to pick winners and the government has limited information. At worst, the issue is rent seeking. When competition is limited, management is bureaucratic and prudential regulation and monitoring is inadequate, the environment for rent seeking becomes more conducive and the quality of financial intermediation deteriorates. One way to limit these problems is to direct lending to those sectors where competition disciplines borrowers, e.g. export markets, or link directed lending to performance. Directed credit programs in Iran have not been systematically linked to efficiency performance and/or exports target achievements.

Aside from directed lending, government intervention in the financial sector can also be done through improved prudential regulation, supervision, and implementation of better accounting and risk-control standards. Institutional development, greater specialization, better monitoring, and more transparency can improve information acquisition and reduce credit risk leading to better fund allocation and a higher average efficiency of investments. These are the kind of reforms needed to improve the quality of financial intermediation and financial services in the Iranian economy.

References:

Bencivenga, V. R., B. D. Smith, and R. M. Starr, (1996), "Equity Markets, Transaction Costs, and Capital Accumulation: An Illustration," *The World Bank Economic Review*, Vol. 10, No. 2, May.

Bencivenga, V. R., B. D. Smith (1991), "Financial Intermediation and Endogenous Growth," *Review of Economic Studies*, Vol., 58, pp. 195-209.

Benhabib J. and M, Spiegel (2000), "The Role of financial Development in Growth and Investment," *Journal of Economic Growth*, Vol. 5, pp. 341-360, December.

Berthelemy, J.C. and Varoudakis (1996), *Economic Growth, Convergence Clubs and the Role of Financial Development*," *Oxford Economic Papers*, Vol. 48, No. 2, pp. 300-328.

Bharrier, J (1971), "Capital Formation in Iran 1900-1970," London: Oxford University Press.

-----, "Banking and Economic Development in Iran," *Bankers Magazine*, 1968.

Demirguc-Kunt A. and R. Levine, (1996), "Stock Markets, Corporate Finance, and Economic Growth: An Overview, Vol. 10, No. 2, May.

Diamond, D. W. and Dybvig, P. H. (1983), "Banking Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy*, Vol. 91, 401-419.

Fry, M.J. (1978), *Monetary Policy and Domestic Saving in Developing ESCAP Countries*, *Economic Bulletin for Asia and the Pacific*, Vol. XXIX, No. 1, June 1978, pp. 79-99.

Goldsmith, R. W. (1969), *Financial Structure and Development*, New Haven, Connecticut: Yale University Press.

Greenwood, J. and B. Jovanovic (1990), "Financial Development, Growth, and the Distribution of Income," *Journal of Political Economy*, Vol. 98, No. 5, 1076-107.

Greenwood, J. and B. Smith (1997), "Financial Markets in Development and the Development of Financial Markets," *Journal of Economic Dynamics and Control*, Vol. 21, No.1, pp. 145-81.

Gregorio, J.D. and P. E. Guidotti (1995), "Financial Development and Economic Growth," *World Development*, Vol. 23, No. 3, pp. 433-448.

Jalali-Naini, A. R. (2002a), *Economic Growth in Iran*, Working Paper No. EC 8111555, Tehran: IRPD.

----- (2002b), *Financial Development and Growth*, Working Paper No. EC 8111557, Tehran: IRPD.

Jalali-Naini and M. Toloo (2001), "Participation Shares and Monetary Policy," *Proceedings of the Ninth Annual Conference on Monetary and Exchange Rate Policies*, Monetary and Banking Institution, the Central Bank of I.R.I.

----- (2000), Reviw and Refom of Monetary and Exchange Rate Policies, Tehran: Plan and Budget Organization.

----- (1999), *The Structure and Volatility of Taxes in Selected MENA Countries*, www.worldbank/mdf3.

----- (1985), *The Formation of a Home Market and Capital Accumulation in Iran: 1959-1977*, unpublished Ph.D. Dissertation, University of Kent, 1985.

Khan, M. S. A. S. and Senhadji (2000), "Financial Development and Economic Growth: An Overview," IMF Working Paper, WP/00/209.

King, R. G. and R. Levine (1993a), "Finance, Entrepreneurship and Growth: theory and Evidence," *Journal of Monetary Economics*, Vol. 32, pp.513-542.

----- (1993b), "Finance and Growth: Schumpeter Might be Right," Vol. 108, No. 3, pp. 717-37.

Levine, R. N. Loayza, and T. Beck (2000), "Financial Intermediation and Growth: Causality and Causes," *Journal of Monetary Economics*, Vol. 46, No.1, pp. 31-77.

Levine, R. (1997), "Financial Development and Economic Growth: views and Agenda," *Journal of Economic Literature*, Vol. 35, pp. 688-726.

Lucas Jr., R. E. (1998), *On the Mechanics of Economic Development*, *Journal of Monetary Economics*, Vol. 22, pp. 3-42.

McKinnon, R. I. (1973), *Money and Capital in Economic Development*, Brookings Institution, Washington DC.

Nurske, Ragnar, 1953, *Problems of capital formation in Underdeveloped Countries*, New York: Oxford University Press.

Rastad, M. (2001), *Financial Development and Economic Development: A Comparative Study of Oil Exporting Countries with Southeast Asian Countries*, Unpublished Master Thesis, IRPD, Tehran, Iran.

Roemer, Paul, (1986), "Increasing Returns and Long-Run Growth," *Journal of Political Economy*, Vol. 94 (October), pp. 1002-37.

Rosenstein-Rodan, Paul, (1943), "Problems of Industrialization of Eastern and Southern Europe," *Economic Journal*, Vol. 53, (June-September), pp. 202-11.

Stiglitz, J.E. (1994), *The Role of Governments in Financial Markets*, Proceedings of the World Bank Annual Conference on Development Economics 1993, Washington DC : the World Bank, pp. 19-52.

-----, and Andrew Weiss (1981), "Credit Rationing and Markets with Imperfect Information," *American Economic Review*, Vol. 71, No. 3, pp. 393-410.

Schumpeter, J. (1912), *the Theory of Economic Development*, Cambridge, Mass.: Harvard University Press, 1934.

Shaw, E. (1973), *Financial Deepening in Economic Development*, New York: Oxford University Press.

Wijnberg, S. van (1985), "Macroeconomic Effects of Changes in Bank Interest Rates: Simulation Results From South Korea," *Journal of Development Economics*, Vol. 18, pp. 541-554.

Figure 1. Interest Rate on Long-term Deposits % Per Annum

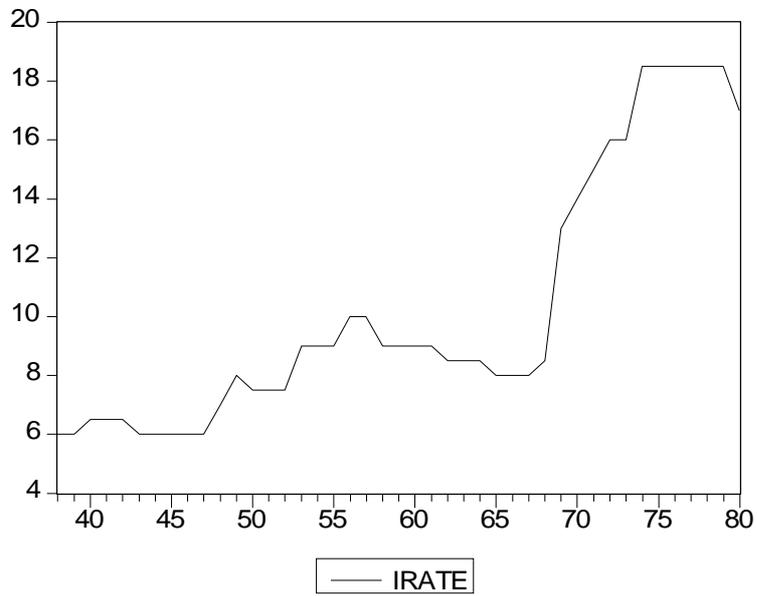


Figure 2. Broad Money GDP Ratio %

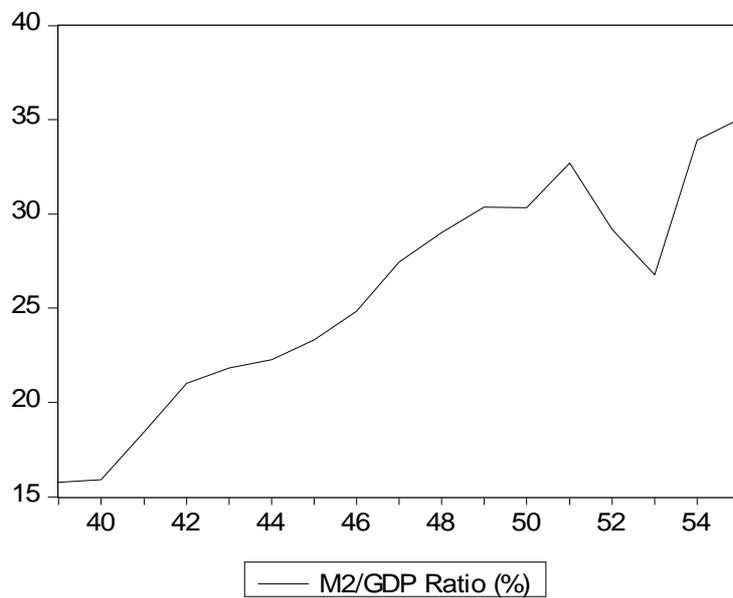


Figure 3. Real Interest Rate on Long-term Deposits % Per Annum

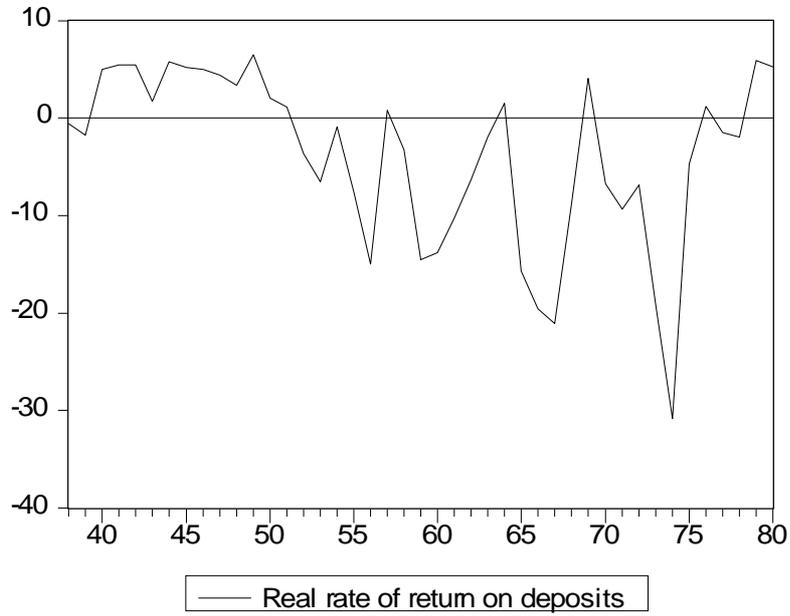


Figure 4. Private Investment Non-Oil GDP Ratio, %

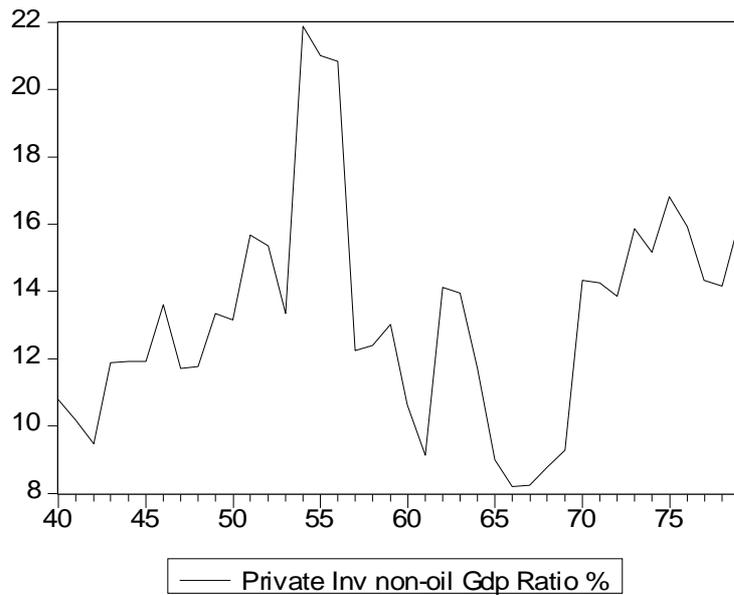


Figure 5. M2/ GDP Ratio %

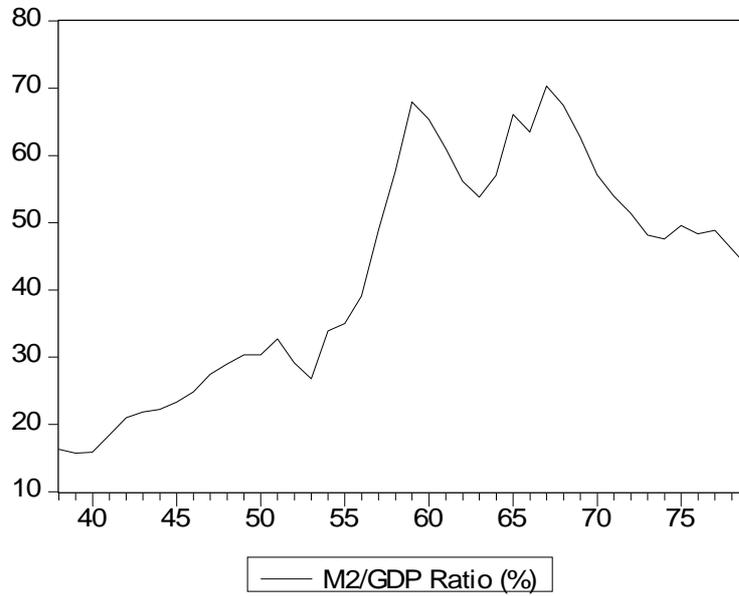


Figure 6. Change in the Outstanding Stock of Bank Debt: Private & Government, E

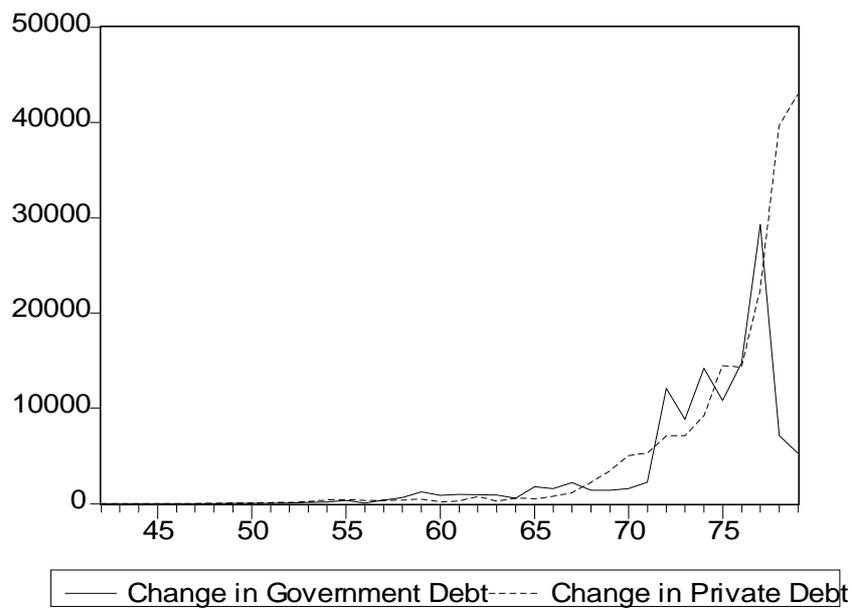


Table 1. Loan Applications & Loans Paid in the Industrial Sector, Selected Years

Year	Applied	Paid
1962	557	24
1963	1,169	261
1964	1,039	305
1965	1,149	480
1966	722	662
1967	1,523	1,233
1968	1,576	1,852
1969	2,313	1,676

Source: Khalatbari, F. Iran: Anatomy of a Development, Shabaviz Publishing Company, forthcoming

Table 2. Expected Rate of Profit on Facilities, Selected Years %

Year	Manufacturing	Agriculture	Trade & Services	Export	Housing	Savings	Other
1950s	na	na	na	na	na	na	na
1963-69	na	na	8-10*	8	na	na	na
1975-77	10**	6-7**	11-14*	11	na	na	na
1984	6--12	4--8	8--12		8--12	na	na
1990	11--13	6--9	17--19		12--13	na	na
1991	11--13	6--9	18+		12--16	na	na
1992		13	9 18+		12--16	na	na
1993	16-18	12--16	18-23		12--16	na	na
1994	16-18	13-15	18-24	18		15	na
1995	17-19	13-16	22-25	18	15-16		na
1996	17-19	13-16	22-25	18	15-16		na
1997	17-19	13-16	22-25	18	15-16		15-16
1998	17-19	13-16	22-25	18	15-16		18-19
1999	17-19	13-16	22-25	18	15-16		18-19
2000	17-19	13-16	22-25	18	15-16		18-19
2001	16-18	14-15	23 minimum	18	15-16		18-19

Source: Bank Markazi Iran

Notes: * Short-term Commercial bank loans, ** Specialized banks

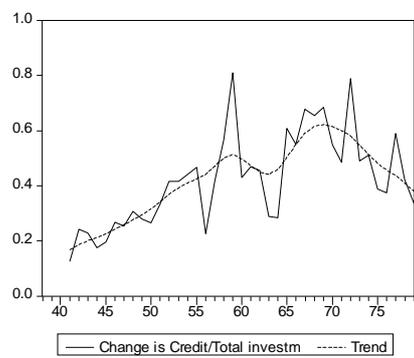


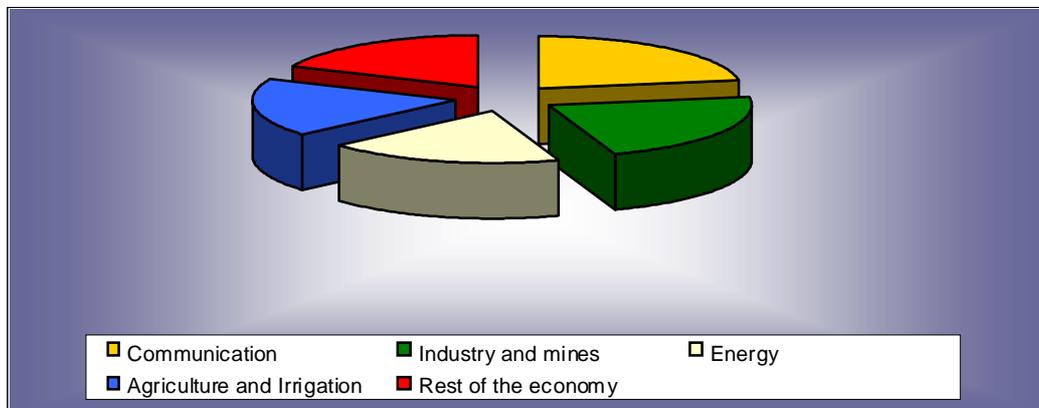
Table 3. Distribution of Development Funds during the 2nd Plan

Sector	Performance	Plan*	
		Initial	Final
Agriculture and Irrigation	17.8	29.9	21.6
Communication	32.2	40.5	42.6
Industry and Mining	7.1	11.2	13.4
Social Services	11.5	18.4	14
Other	31.4	0	8.4
Total	100	100	100

Source: Khalatbari, F. Iran: Anatomy of a Development; Sha op cit.

* Final revision of the Second Development Plan.

Chart 1. Distribution of Development Funds during the 4th Plan



Source: Khalatbari, F. Iran: Anatomy of a Development, op cit.

Table 4. Distribution of Credit Granted to various Sectors: 1967-1973 (%)

Sector	1967	1968	1969	1970	1971	1972	1973
Domestic Commerce	27.3	25.9	26.3	25.3	26.8	29	28.7
Exports	5.3	3.6	5.2	5.3	5.3	5	4.8
Imports	9.6	11.1	10	8.5	8.5	8.7	11.9
Agriculture	10.7	11.5	10.4	8.1	6.3	8	7.6
Industry and Mines	15.9	15.3	15.6	15.1	15.5	17.7	18.7
Construction	13.4	13.9	13.4	12.7	12.5	12.7	12.7
Other	17.8	18.7	19.2	25	25.1	18.9	15.7
Total	100	100	100	100	100	100	100
Total Outstanding, (b. Rials)	142.6	165	195.7	228.5	274.9	359.7	486.7

Source: Central Bank of Iran; Annual Report, Various years.

Table 5. Distribution of Credits Granted to Sectors: 1974-1979, %

Sector	1974	1975	1976	1977	1978	1979
Domestic Commerce	25.1	25.4	24.7	n.a.	n.a.	n.a.
Exports	3.2	3.6	1.5	n.a.	n.a.	n.a.
Imports	16.2	12.8	11.4	n.a.	n.a.	n.a.
Agriculture	9.1	8.8	8.9	9.2	2.7	n.a.
Industry and Mines	20.8	23	25.2	n.a.	n.a.	n.a.
Construction	12.3	13.8	16.2	7.2	5.3	4.5
Other	13.3	12.6	12.1	n.a.	n.a.	n.a.
Total	100	100	100	n.a.	n.a.	n.a.
Total Outstanding, (b. Rials)	712	1,103.20	1,535.60	1,894.30	2,199.00	2,577.40

Source: For total up to 1977, Khalatbari, F. Iran: Anatomy of a Development, op cit.

For distribution and total of the years 1978 and 1979: Central Bank of Iran; Annual Report, various years.

Table 6. Balance of Credits granted by the banking system to the non-Government Sector

Sector	1981	1982	1983	1984	1985	1986	1987	1988
Commerce	15.6	16.5	14.4	14.8	18.8	16	13.5	10.6
Agriculture	10.8	9.5	11.1	10.8	11.9	11.7	13.9	16.3
Industry and mines	20.5	20.4	20.4	20.6	19.3	18.8	18.8	18.9
Construction and housing	32.3	34.1	29.5	30.1	28.9	31.1	34.6	34.1
Other Credits	18.6	17.1	21.2	20.2	16.3	16.7	12.4	12
Direct investment and participation	2.3	2.3	3.3	2.8	4	4.6	5.4	5.9
Other	0	0	0	0.7	0.8	1.1	1.5	2.2
Total financial flow	3,219.50	3,484.90	4,256.60	4,500.70	5,081.90	5,578.40	6,348.50	7,479.20

Source: Central Bank of the Islamic Republic of Iran.

Chart 2. Total Credit Outstanding, (billion Rials)

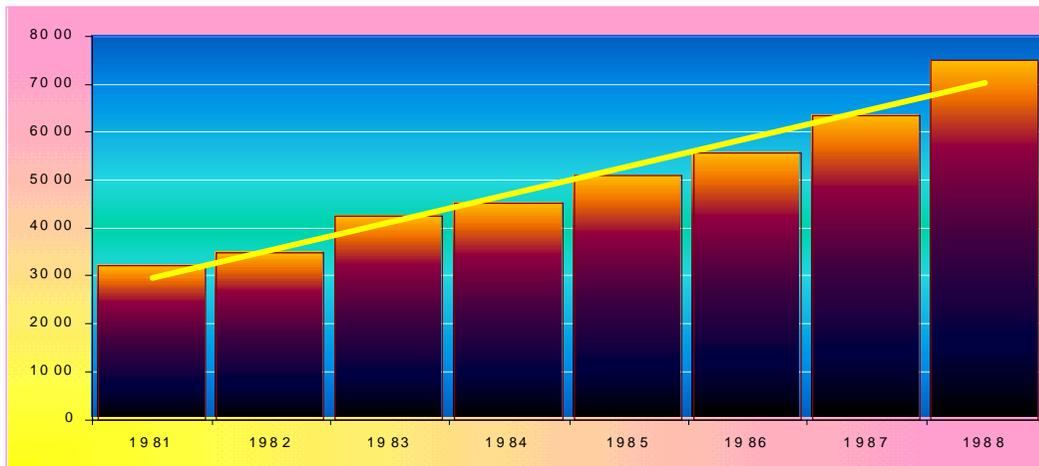


Table 7. Lending Activities of the Specialized Banks 1980-87

	1980	1981	1982	1983	1984	1985	1986	1987
Agricultural Bank					406.7	505.7	525.1	572.2
Bank of Industry and Mining					478.5	541.4	570.5	574.3
Housing Bank					743.6	815.1	836.1	843.1
Total financial flow Specialized Banks					1,628.80	1,862.20	1,931.70	1,989.60

Source: Central Bank of the Islamic Republic of Iran.

Table 8. Balance of Credits Granted by the Banking system to non-Government Sector

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Commerce														
Agriculture, flow		444	383											
Agriculture, outstanding			2,134	3,100	3,829	4,872	6,184	7,337	9,587	12,066	15,157	22,622		
Industry and mines, supply	51	90	150	275	196	176	66	236	648	548	116	458.8		
Industry and mines, outstanding								13,053	17,721	19,125	23,285	30,259		
Construction and housing	244	461	782	850	667	676	1,194	1,873	2,883	3,995	6,489	9,453		
Total stock of credit	7,479.20	9,697.50	13,156.90	18,297.30	23,468.70	30,574.80	37,719.80	46,938.60	61,439.00	75,740.10	98,220.00	137,912.90	180,870.70	222,079.8*
Total financial flow					2,062.20	2,816.50	2,120.90	3,286.70	3,425.90	4,670.60	4,395.50			

Source: Central Bank of the Islamic Republic of Iran.

* Nine-month data.

Chart 3, Total Credit Outstanding, (billion Rials)

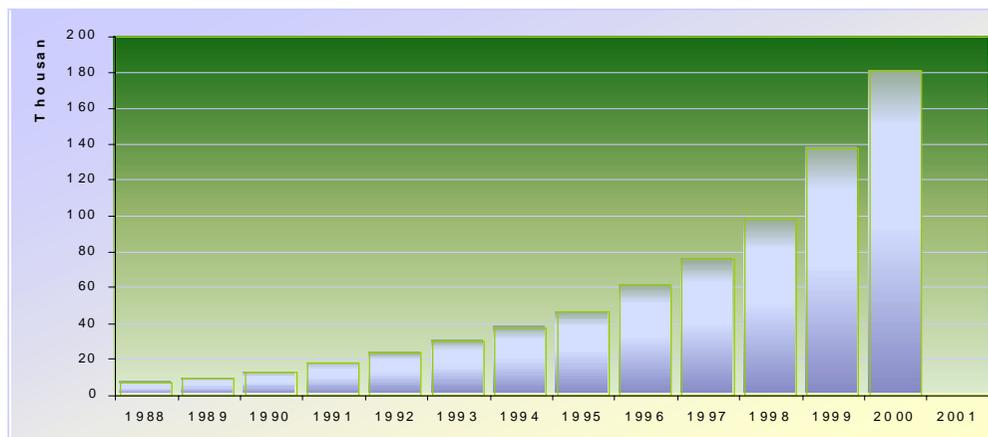


Table 9. Credits Allocated and Granted by the Banking System to the non-Government Sector %

	1994		1995		1996		1997		1998		1999	
	Approve	Actual	Approved	Actual	Approver	Actual	Approver	Actual	Approved	Actual	Approver	Actual
Agriculture	19	17	25	23.2	25	19.9	25	27.4	25	26	25	23.5
Construction and Housing	30	32.4	29	35.3	29	20.5	29	36	29	34	29	29.2
Industry and Mines	36	33.4	33.5	28.9	33.5	40.5	33.5	15.5	33.5	19.4	33.5	22
Exports and Other Services	15	17.2	12.5	12.6	12.5	19.1	12.5	21	12.5	20.6	12.5	25.3
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Central Bank of the Islamic Republic of Iran.

Table. 10 Term-Investment Deposit Rates

Year	Sort Term	Special Short Term	One Year	Two Year	Three Year	Four Year	Five Year
1991	6.5	...	9	10.5	11.5	...	14
1992	7.5	...	10	11.5	13	...	15
1993	8	...	11.5	13.5	14.5	...	16
1994	8	...	11.5	13.5	14.5	...	16
1995	8	...	14	15	16	...	18.5
1996	8	...	14	15	16	...	18.5
1997	8	10	14	15	16	...	18.5
1998	8	10	14	15	16	...	18.5
1999	8	10	14	15	16	...	18.5
2000	8	10	14	15	16	17	18.5
2001	7	9	13	13-17	13-17	13-17	17

Source: Central Bank of I.R.Iran

Table 11. The Structure of Informal Financial Organizations in Iran

	Type and Detail	Specifications
1-	Traditional Informal Funds	
a.	Period of Existence	Since the history
b.	Source of Resources	Funds from Bazari Groups
c.	Domain	Trade
d.	Condition	Recommendation by a credit-worthy person
e.	Interest rate and details charged in advance, Calculated on daily basis	Very high,
f.	Dimension	Limited initially but expanding over time
g.	Controlling Authority	Mostly unregulated though some of them have registered with the Ministry of Interior after the Revolution.
2-	Post-Revolution Ghaz al-Hassaneh Fund	
a.	Period of Existence	Since the Revolution
b.	Source of Resources	Funds from Influential Groups including many Bazari Groups
c.	Domain	Small loans for personal needs and private purposes including marriage
d.	Condition	Recommendation by someone known to the authority responsible for the fund.
e.	Interest rate and details	At first: Almost no interest was charged. Some funds just charged their administrative costs. Recently: Rather high charges by asking for interest free deposits for a stated period of time,
f.	Dimension	Expanding over time
g.	Controlling Authority	Almost all of them have registered with the Ministry of Interior, they have to report regularly to the Ministry.
3-	Institution-related GH Fund	
a.	Period of Existence	Since the Revolution
b.	Source of Resources	Funds from Members and Possibly with some external sponsors
c.	Domain	Loans for various purposes of members of those institutions
d.	Condition	Recommendation by someone known to the authority responsible for the fund.
e.	Interest rate and details	Rather low rate of interest and often limited to administrative costs
f.	Dimension	Limited in number
g.	Controlling Authority	Almost all of them have registered with the Ministry of Interior.
4-	Modern Bank-Looking Funds	
a.	Period of Existence	Since the Revolution

b.	Source of Resources	Funds from all people in the society, they have to collect funds like other financial institutions
c.	Domain	Loans for all purposes
d.	Condition	Commercial approach
e.	Interest rate and details	For fund collection: closely linked to the rates offered by non-bank financial institutions but highe. For credits: somewhere between the informal market and non-bank financial institutions' rates
f.	Dimension	Limited in number; Bonyad is the largest.
g.	Controlling Authority	Could be registered with the Ministry of Interior.
5-	Charity Type NGO's	
a.	Period of Existence	Mostly during the past decade
b.	Source of Resources	Charity-type activity and social gathering as well as membership fee and payment
c.	Domain	Loans for specific purposes
d.	Condition	Personal Selection
e.	Interest rate and details	No interest or minimum interest
f.	Dimension	Limited in number but lately they are growing
g.	Controlling Authority	Should be registered with the Ministry of Interior.

Source: Khalatbari, F. Iran: Anatomy of a Development, op cit.

Figure 7. Smoothed Trend of Investment and Change in total Liabilities to the Banking System

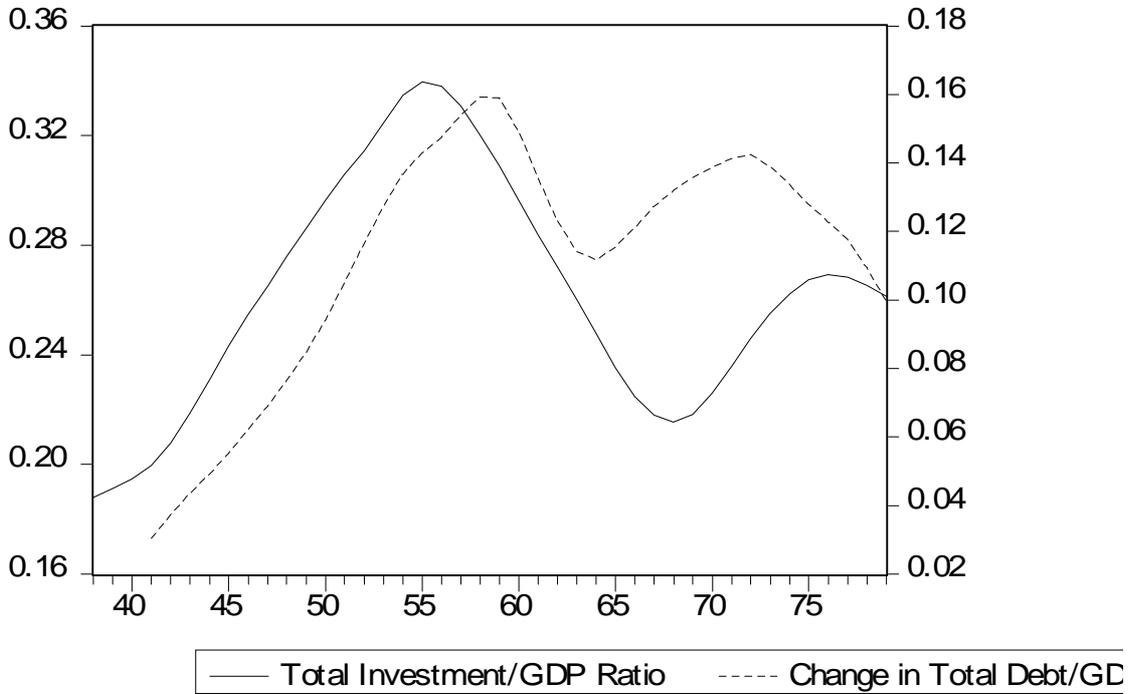


Figure 8. Net Financial Claims of Private and Government Sectors On the Banking System

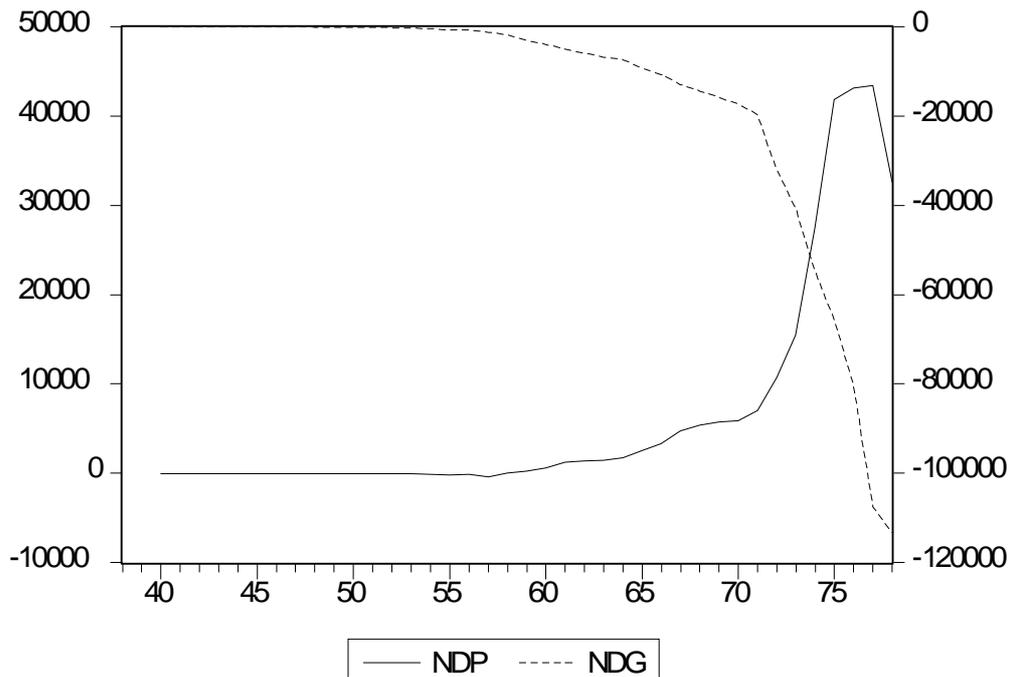
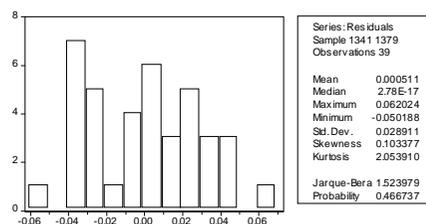


Table 12. Comparison of Financial Development Indices For Oil-Exporting Countries and Iran, 1974-99

	Bank Credit/Asset	BKCRP	M2/GDP	CCB	
Mean OECs	0.826		0.246	0.378	0.749
Mean Iran	0.809		0.188	0.478	0.492
Median OECs	0.888		0.205	0.362	0.8
Median Iran	0.815		0.189	0.501	0.453
Maximum OECs	0.999		0.594	0.859	0.999
Maximum Iran	0.969		0.274	0.949	0.707
Minimum	0.147		0.056	0.14	0.306
Minimum Iran	0.379		0.125	0.2	0.345

Table 13. Growth and Financial Ratios

Dependent Variable: Growth Rate of Per-Capita Non-Oil GDP Constant (1361) Prices				
Method: Least Squares				
Sample(adjusted): 1341 1378				
Included observations: 38 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Non-Oil GDP Per Worker	-0.133995	0.031508	-4.252664	0.0002
D(CCB)	0.314051	0.195731	1.604502	0.1187
Change in the Stock of Private Debt/Non-Oil GDP	0.640703	0.203289	3.151688	0.0036
Private Investment/Non-Oil GDP	0.685871	0.155011	4.424665	0.0001
Inflation Rate	-0.118933	0.068872	-1.72686	0.0941
Change in the Stock of Gov. Debt/Non-Oil GDP	0.167588	0.156749	1.069149	0.2933
dum58	-0.079112	0.034749	-2.276702	0.0299
Dum62	0.100632	0.03267	3.080256	0.0043
R-squared	0.785694	Mean dependent var		0.033121
Adjusted R-squared	0.737303	S.D. dependent var		0.062463
S.E. of regression	0.032015	Akaike info criterion		-3.864554
Sum squared resid	0.031773	Schwarz criterion		-3.523311
Log likelihood	83.3588	F-statistic		16.23616
Durbin-Watson stat	2.125579	Prob(F-statistic)		0



Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.503546	Probability
Obs*R-squared	1.296831	Probability

ARCH Test:

F-statistic	2.001357	Probability
Obs*R-squared	3.897101	Probability

Cusum Test

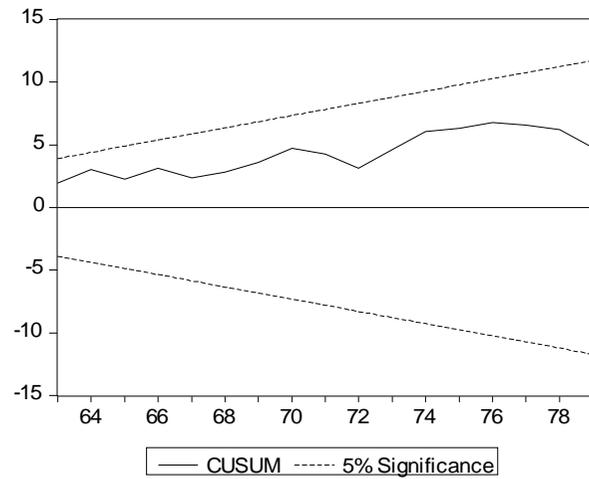


Table 14. Growth Regression and Financial Ratios

Dependent Variable: Growth Rate of Non-Oil GDP in Constant Prices Method: Two-Stage Least Squares				
Sample(adjusted): 1963-1999				
Included observations: 37 after adjusting endpoints				
Instrument list: YNMP(-1)/L(-1) D(CCB(-1)) D(PC(-1))/YNMPCR(-1) D(M2(-1))/M2(-1) (GC)/YNMPCR PI(-1)/YNMPCR(-1) DUM58 DUM62 D(CGDP)/CGDP(-1) INFLATION(-1) INGOV(-1) /YNMPCR(-1) VAOIL VAOIL(-1)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
YNMP(-1)/L(-1)	-0.110334	0.034645	-3.184679	0.0034
D(CCB)	0.467371	0.279813	1.670299	0.1053
D(PC)/YNMPCR	0.536439	0.235298	2.279828	0.0299
DUM62	0.097269	0.03256	2.987436	0.0056
DUM58	-0.073732	0.034438	-2.140979	0.0405
PI/YNMPCR	0.765061	0.188436	4.060062	0.0003
INFLATION	-0.16533	0.087174	-1.896549	0.0676
R-squared	0.79421	Mean dependent var		0.033203
Adjusted R-squared	0.753052	S.D. dependent var		0.064093
S.E. of regression	0.03185	Sum squared resid		0.030433
F-statistic	19.28304	Durbin-Watson stat		2.418179
Prob(F-statistic)	0			

Note; D(PC)=Change in Private Sector Credit, YNMP=Non-Oil GDP Constant 1361 Prices
CGDP=GDP Constant (1361) Prices, PI=Private Investment, Current Price
D(GC)=Changes in Claims on the Government Sector, VAOIL=Oil Sector value-added