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FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH: THE CASE OF TURKEY

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ÖZ

Finansal kalkınma ile ekonomik büyüme arasındaki ilişki, ekonomistler için uzun zamandır süregelen önemli bir konudur. Pek çok kalkınmakta olan ülke, finansal sistem fonksiyonlarının verimliliğini arttırmak ve bu suretle ekonomilerinin büyümesini teşvik etmek için, finansal liberalizasyon politikalarını kullanmıştır. Kalkınmakta olan ülkelerden biri olan Türkiye de, 1980'lerden sonra finansal liberalizasyon politikalarını tecrübe eden bir ekonomiye sahiptir. Bundan dolayı, bu çalışma ilk bölümde, finansal kalkınma ile ekonomik büyüme arasındaki ilişkiyi daha iyi anlayabilmek için kavramsal bir çerçeve oluşturmakta, ve ardından ikinci bölümde kapsamlı bir literatür taraması yapmaktadır. Son bölüm, bu teorik yaklaşımın yardımıyla ve ilgili verileri kullanarak, finansal liberalizasyon politikalarının Türkiye'deki finansal sistem ve ekonomik büyüme üzerindeki etkilerini analiz etmektedir.

ABSTRACT

The relationship between financial development and economic growth has been a crucial issue for economists for a long time. Many developing countries have used financial liberalization policies in order to increase the efficiency of the financial system functions, and thereby stimulate growth of their economies. Turkey, as one of these developing countries, also has an economy experienced financial liberalization policies after 1980s. Therefore, this study forms a conceptual framework in order to provide a better understanding of the relationship between financial development and economic growth in the first chapter, and then makes a comprehensive literature survey in the second chapter. By the help of this theoretical approach and by using the related data, the last chapter analyses the effect of financial liberalization policies on the financial system and economic growth in Turkey.

PREFACE

This study aims to provide a conceptual and theoretical framework for the relationship between financial development and economic growth, and analyses the case of Turkey by using statistical data. The importance of the study comes from the comprehensive literature survey examining most of the seminal papers on financial development and economic growth, and the causal relationship between these two concepts. The analysis of the Turkish economy under the effect of financial liberalization policies also has important conclusions emphasizing the role of the macroeconomic and regulatory structures in the economic growth process.

The first chapter of this study explains the concepts of financial development and economic growth which must be well-known in studying the relationship between these two concepts, and then provides a theoretical approach to financial system and economic growth.

Then, the second chapter introduces a literature survey examining the seminal papers on financial development and economic growth by dividing them into five eras, early studies until 1960s, 1960s, 1970s and early 1980s, late 1980s, and 1990s, and recent empirical studies, and states their findings.

Finally, the third chapter studies the case of Turkey by examining the historical evolution of the Turkish financial system, and evaluating the effects of financial liberalization policies on economic growth with the help of a data analysis.

I would like to thank my supervisor Assistant Professor M. Kutluğhan Savaş ÖKTE for his valuable advice and help in this study.

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LIST OF ABBREVIATIONS

BAT   : Banks Association of Turkey

BSRA   : Banking Supervision and Regulation Agency

CBRT   : Central Bank of the Republic of Turkey

CMB   : Capital Markets Board

EU   : European Union

GNP   : Gross National Product

IMF   : International Monetary Fund

SDIF   : Savings Deposit Insurance Fund

SEE   : State Economic Enterprises

SPO   : State Planning Organization

WB   : World Bank

INTRODUCTION

The main purpose of this study is to provide a *conceptual and theoretical framework* for the relationship between financial development and economic growth, which has been a crucial issue for economists for a long time, and to analyse the *case of Turkey* by examining the historical evolution of the Turkish financial system and evaluating the effects of financial liberalization policies on economic growth with the help of a data analysis.

After the late 1970s, economists have began to criticize the closed nature of the developing country economies, and have emphasized the importance of the ***financial liberalization policies*** aiming to remove the government control on the financial system, to organize a free market mechanism, to open the economy to international finance, and thereby to provide financial development. The importance of the relationship between financial development and economic growth has also been realized by international institutions, like the International Monetary Fund (IMF) and the World Bank (WB), and has been emphasized in stabilization programs recommended to the developing countries like Turkey. Within this context, this study is organized as follows.

In the first chapter, the main concepts in studying the relationship between financial development and economic growth are represented. Accordingly, the first concept to be introduced will be the ***financial development.*** It can be defined as the development of the financial system by means of an increasing efficieny of financial system functions.

A financial system includes *financial markets* providing the function of direct finance, *financial intermediaries* providing the function of indirect finance, and *financial instruments* which are the means of financial intermediation. Financial system and its components are also explained in the first chapter.

The second concept to be introduced in the first chapter is ***economic growth.*** It can be measured by its generally accepted indicator: the *growth rate of GNP*. In

order to provide a better understanding of growth models, the economic growth concept is explained by evaluating the assumptions and findings of the neoclassical (exogenous) growth model of *Solow (1956).*

Finally, the ***functions of the financial system***, which can be grouped as mobilizing, and then allocating savings to the most productive investments, providing investment control, facilitating risk management, and facilitating the exchange of goods and services, and their effects on the economic growth process are explained in detail in the first chapter.

Given this conceptual background, the second chapter provides a comprehensive literature survey on the relationship between financial development and economic growth.

Because an efficient financial system is a crucial phenomenon for developing countries, economists have been studying on the relationship between financial development and economic growth since 1910s. The second chapter provides a survey of the most important ones of these studies by dividing them into five eras: early studies until 1960s, 1960s, 1970s and early 1980s, late 1980s, and 1990s, and recent empirical studies. The results of both theoretical and empirical studies have demonstrated the existence of a *positive correlation* between these two concepts, but the identification of the direction of causation have led various conclusions.

Finally, the third chapter examines the relationship between financial development and economic growth in Turkey at two stages. In the first stage, the historical evolution of the Turkish financial system is explained in two main eras, *planned period between 1960 and 1980*, and *liberalization and open economy period after 1980*. Then, the effects of financial liberalization policies on *savings*, *investments*, and *economic growth* are analysed by using the related data, and some important *regulatory and institutional reforms* in the Turkish financial system are stated as the last stage.

I. CONCEPTUAL FRAMEWORK

Both theoretical and empirical studies have found that an important factor underlying the difference between income levels of countries is the difference between development levels of their financial systems. In other words, there is a *positive correlation* between financial development and economic growth of a country.

Before studying the relationship between financial development and economic growth in detail, the concepts that are well-known in discussing this relationship must be explained. The first one of these concepts is the financial development, which will be studied by the help of the definitions and functions of financial markets, financial intermediaries, and financial instruments. Then, in order to provide a better understanding of growth models, the economic growth concept will be explained by evaluating the assumptions and findings of the neoclassical (exogenous) growth model of *Solow (1956)*.

Finally, a theoretical approach to financial system and economic growth will be introduced in this chapter. The functions of the financial system will be studied in detail, and the channels they affect economic growth will be explained.

A. FINANCIAL DEVELOPMENT

Financial development, which can be defined as the development of the financial system by means of an increasing efficieny of financial system functions, is a crucial concept in the literature of economic growth. Before studying the concept of financial development, the structure, functions and importance of the financial system should be examined.

1. AN OVERVIEW OF THE FINANCIAL SYSTEM

An economy has various economic units, which can be classified into four groups as households, business firms, governments, and foreigners, and each unit has revenues, expenditures, and a budget constraint. If income and expenditures of these

units are equal, there is a **balanced budget** position. But generally this is not the case. There is a **budget surplus** if income for the period exceeds current expenditures, and a **budget deficit** if expenditures for the period exceeds income.[1] The **financial system** which includes financial markets, financial intermediaries, and financial instruments is concerned with channeling of these excess funds from the ones who have a budget surplus to the ones who have a budget deficit. An efficient financial system acts this main function by *mobilizing* savings and then *allocating* them to the most productive uses, *diversifying risk*, *increasing liquidity*, and *monitoring* to ensure that savings are being used well. Thus, well-functioning financial systems create productive investments and high returns, and stimulate economic growth.[2]

An efficient financial system, in which money circulation occurs, is also necessary to explain the effects of fiscal and monetary policies on our everyday life. Therefore, the linkages between money and some macroeconomic issues should be explained as follows[3]:

- When we examine **recession periods** (declining aggregate output periods), we can see that the rate of money growth declines before every recession. Thus, money growth might be a driving force behind **business cycle fluctuations** (upward and downward movements of aggregate output), while every money growth rate decline need not to be followed by a recession.

- The studies of politicians and policymakers indicate that a continuous increase in the money supply might be an important factor in causing **inflation** (a continuous increase in the aggregate price level).

- Money also appears to be a major influence on **interest rate fluctuations**. Because money can affect so many economic variables, **monetary policy**

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[1] David S. Kidwell and Richard L. Peterson, **Financial Institutions, Markets and Money**, 4th edition, Orlando, The Dryden Press, 1990, p.22.
[2] Joseph Stiglitz, "The Role of the Financial System in Development", **Presentation at the Fourth Annual Bank Conference on Development in Latin America and Caribbean**, San Salvador, El Salvador, June 29,1998, p.1.
[3] Frederic S. Mishkin, **The Economics of Money, Banking, and Financial Markets**, 5th edition, New York, Addison-Wesley Longman Inc., 1998, pp.9-12.

which is the management of money and interest rates should be conducted by the Central Bank carefully.

After briefly explaining the importance of monetary theory, and so the financial system as its conductor, the general structure and operation of financial systems will be examined with the help of the **Figure 1,** which represents the flows of funds throughout an economy. In this figure, households, business firms, the government and foreigners constitute the *savers* side of the economy who lend their excess funds. On the other hand, s*penders* side of this financial system comprises business firms, the government, households and foreigners.

Figure 1: Flows of Funds Through the Financial System
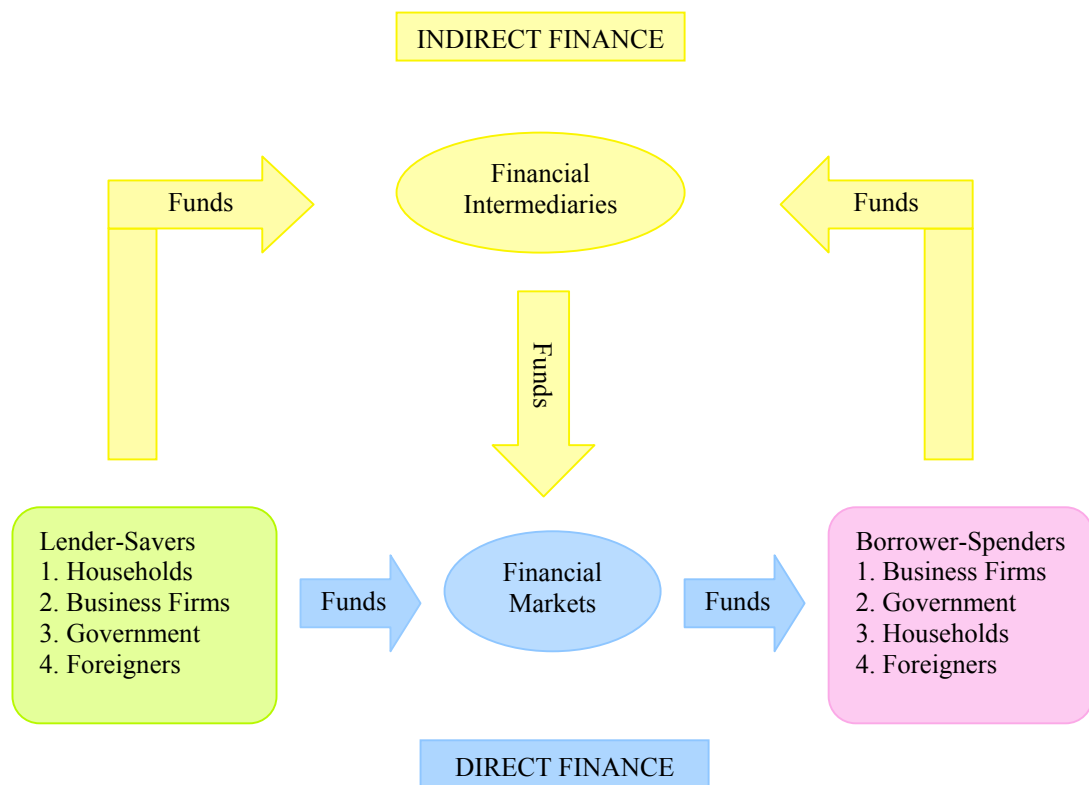
Source: Frederic S. Mishkin, **The Economics of Money, Banking, and Financial Markets**, 5th edition, New York, Addison-Wesley Longman Inc., 1998, p.21.

Figure 1 shows that the channeling of funds has two routes: *direct finance* through financial markets, and *indirect finance* through financial intermediaries.

2. DIRECT FINANCE AND FINANCIAL MARKETS

In *direct finance*, borrowers borrow funds directly from lenders in financial markets by selling them securities which are called *financial market instruments*. By this way, funds could be transferred from the saver who has no investment opportunities to the spender who has productive uses, and so both of them would be better off. Production and efficiency in the economy would be improved. Moreover, this process improves the happiness of individuals by providing them the funds necessary to live a better life when they are still young. Thus, borrowers pay some interest for the fund, but will use it in a usefull way, and lenders earn interest on their savings instead of the zero amount that they would earn in the absence of financial markets. Now, it can be said that, efficiently operating financial markets improve the economic welfare of everyone in the society.[4] Therefore, several types and categorizations of financial markets will be examined in the next sections.

a. TYPES OF FINANCIAL MARKETS

Types of financial markets can be explained as follows[5]:

- *The Bond Market:* Interest rates are determined in the *bond* (a debt security that promises to make payments periodically for a specified period of time) market, and corporations or governments could borrow to finance their activities through these rates. Interest rates can also affect consumers' and businesses' decisions to save and invest through being the cost of borrowing. High interest rates could encourage consumers to save and discourage businesses to invest. For these reasons, bond market is very important to the economic activity.

- *The Stock Market:* Corporations could also finance their activities by issuing *stock* (the security that is a claim on the earnings and assets of a corporation) and selling it to the public. These stocks are traded in the stock market, which is one of the most widely followed financial markets in the economy. Higher

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[4] **Ibid.**, p.22.
[5] **Ibid.**, pp.4-7.

price for a firm's shares of stock could lead the firm to collect more funds and so to make more investments.

- *The Foreign Exchange Market:* The funds which would be transferred from one country to another are converted from the currency of the home country to the currency of the country they are going to in the foreign exchange market. It is also the market where the ***foreign exchange rate***, which is the price of one country's currency in terms of another's is determined. Fluctuations in this rate is very important for an economy. A *weaker domestic currency* makes foreign goods and services more expensive. Thus, consumers decrease their purchases of foreign goods and services and increase their purchases of domestic ones. Businesses become more competitive because of their relatively lower prices in the international trade. Conversely, a *stronger domestic currency* makes foreign goods and services cheaper. Thus, consumers increase their foreign purchases, and so are benefited, and domestic businesses become less competitive because of their relatively higher prices.

b. STRUCTURE OF FINANCIAL MARKETS

Several categorizations of financial markets should be examined in order to understand the structure of these markets[6]:

- *Debt and Equity Markets:* There are two ways for a firm or an individual to obtain funds in a financial market. One of them is issuing a ***debt instrument***, such as a bond or a mortgage, which is a contractual aggrement by the borrower to pay the holder of the instrument *fixed amounts* (interest and principal payments) at regular intervals until the *maturity date* (the time when a final payment is made). Debt instruments can be divided into three groups according to their maturities. A debt instrument is *short-term* if its maturity is less than one year; *long-term* if its maturity is ten years or longer; and *intermediate-term* if its maturity is between one year and ten years.

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[6] **Ibid.**, pp.23-25.

Issuing debt instruments is the most common method of obtaining funds in a financial market. But there is a second method: issuing an *equity*, such as a common stock, which is more widely known by individuals. Equities are claims to share in the net income, which is the income after expenses and taxes, and the assets of a business. Since these have no maturity date, equities are long-term securities, and they usually make periodic payments, dividends, to their holders.

- *Primary and Secondary Markets:* This is the second categorization of financial markets. If new issues of a security are sold to initial buyers by the corporation or government agency, this financial market is a *primary market*. Investment banks can be given as examples of primary markets. On the other hand, a *secondary market* is a financial market in which initial buyers resell their securities before maturity.[7] Stock exchanges, bond markets, foreign exchange markets, futures markets, and options markets can be given as examples of secondary markets. Financial instruments (stocks, bonds, foreign exchanges, etc.) are traded in these markets, and brokers and dealers are very important agents in this trading process. *Brokers* match buyers with sellers of securities, and *dealers* link buyers and sellers by buying and selling securities at stated prices. Selling financial instruments to get cash is easier, and so financial instruments are more liquid by the presence of secondary markets.

- *Money and Capital Markets:* Financial markets could also be classified on the basis of the *maturity* of the securities traded in each market. A market in which only short-term debt instruments are traded is a *money market*, and a market in which longer-term debt and equity instruments are traded is a *capital market*.

  Money market securities, such as treasury bills, bank deposits, commercial paper, banker's acceptances, repurchase agreements, federal funds, and eurodollars, have some advantages over the capital market securities, such as corporate stocks, residental mortgages, government securities (marketable

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[7] Kidwell and Peterson, **Financial Institutions, Markets and Money** , p.36.

long-term), state and local government bonds, commercial loans, commercial and farm mortgages. Short-term securities of the money market are usually more widely traded than long-term ones, and so are more liquid. In addition, since the prices of short-term securities make smaller fluctuations than the prices of long-term ones make, money market securities are safer investments. Because of these advantages, corporations and banks actively use this market to earn interest on surplus funds that they expect to have only temporarily. Capital markets are often used by financial intermediaries such as insurance companies and pension funds which have little uncertainty about their future available funds[8].

3. INDIRECT FINANCE AND FINANCIAL INTERMEDIARIES

As **Figure 1** indicates, borrowers can finance their investments by a second route which is called *indirect finance*. This route involves a *financial intermediary* that helps the allocation of funds to their best possible uses. For example, a bank might collects funds from the public in the form of savings deposits, and then use these funds to lend a company by making a loan or buying a bond of this company in the financial market. While acting this function, a financial intermediary reduces transaction costs through specialization and economies of scale, and provides information as well as denomination and maturity intermediation to reduce uncertainty for the lender.[9] This process of indirect finance using financial intermediaries is called *financial intermediation*, and to understand the importance of financial intermediation it is necessary to study the role of transaction costs and information costs in financial markets.

a. TRANSACTION COSTS AND INFORMATION COSTS

There are two types of costs that occur during the fund allocation[10]:

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[8] **Ibid.**, p.29.
[9] Maxwell J. Fry, **Money, Interest, and Banking in Economic Development**, 2nd edition, Baltimore and London, The Johns Hopkins University Press, 1995, p.295.
[10] Mishkin, **The Economics of Money, Banking, and Financial Markets**, pp.35-36.

- ***Transaction costs*** are the time and money spent in carrying out financial transactions. Lawyer payments, the time spent to find the best borrower, etc. are included in transaction costs which are major problems for lender-savers. Financial intermediaries can reduce these costs by using *expertise* in lowering them and taking advantage of *economies of scale* which is the reduction in transaction costs per YTL of transactions as the size (scale) of transaction increases. By reducing transaction costs substantially, financial intermediaries make it possible for savers to provide funds indirectly to borrowers with productive investment opportunities, make it easier for their depositors to benefit from liquidity services and to conduct transactions.

- ***Information costs*** are the other types of costs that occur in the financial markets. In financial markets, one party (usually lender side) often does not know enough about the other party (usually borrower side) to make accurate decisions. This inequality is called ***asymmetric information***, and creates two types of problems in the financial system. The problem created by asymmetric information before the transaction occurs is called ***adverse selection*** which indicates that the potential borrowers who are the most likely to produce an undesirable (adverse) outcome -the bad credit risk- are the ones who most actively seek out a loan and thus most likely to be selected. On the other hand, the problem created by asymmetric information after the transaction occurs is called ***moral hazard*** which is the risk (hazard) that the borrower might engage in activities that are undesirable (immoral) from the lender's point of view because they make it less likely that the loan will be paid back.

Both of these problems can make lenders to decide not to make any loans even though there are good credit risks in the market place. Thus, several tools aim to produce more information for the market should be used to solve asymmetric information problems. The system of private production and sale of information, and the government regulation are the most important ones of these tools. But since financial markets have imperfect structures of transaction and information costs, both

private production and sale of information, and government regulation can't solve the problem completely.[11]

Financial intermediaries, which can alleviate transaction costs in financial markets, also produce solutions for asymmetric information problems. Since they are better equipped than individuals to screen out good from bad credit risks, losses due to adverse selection reduce, and also since they develop expertise in monitoring the borrowers they lend to, losses due to moral hazard reduce. Financial intermediaries, most importantly banks, can also take collateral, apply risk premium, and look for high net worth of firms to reduce asymmetric information problems.[12]

Thus, it can be said that a well-functioning set of financial intermediaries plays a key role in improving economic efficiency which in turn increases the volume and aggregate productivity of investment.

b. TYPES OF FINANCIAL INTERMEDIARIES

The principal financial intermediaries fall into three categories: *depository institutions (banks)*, *contractual savings institutions*, and *investment intermediaries*. **Table 1** lists these three groups and their sub-groups, and describes their primary *liabilities* (sources of funds) and *assets* (uses of funds).

The structure of the financial system including financial markets and financial intermediaries has been examined in this section. It should be added that types and functions of financial markets and financial intermediaries vary over time, and across countries according to the size of the country, complexity of transactions, available technology, differences in economic, political, cultural and historical backgrounds. On the other hand, the functions of a financial system do not vary much over time and space.[13] Therefore, the efficiency of the financial system functions, which will be

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[11] M. Kutluğhan Savaş Ökte, "Finansal Piyasalarda Asimetrik Enformasyon Problemi: Temel Kavramla, Literatür ve Çözüm Önerileri", **Uludağ Üniversitesi İİBF Dergisi**, Vol.19, No.1-2, Spring-Summer Period, April 2001, p.10.
[12] **Ibid.**, p.10.
[13] Nadeem Ul Haque, "Developing of Financial Markets in Developing Economies", **Presentation at the Financial Reform Conference**, Sri Lanka, March 18, 2002, p.8.

explained in detail later in this chapter, may be used as an indicator for financial development.

Table 1: Primary Assets and Liabilities of Financial Intermediaries

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Depository Institutions (Banks)		
Commercial banks	Deposits	Business and consumer loans, mortgages, government securities and municipal bonds
Savings and loan associations	Deposits	Mortgages
Mutual savings banks	Deposits	Mortgages
Credit unions	Deposits	Consumer loans
Contractual Savings Institutions		
Life insurance companies	Premiums from policies	Corporate bonds and mortgages
Fire and casualty insurance companies	Premiums from policies	Municipal bonds, corporate bonds and stock, government securities
Pension funds, government retirement funds	Employer and employee contributions	Corporate bonds and stock
Investment Intermediaries		
Finance companies	Commercial paper, stocks, bonds	Consumer and business loans
Mutual funds	Shares	Stocks, bonds
Money market mutual funds	Shares	Money market instruments

Source: Frederic S. Mishkin, **The Economics of Money, Banking, and Financial Markets**, 5th edition, New York, Addison-Wesley Longman Inc., 1998, p.21.

B. ECONOMIC GROWTH

The world consists of countries in three extreme economic categories: the rich, the poor, and the countries that are moving rapidly in between. Thus, the fundamental question of economic growth and development is "What causes these differences in income over time and across countries?" *Solow (1956, 1957)* published two famous papers during 1950s in order to examine this question. His ***exogenous growth model*** accepting technological progress as exogenous helped to clarify the role of accumulation of physical capital and emphasized the importance of technological progress as the ultimate driving force behind sustained economic growth.[14]

In 1990s, *Romer (1986, 1990), Rebelo (1991), Bencivenga and Smith (1991, 1992), King and Levine (1993)*, and some other economists investigated the relationship between financial development and economic growth under the assumptions of ***endogenous growth models***, which accept technological progress as endogenous and the return of capital as constant or increasing, and give the necessary importance to the human capital, the positive externalities in the production process, and the government policies.[15] Moreover, many empirical studies have been made in order to find the direction of causality between financial development and economic growth. The generally accepted indicator of economic growth in these studies is the ***growth rate of Gross National Product (GNP),*** which is equal to the total income earned by domestic citizens regardless of the country in which their factor services were supplied.[16] Thus, increasing GNP means both increasing amount of real production/output and welfare of the domestic citizens, and so a higher growth rate of GNP indicates a higher level of economic growth.

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[14] Charles I. Jones, **Introduction to Economic Growth**, 2nd edition, New York and London, W.W. Norton&Company, Inc., 2002, p.3.

[15] Muhsin Kar and Mehmet Tunçer, "Finansal Kalkınma ve Ekonomik Büyüme: Teorik Görüşler, Ampirik Sonuçlar ve Yeni Gelişmeler", **Uludağ Üniversitesi İİBF Dergisi**, Vol.17, No.3, October 1999, p.14.

[16] David Begg, Stanley Fischer, and Rudiger Dornbusch, **Economics**, 4th edition, London, McGraw-Hill Book Company, 1994, p.354.

Within this context, every factor affecting the amount production in an economy also affects the rate of economic growth, and the existence of an efficient financial system is one of these important factors. Because an efficient financial system mobilizes and then allocates resources among the most productive investments, it can also stimulate economic growth of a country.

After briefly explaining the meaning of economic growth, this section will develop the growth model of *Solow* which shows how saving, population growth, and technological progress affect the level of an economy's output and its growth over time.[17]

1. THE BASIC SOLOW GROWTH MODEL

In *1956, Robert Solow* published a paper on economic growth and development titled "*A Contribution to the Theory of Economic Growth*" which includes a model providing an important cornerstone for understanding the reasons of the differences between countries' development levels.

The Solow growth model has several assumptions that will be relaxed later[18]:

1. Countries produce and consume only a single, homogenous good (output), *Y*.

2. There is no international trade in the model because there is only a single good.

3. Technology is *exogenous*, or in other words, the technology available to firms is unaffected by the actions of the firms.

4. Inputs used in production are grouped into only two categories, capital, *K*, and labor, *L*.

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[17] N. Gregory Mankiw, **Macroeconomics**, 5th edition, New York, Worth Publishers, 2003, p.181.
[18] Jones, **Introduction to Economic Growth**, p.21.

5. The number of workers in this economy, *L,* is an *exogenous variable,* and so the labor force participation rate is constant. The population growth rate is given by the parameter *n*.

6. The production function is assumed to exhibit the usual neoclassical conditions of *variable proportions* and *constant returns to scale*, and therefore no simple opposition between natural and warranted rates of growth is possible.[19] Since constant returns to scale is valid, the production function is *homogeneous of first degree*, and this means that if we multiply both capital and labor by a positive number, we also multiply the amount of output by the same number. The *Cobb-Douglas production function* exhibits all these conditions.

7. There are a large number of firms in the economy so that *perfect competition* prevails and the firms are price takers.

After adopting the assumptions, the two basic equations of the Solow growth model may be developed.

a. PRODUCTION FUNCTION AND CAPITAL ACCUMULATION EQUATION

The two basic equations of the Solow growth model are the production function and the capital accumulation equation.

- **Production Function:**

If the production function in this model is assumed to have the Cobb-Douglas form in order to exhibit all necessary conditions, it can be written as

$$Y = F(K,L) = K^{\alpha} L^{1-\alpha} \tag{1}$$

where α is a number between 0 and 1.

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[19] Robert M. Solow, "A Contribution to the Theory of Economic Growth", **The Quarterly Journal of Economics**, Vol.70, No.1, February 1956, p.73.

Since there are two factors of production, factor payments are divided into two amount: a *wage*, *w*, for each unit of labor, and a *rent*, *r,* in order to rent a unit of capital for one period. Now, the profit-maximizing problem of the firms that are price-takers can be written as[20]:

$$\max_{K,L} F(K,L) - rK - wL \tag{2}$$

According to the first order conditions, the above equation can be written as:

$$F(K,L) - rK - wL = 0 \text{, and then}$$

$$F(K,L) = rK + wL$$

If the first derivatives of this equation according to *K* and *L* are taken, it can be found:

$$w = \frac{\partial F}{\partial L} = \frac{\partial\left(K^{\alpha}L^{1-\alpha}\right)}{\partial L} = (1-\alpha)\frac{Y}{L}$$

$$r = \frac{\partial F}{\partial K} = \frac{\partial\left(K^{\alpha}L^{1-\alpha}\right)}{\partial K} = \alpha\frac{Y}{K}$$

By rearranging above equations, it can be seen that $wL + rK = Y$. This means, as a general property of production functions with constant returns to scale, the value of output produced is equal to the factor payments, and so there is no *economic profit*. Since, the share of output paid to labor is $wL/Y = 1 - \alpha$ and the share paid to capital is $rK/Y = \alpha$, these factor shares are constant over time.[21]

Since the production function exhibits constant returns to scale, in order to explain the terms *output per worker*, $y \equiv Y/L$, and *capital per worker*, $k \equiv K/L$, the production function can be rewritten by multiplying every factor with $\frac{1}{L}$, and then graphed in **Figure 2**:

[20] Jones, **Introduction to Economic Growth**, p.22.
[21] **Ibid.**, p.23.

$$\frac{Y}{L} = \frac{F(K,L)}{L} = \frac{K^{\alpha}L^{1-\alpha}}{L}$$

$$y = k^{\alpha}$$

(3)

Figure 2: A Cobb-Douglas Production Function
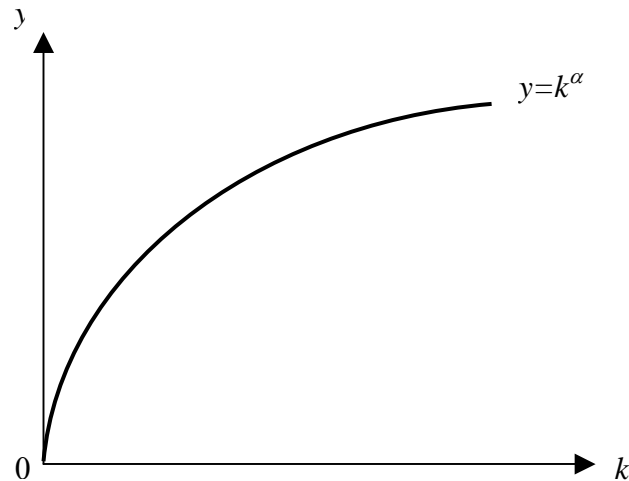
Source: Charles I. Jones, **Introduction to Economic Growth**, 2nd edition, New York and London, W. W. Norton&Company, Inc., 2002, p.24.

The slope of this function is ***the marginal product of capital MPK***, which shows how much extra output a worker produces when given an extra unit of capital, and can be written as:

$$MPK = f(k+1) - f(k)$$

(4)

As we can see, with more capital per worker, firms produce more output per worker. However, ***diminishing returns to capital*** per worker is valid for this equation. MPK diminishes, the production function becomes flatter, as k increases. This is because, when k is high, the average worker has a lot of capital, so an extra unit of capital increases production only slightly.[22]

- ▪ **Capital Accumulation Equation:**

The capital accumulation is one of the channels used in the economic growth process. As it will be explained in the next section, the financial system can stimulate

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[22] Mankiw, **Macroeconomics**, p.182.

economic growth through increasing capital stock which is a key determinant of an economy's output.

In particular, the changes in the capital stock depends on two forces: ***investment*** (the expenditure on new plant and equipment) and ***depreciation*** (the wearing out of old capital). Accordingly, the capital accumulation equation which equates the change in the capital stock, $dK/dt \equiv \dot{K}$, to the amount of gross investment, sY, less the amount of depreciation that occurs during the production process, δK, is the second key equation in the Solow growth model, and can be written as[23]:

$$\dot{K} = sY - \delta K \qquad (5)$$

To obtain the output per person, the capital accumulation equation should be rearranged in terms of capital per person by taking logs first and then derivatives:

$$k \equiv K/L \Rightarrow \log k = \log K - \log L$$

$$\Rightarrow \frac{\dot{k}}{k} = \frac{\dot{K}}{K} - \frac{\dot{L}}{L}$$

$$y = k^{\alpha} \Rightarrow \log y = \alpha \log k$$

$$\Rightarrow \frac{\dot{y}}{y} = \alpha \frac{\dot{k}}{k}$$

Remembering $\dot{L}/L = n$ and using above equation, the capital accumulation equation in per worker terms can be written as:

$$\frac{\dot{k}}{k} = \frac{sY - \delta K}{K} - \frac{\dot{L}}{L} = \frac{sY}{K} - \delta - n$$

$$\frac{\dot{k}}{k} = \frac{sy}{k} - \delta - n \text{, and}$$

[23] Jones, **Introduction to Economic Growth**, p.23.

$$\dot{k} = sk^{\alpha} - (\delta + n)k \qquad (6)$$

According to this equation, while investment per worker, sk^{α}, increases k, depreciation per worker, δk, and population growth, nk, reduce k.[24] This statement can be represented by the Solow Diagram.

b. THE SOLOW DIAGRAM AND THE STEADY-STATE

The Solow diagram consists of two curves: sk^{α} curve representing the amount of investment per worker, and $(\delta + n)k$ line representing the **break-even investment**, which is the amount of investment per worker necessary to keep the amount of capital per worker constant. The difference between these two curves is the change in the amount of capital per worker.[25]

As shown in **Figure 3**, there is a single amount of capital per worker k^{*} at which $\dot{k} = 0$. This amount is called ***the steady-state level of capital per worker***, and an economy always ends up at this level. This is because, below k^{*}, the amount of investment per worker exceeds the amount of break-even investment per worker, and so k increases towards the steady-state level, k^{*}. Conversely, above k^{*}, the amount of investment per worker is less than the amount of break-even investment per worker, and so k decreases towards the steady-state level, k^{*}. The positive effect of investment exactly balances the negative effects of depreciation and population growth only when $k = k^{*}$. In other words, some fraction of investment (δk^{*}) replaces the depreciated capital, and the rest (nk^{*}) provides the new workers with the steady-state amount of capital at this point.[26] In this sense, it can be said that the steady-state represents the long-run equilibrium of the economy.

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[24] **Ibid.**, p.26.
[25] **Ibid.**, p.28.
[26] Mankiw, **Macroeconomics**, p.201.

Figure 3: The Basic Solow Diagram
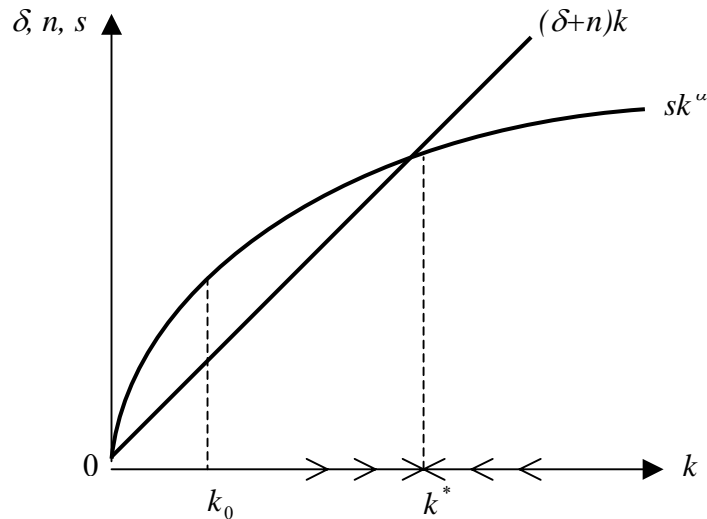
The diagram shows the vertical axis labeled δ, n, s and the horizontal axis labeled k. Two curves are shown: a straight line labeled $(\delta+n)k$ and a concave curve labeled sk^{α}. The dashed lines mark k_0 and k^* on the horizontal axis, with arrows pointing toward k^*.

The steady-state amounts of capital per worker and output per worker can be determined by the condition that $\dot{k}=0$, and then using Bernoulli differential equation form. The equations found are:

$$k^* = \left(\frac{s}{\delta+n}\right)^{1/(1-\alpha)}, \text{ and}$$

$$y^* = \left(k^*\right)^{\alpha} = \left(\frac{s}{\delta+n}\right)^{\alpha/(1-\alpha)}$$

Now, the differences between the well beings of countries can be explained. These equations imply that countries that have high saving/investment rates accumulate more capital per worker, and therefore have more output per worker, and as a result they will tend to be richer. In contrast, high population growth rates reduce the amount of capital per worker, and so the country will tend to be poorer.[27] But, what are the factors that cause the saving/investment rate differences between countries? The answer includes various factors, such as tax policy, retirement

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[27] Jones, **Introduction to Economic Growth**, p.32.

patterns, the development of financial markets, cultural differences, political stability and the development of political institutions.[28]

c. ECONOMIC GROWTH IN THE SOLOW MODEL

This simple version of the Solow growth model generates differences in per capita income across countries, but fails to predict sustained per capita income growth. Since output per worker, $y \equiv Y/L$, is constant, and therefore output itself, $Y \equiv y \times L$, is growing only at the rate of population growth in the steady-state of this simple model, it can be concluded that there is no per capita output growth. Similarily, the stock of capital per worker always approaches to its steady-state value, and eventually growth stops at this point. They act these movings along the *transition path* to the steady-state point.[29]

To see the transition dynamics, ***the equation of capital per worker growth*** should be first written by dividing both sides of the Equation 6 by *k*:

$$\frac{\dot{k}}{k} = sk^{\alpha-1} - (\delta + n)$$

Since $\frac{\dot{k}}{k} = \frac{\dot{K}}{K} - \frac{\dot{L}}{L}$, the above equation can be rearranged to get:

$$\frac{\dot{k}}{k} = \left(sk^{\alpha-1} - \delta\right) - n \tag{7}$$

and the transition dynamics implied by Equation 7 are plotted in **Figure 4**.

The first term of the equation, $sk^{\alpha-1} - \delta$, implies a decreasing capital growth as *k* increases, therefore has a downward-sloping curve which approaches to the level of depreciation, δ, over time. The higher the level of capital per worker, *k*, the lower

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[28] Mankiw, **Macroeconomics**, p.191.
[29] Jones, **Introduction to Economic Growth**, p.35.

the average product of capital, $y/k = k^{\alpha}/k = k^{\alpha-1}$. The reason of this statement is the diminishing returns to capital accumulation (α<1). [30]

The second term of the equation n represents the constant population growth, and so it is plotted as a horizontal line. The difference between the $\dot{K}/K$ curve and the $\dot{L}/L$ line is the growth rate of the capital stock $\dot{k}/k$, and as we can see the economy always tends to reach the steady-state point.

Figure 4: Transition Dynamics
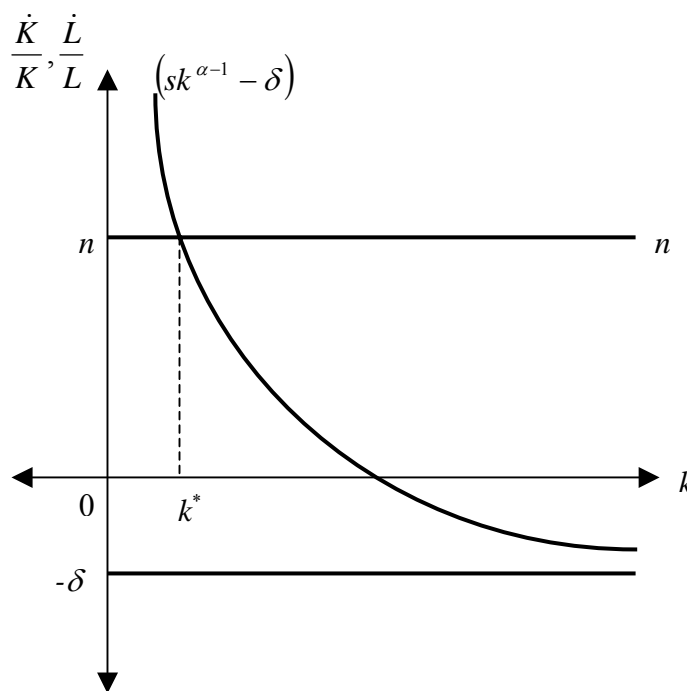
2. TECHNOLOGICAL PROGRESS IN THE SOLOW GROWTH MODEL

As it has been found, the only possible steady-state growth rate is zero in the neoclassical model with constant returns to scale. But how did the neoclassical economists of the 50s and 60s explain long-run growth? They used the productivity

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[30] Robert J. Barro and Xavier Sala-i-Martin, **Economic Growth**, New York, McGraw-Hill, 1995, pp.22-23.

factor and assumed that the economy exogenously gets more productivity over time.[31]

a. THE TECHNOLOGY VARIABLE

In this section, exogenous technological progress will be introduced to the basic Solow model as the productivity factor to generate sustained growth in per capita income. Technological progress will be represented by a *technology variable*, *A*, and will occur when *A* increases over time. When the level of technology is higher, a unit of labor is more productive. This progress is called **the labor augmenting technological progress**.[32]

Since the technological progress is exogenous, technology variable *A* grows at a constant rate, $\dot{A}/A = g$, which is often referred to as **the exogenous productivity growth rate** [33], and the ratios of capital per worker and output per worker of our new model should be rewritten as:

$$\widetilde{k} \equiv \frac{K}{AL} \equiv \frac{k}{A} \text{ , and}$$

$$\widetilde{y} \equiv \frac{Y}{AL} \equiv \frac{y}{A}$$

These variables will be referred to as **the capital-technology ratio**, $\widetilde{k}$, and **the output-technology ratio**, $\widetilde{y}$, and rearrange the production function and the capital accumulation equation as including these variables.[34] The production function in terms of $\widetilde{k}$ is:

$$Y = K^{\alpha}\left(AL\right)^{1-\alpha} \text{ , and so}$$

[31] Xavier Sala-i-Martin, "Lecture Notes on Economic Growth (I): Introduction to the Literature and Neoclassical Models", **National Bureau of Economic Research Working Paper**, No.3563, December 1990, p.5.
[32] Mankiw, **Macroeconomics**, p.208.
[33] Sala-i-Martin, "Lecture Notes on Economic Growth (I): Introduction to the Literature and Neoclassical Models", p.6.
[34] Jones, **Introduction to Economic Growth**, p.38.

$$\widetilde{y} = \frac{Y}{AL} = \frac{K^\alpha (AL)^{1-\alpha}}{AL} = \frac{K^\alpha}{(AL)^\alpha}$$

$$\widetilde{y} = \widetilde{k}^\alpha \tag{8}$$

and since $\widetilde{k} \equiv K/AL$, the capital accumulation equation can be formed as follows:

$$\frac{\dot{\widetilde{k}}}{\widetilde{k}} = \frac{\dot{K}}{K} - \frac{\dot{A}}{A} - \frac{\dot{L}}{L} = \frac{sY - \delta K}{K} - g - n \, ,$$

$$\frac{\dot{\widetilde{k}}}{\widetilde{k}} = \frac{s\widetilde{y}}{\widetilde{k}} - \delta - g - n \, , \text{ and}$$

$$\dot{\widetilde{k}} = s\widetilde{k}^\alpha - (\delta + g + n)\widetilde{k} \tag{9}$$

The above equation states that, to keep $\widetilde{k}$ constant in a steady-state, some fraction of investment $(\delta\widetilde{k})$ replaces the depreciated capital, some fraction $(n\widetilde{k})$ provides capital for new workers, and the rest $(g\widetilde{k})$ provides capital for the new effective workers created by the technological progress.[35]

b. THE SOLOW DIAGRAM AND THE STEADY-STATE WITH TECHNOLOGY

Figure 5 represents the Solow diagram with technological progress, and as shown in this figure the economy is in the steady-state at the point $\widetilde{k}^*$ where $s\widetilde{k}^\alpha = (\delta + g + n)\widetilde{k}$.

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[35] Mankiw, **Macroeconomics**, p.209.

Figure 5: The Solow Diagram with Technological Progress
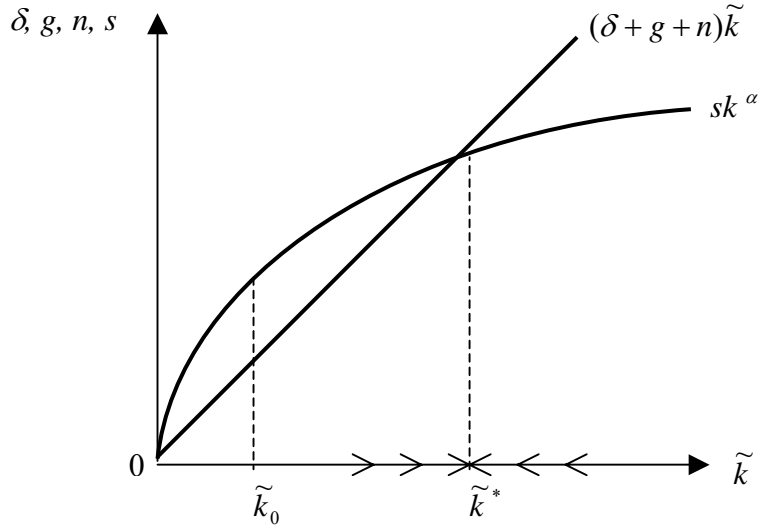
The steady-state point is determined by equating $\dot{\tilde{k}}$ to 0, and solving for $\tilde{k}^*$ and $\tilde{y}^*$ by using Bernoulli differential equation form. As a result, the below equations can be found [36]:

$$\tilde{k}^* = \left(\frac{s}{\delta + g + n} \right)^{1/(1-\alpha)} , \text{ and}$$

$$\tilde{y}^* = \left(\frac{s}{\delta + g + n} \right)^{\alpha/(1-\alpha)}$$

c. ECONOMIC GROWTH WITH TECHNOLOGY

To examine the effects on growth, we should remember the equation of the capital accumulation growth:

$$\frac{\dot{\tilde{k}}}{\tilde{k}} = \frac{s\tilde{k}^\alpha}{\tilde{k}} - (\delta + g + n) = s\tilde{k}^{\alpha-1} - (\delta + g + n)$$

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[36] Jones, **Introduction to Economic Growth**, p.40.

Since $\dfrac{\dot{\widetilde{k}}}{\widetilde{k}} = \dfrac{\dot{K}}{K} - \left(\dfrac{\dot{A}}{A} + \dfrac{\dot{L}}{L}\right)$, the above function may be rearranged as:

$$\frac{\dot{\widetilde{k}}}{\widetilde{k}} = \left(s\widetilde{k}^{\,\alpha-1} - \delta\right) - \left(g+n\right) \tag{10}$$

and represented by **Figure 6**.

Figure 6: Transition Dynamics with Technological Progress
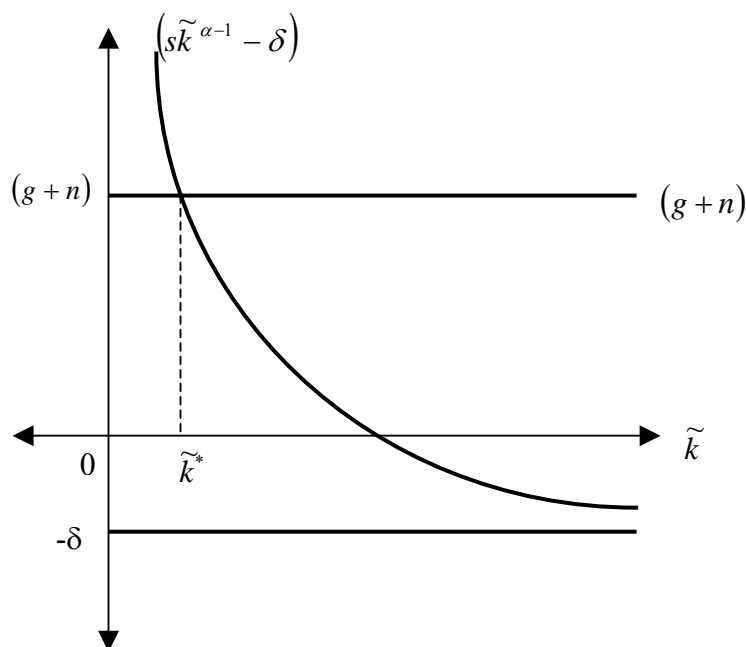
Source: Robert J. Barro and Xavier Sala-i-Martin, **Economic Growth**, New York, McGraw-Hill, 1995, p.43.

Now, think about an increase in the investment rate. This increase raises the growth rate temporarily, shifts the $s\widetilde{k}^{\,\alpha-1} - \delta$ curve upward, and therefore the amount of capital per worker increases until the economy reaches to the new steady-state point with a higher level of capital per worker. Consequently, it can be said that policy changes have *level effects*, but no long-run *growth effects*.[37]

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[37] **Ibid.**, p.41.

3. EVALUATING THE SOLOW GROWTH MODEL

The Solow growth model answers the key questions of growth and development and makes the following statements[38]:

- If a country invests more and has lower population growth rates, it can accumulate more capital per worker and thus increase labor productivity.

- Technological progress can offset the tendency for the marginal product of capital to fall. Therefore, capital accumulation increases, and in the long-run, per capita growth rates become equal to the rate of technological progress. As a result, labor productivity grows both directly because of the improvements in technology and indirectly because of the additional capital accumulation that these improvements make possible.

- The Solow model uses the capital-technology and the output-technology ratios to explain the differences between the growth rates of countries. An economy with a capital-technology ratio, $\tilde{k}$, below its long-run level will grow rapidly until this ratio reaches its steady-state level. The rapid growth rates of countries such as Japan and Germany after the World War II may be examples of this statement. On the other hand, an economy that increases its investment rate will grow rapidly as it makes the transition to a higher output-technology ratio, $\tilde{y}$. South Korea, Singapore, and Taiwan, which have dramatically increasing investment rates since 1950, may be examples of this statement.

By using separately explained financial development and economic growth concepts, the next section will provide a theoretical approach to the relationship between financial development and economic growth.

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[38] **Ibid.**, p.43.

C. A THEORETICAL APPROACH TO FINANCIAL SYSTEM AND ECONOMIC GROWTH

Because prices reflect all available information in a world of perfect competition, perfect information, and no market frictions, financial intermediaries are unnecessary.[39] But, when the information and transaction costs are added to this unrealistic structure as *frictions*, the need for financial markets and institutions emerges.[40] Thus, the primary function of financial systems can be defined as: facilitating the allocation of resources, across space and time, in an uncertain environment, and this primary function can be broken down into four basic functions:

1. Mobilizing and allocating savings,

2. Providing investment control,

3. Facilitating risk management,

4. Facilitating the exchange of goods and services.

Each of these functions affects economic growth through two channels. The first one is *capital accumulation* on which the functions performed by the financial system affect steady-state growth by influencing the rate of capital formation. The growth models of *Romer (1986), Lucas (1988)* and *Rebelo (1991)* use this channel. The second channel from financial functions towards growth is *technological innovation* on which the functions performed by the financial system affect steady-state growth by altering the rate of technological innovation, and the growth models using this channel are *Romer (1990)*, *Grossman and Helpman (1991)*, and *Aghion*

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[39] Zsolt Becsi and Ping Wang, "Financial Development and Economic Growth", **Economic Review-Federal Reserve Bank of Atlanta**, Vol.82, No.4, Fourth Quarter 1997, p.47.
[40] Ross Levine, "Financial Development and Economic Growth: Views and Agenda", **Journal of Economic Literature**, Vol.35, No.2, January 1997, p.690.

and Howitt (1992).[41] **Figure 7** summarizes these routes from market frictions towards economic growth, and indicates the role of financial intermediation services.

Figure 7: A Theoretical Approach to Finance and Growth

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┌─────────────────────────────────────┐
│          Market Frictions           │
│                                     │
│      ▪ Information costs             │
│      ▪ Transaction costs            │
└─────────────────────────────────────┘
                  ⬇
┌─────────────────────────────────────┐
│  Financial Markets and Intermediaries │
└─────────────────────────────────────┘
                  ⬇
┌─────────────────────────────────────┐
│        Financial Functions          │
│                                     │
│    ▪ Mobilizing and allocating      │
│      savings                        │
│    ▪ Providing investment control   │
│    ▪ Facilitating risk management   │
│    ▪ Facilitating the exchange of   │
│      goods and services             │
└─────────────────────────────────────┘
                  ⬇
┌─────────────────────────────────────┐
│      Channels to Economic Growth     │
│                                     │
│    ▪ Capital accumulation           │
│    ▪ Technological innovation       │
└─────────────────────────────────────┘
                  ⬇
┌─────────────────────────────────────┐
│          Economic Growth            │
└─────────────────────────────────────┘
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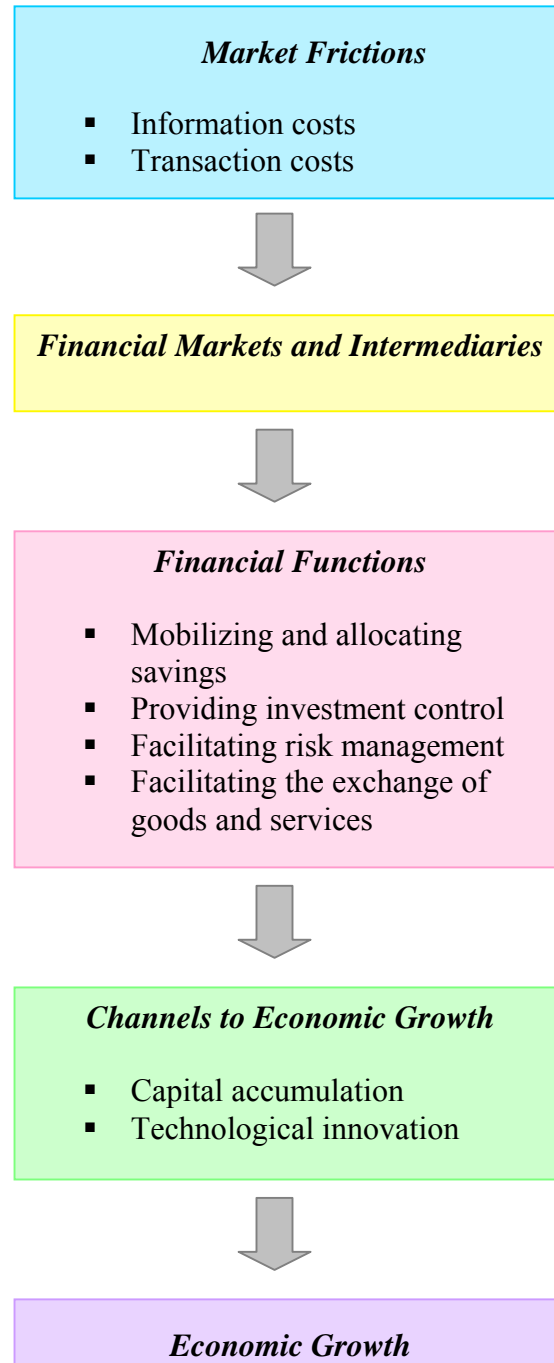
Source: Ross Levine, "Financial Development and Economic Growth: Views and Agenda", **Journal of Economic Literature**, Vol.35, No.2, January 1997, p.691.

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[41] **Ibid.**, p.691.

Functions of the financial system that will be explained in the following sections should be studied carefully in order to understand the importance of an efficient financial system for economic growth.

1. MOBILIZING AND ALLOCATING SAVINGS

An efficient financial system ensures better mobilization of the available savings by facilitating the gathering of the economy's financial resources, and improves the allocation of these savings to the best investment opportunities by using information technologies and risk diversification.

Mobilization function involves the gathering of capital from different savers for investment which faces two main types of costs: *transaction costs* associated with collecting savings from different individuals, and *information costs* associated with making savers feel comfortable in leaving control of their savings. In the light of transaction and information costs, financial systems arise to mitigate these frictions and facilitate mobilization.[42]

Financial systems also acquire information about investments and allocate mobilized savings to the best investment opportunities. Since individual savers may not have the time, capacity, or means to collect and process information on a wide range of enterprises, managers, and economic conditions, their savings may not be allocated efficiently among investment opportunities. This situation in turn affects economic growth negatively. Financial system enters to the structure at this point, identifies the best production technologies and the entrepreneurs with the best chances of successfully initiating new goods and production processes, and allocates savings efficiently.[43] Through all these functions, financial markets and financial intermediaries offer savers a relatively higher yield on their assets, contribute directly

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[42] **Ibid.**, p.699.
[43] **Ibid.**, p.695.

to a rise in the productivity of capital, and hence provide a faster economic growth through capital accumulation and technological innovation.[44]

2. PROVIDING INVESTMENT CONTROL

Besides reducing the information costs of the period before transaction occurs, which create adverse selection problem, financial systems also reduce the information costs of the period after transaction occurs, which create moral hazard problem, by providing investment control.

The components of the financial system have different roles in removing the moral hazard problem. Collaterals, risk premiums, and financial contracts reduce information costs by lowering monitoring and enforcement costs; financial intermediaries improve the allocation of capital in order to reduce information costs, and better stock markets can promote better control by easing takeovers of poorly managed firms. [45]

3. FACILITATING RISK MANAGEMENT

The existence of an efficient financial system overcomes the inherent difficulties in the resource allocation connected with two kinds of risks: productivity (or demad) risks and liqidity risks.

Productivity risks arise due to the uncertainties about the amount of future product demand of the investor and the imperfect domination of technology. Therefore, productivity risks have negative effects on the allocation of resources for two main reasons. First, *risk-averse* economic agents would prefer less risky liquid assets instead of productive investment opportunities because of the uncertainty about future demands. Second, since risks connected with the return on investment

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[44] Jean-Claude Berthélemy and Aristoméne Varoudakis, **Financial Development Policy and Growth**, Paris, Development Centre of The Organisation for Economic Co-operation and Development, 1996, p.27.
[45] Levine, "Financial Development and Economic Growth: Views and Agenda", pp.696-697.

can be limited by technological diversification, some resources would go to less specialised, and hence less productive, but also less risky technologies.[46]

Liquidity risks arise due to the uncertainties about converting savings into a medium of exchange when necessary. But high-return projects generally require a long-run commitment of capital. Since savers do not like to leave the control of their savings for long periods, in the absence of the financial system, less investment is likely to occur in the high-return projects.[47]

Risk diversification eliminates the negative effects of productivity and liquidity risks. Financial markets and financial intermediaries ease risk diversification through direct or indirect exchanges, and allocate resources efficiently. Thus, agents prefer to hold a larger proportion of their personal wealth in the form of productive capital, and this contributes directly to the acceleration of economic growth through both capital accumulation and technological innovation.[48]

4. FACILITATING THE EXCHANGE OF GOODS AND SERVICES

The existence of a reliable medium of exchange and financial arrangements is a necessary condition in order to facilitate the exchange of goods and services, and so to ensure the proper functioning of the payments system. It can also be concluded that the easier the exchange of goods and services, the lower will be the transaction costs, and as a result of more transactions, specialization and growth will be greater.[49] Therefore, the financial system contributes to economic growth by facilitating the exchange of goods and services by means of a medium of exchange.

Economic growth also contributes to the evolution of the payments system and financial intermediation function. The productivity gains, the opening up of new markets, and the increasing complexity of trade are the results of economic growth

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[46] Berthélemy and Varoudakis, **Financial Development Policy and Growth**, p.29.
[47] Levine, "Financial Development and Economic Growth: Views and Agenda", p.692.
[48] Berthélemy and Varoudakis, **Financial Development Policy and Growth**, p.29.
[49] Levine, "Financial Development and Economic Growth: Views and Agenda", p.700.

which in turn lead to a secular trend towards a slowdown in the *velocity of money* (GDP/Money Supply). The opportunity cost of holding monetary assets that yield a poor return can be reduced by a steady movement of the payments system towards credit relations managed by banking intermediaries. This process rises the weight of financial activities in GDP, and causes the intermediation technology to develop.[50]

After explaining the services provided by the financial system and their effects on economic growth generally, a survey of some important themes and studies in the literature of financial development and growth will be provided in the following section.

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[50] Berthélemy and Varoudakis, **Financial Development Policy and Growth**, p.27.

II. PERSPECTIVES ON THE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH

The relationship between financial development and economic growth has been a crucial issue for economists for a long time. The importance of this relationship has also been realized by international institutions, like the IMF and the WB, and emphasized in stabilization programs recommended to the developing countries like Turkey.[1] For this reason, many empirical studies have investigated the direction of the causality between these two phenomena since 1960s. The results of empirical studies have demonstrated the existence of a positive correlation between financial development and economic growth, but the identification of the direction of causation have led various conclusions.

The direction of the causality between financial development and economic growth can have two routes: First, a developed financial sector can favour economic growth through the mobilization and efficient allocation of savings; and second, economic growth can permit the financial sector to achieve economies of scale and increase its efficiency.[2]

When we look at the literature on the relationship between financial development and economic growth, we can see *Schumpeter (1911)* among the economists who made initial contributions on this issue. He claims that a well functioning banking system finances technological innovations necessary to produce new products through efficient production processes. In contrast, according to *Robinson (1952)*, economic growth creates demands for particular types of financial arrangements, and the financial system responds automatically to these demands.[3]

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[1] Muhsin Kar and Mehmet Tunçer, "Finansal Kalkınma ve Ekonomik Büyüme: Teorik Görüşler, Ampirik Sonuçlar ve Yeni Gelişmeler", **Uludağ Üniversitesi İİBF Dergisi**, Vol.17, No.3, October 1999, p.1.
[2] Jean-Claude Berthélemy and Aristoméne Varoudakis, **Financial Development Policy and Growth**, Paris, Development Centre of The Organisation for Economic Co-operation and Development, 1996, p.11.
[3] Ross Levine, "Financial Development and Economic Growth: Views and Agenda", **Journal of Economic Literature**, Vol.35, No.2, January 1997, p.688.

In 1950s, countries of the Second World War gave importance to the financial system in order to get funds and enter a development process. However, the mobilization of savings and efficient allocation of them to investment opportunities were not discussed broadly during this period. Thus, it can be said that the proper understanding of the importance of domestic financial system in the economic growth process corresponds to 1960s.[4]

Patrick (1966) introduced the idea of the bi-directional casual relationship between financial development and economic growth, and suggested two new approaches to this causality. The first one is the *demand-following* approach to financial development in which economic growth creates demand for developed financial institutions and services, and the second one is the *supply-leading* approach to financial development in which financial development causes economic growth by allocating resources to their best possible uses.[5]

A positive relationship between financial development and economic growth was first identified in an empirical study in the 1960s by *Goldsmith (1969).* He used a time-series analysis for 35 countries and a period of 100 years, and found that there was a relationship between these two variables.[6]

In 1970s, Keynesian view was very dominant. Keynesian economists advocated that negative real interest rate policies stimulate investments, and because of these restrictions on interest rates, those years are known as the period of ***financial repression***. The theoretical analyses of financial repression was first made by *McKinnon (1973)* and *Shaw (1973)*. They criticized financial repression policies seriously and proposed the ***financial liberalization*** policies instead. According to

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[4] Kar and Tunçer, "Finansal Kalkınma ve Ekonomik Büyüme: Teorik Görüşler, Ampirik Sonuçlar ve Yeni Gelişmeler", p.3.

[5] Deren Ünalmış, "The Causality between Financial Development and Economic Growth: The Case of Turkey", **The Central Bank of the Republic of Turkey, Research Department Working Paper**, No.3, June 2002, p.2.

[6] Kar and Tunçer, "Finansal Kalkınma ve Ekonomik Büyüme: Teorik Görüşler, Ampirik Sonuçlar ve Yeni Gelişmeler", p.4.

them, banking sector is the most efficient financial sector, and funds should be oriented to the banking sector by applying a positive real interest rate policy.[7]

In 1980s, some economists of the *structuralist school*, including *Taylor (1983)* and *Buffie (1984)*, criticized the role of banking sector in financial liberalization policies, and advocated that, the financial intermediaries other than banks which they called as *curb market*, were more efficient than banking sector. According to them, if we don't take into account the financial institutions as a whole, the relationship between financial development and economic growth could be in a different way from expected.[8]

In fact, during the 1950s, 1960s, and 1970s, the financial sector was used only as an instrument for financing interventionist policies, and until 1970s, most developing-country governments did not realize the importance of an expanding the financial system. The applied policies took the form of selective credit allocation according to government objectives, and provision of cheap credit only to the key sectors of economic development.[9]

During this period, financial repression through high reserve requirements and interest rate controls was also a major source of revenue for governments because of two reasons: First, the favourable trend in terms of trade supported growth and allowed the developing countries to avoid serious balance of payments deficits. Second, the availability of low-cost external funding allowed investment to increase regularly despite the weakness of the national financial systems. But, this situation introduced distortions in the adjustment to the sudden adverse changes in the terms of trade which hit several developing countries towards the end of the 1970s. Since the reaction of the economic policy to these shocks came too late, the real interest rates rose in the early 1980s, and the external debt crisis which seriously limited growth emerged throughout this decade.[10]

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[7] **Ibid.**, p.7.
[8] **Ibid.**, p.10.
[9] Berthélemy and Varoudakis, **Financial Development Policy and Growth**, p.15.
[10] **Ibid.**, p.16.

In 1990s, *Romer (1986, 1990), Rebelo (1991), Bencivenga and Simith (1991, 1992), King and Levine (1993),* and some other economists investigated the relationship between financial development and economic growth under the assumptions of **endogenous growth models**, which accept technological progress as endogenous and the return of capital as constant or increasing, and give the necessary importance to the human capital, the positive externalities in the production process, and the government policies. Their findings imply that financial system has *growth effects* on economic growth in endogenous growth models, while it only has *level-effects* in exogenous ones.[11] *Greenwood and Jovanovic (1990), Greenwood and Smith (1997), Levine (1991, 1999), Demirgüç-Kunt and Levine (1993, 1995), Roubini and Sala-I-Martin (1995), La Porta, et. al. (1998), Obstfeld (1994), and Edison, et. al. (2002)* are other important studies of this period.

All of these studies indicate that financial system plays a crucial role in the economic life of a country. The differences across countries and time in the quality of financial services, and in the types of financial markets, institutions, and instruments cause the differences across countries in the level of economic development. Countries with larger banks and more active stock markets grow faster over subsequent decades even after controlling for many other factors underlying economic growth. In addition, industries and firms that rely heavily on external financing grow faster in countries with a well-developed financial markets and institutions than in countries with poorly developed financial systems.[12] On the other hand, the policies applied in the financial sector can either make the economy to be dragged down into a **poverty trap** or to be capable of joining the **convergence club** of developed countries.[13]

Consequently, the results of both theoretical and empirical studies indicate a positive correlation between financial development and economic growth, and this chapter will provide a survey of the most important ones of these studies by dividing

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[11] Kar and Tunçer, "Finansal Kalkınma ve Ekonomik Büyüme: Teorik Görüşler, Ampirik Sonuçlar ve Yeni Gelişmeler", p.14.
[12] Levine, "Financial Development and Economic Growth: Views and Agenda", p.690.
[13] Berthélemy and Varoudakis, **Financial Development Policy and Growth**, p.11.

them into five eras: early studies until 1960s, 1960s, 1970s and early 1980s, late 1980s, and 1990s, and recent empirical studies.

A. EARLY STUDIES UNTIL 1960s

During this period, economists didn't give the necessary importance to the financial structure and financial intermediation function. They only concerned with the question of how the financial system can be used in order to get the necessary funds for economic development.

The most important studies of this period can be surveyed as follows.

1. JOSEPH A. SCHUMPETER

Schumpeter wrote *The Theory of Economic Development* in 1911, and investigated the concepts of the circular flow of economic life, the fundamentals of economic development, credit, capital, entrepreneurial profit, interest on capital, and the business cycle.

In his famous book, Schumpeter describes ***economic development*** as changes in economic life that are not forced upon it, but arise by its own initiative. Since there are no such changes arising in the economic sphere itself, he concludes that economic development is not a phenomenon to be explained economically, and the causes and hence the explanation of the development must be sought outside of the facts which are described by economic theory. He also mentions that the economic growth, as shown by the growth of population and wealth, is designed as a process of development in his study.[14]

According to him, economic development can be defined by the carrying out of ***new combinations (enterprises)***, which means simply the *different* employment of

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[14] Joseph A. Schumpeter, **The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle**, 1911, trans. by Redvers Opie, 4th edition, Cambridge, Massachusetts, Harvard University Press, 1951, p.63.

the economic system's *existing* supplies of productive means, and covers the following five cases[15]:

- The introduction of a new good, or of a new quality of an existing good.

- The introduction of a new method of production, which is not scientifically discovered new, and also can be a new way of handling a commodity commercially.

- The opening of a new market.

- The conquest of a new source of supply of raw materials or half manufactured goods.

- The carrying out of the new organization of an industry, like the creation or the breaking up of a monopoly position.

In the process of the carrying out of new combinations described by Schumpeter, procuring the means of production is a problem for the established firms which work within the *circular flow*. Because, in a circular flow, every period operates with goods that an earlier period prepared for it, and in every period goods are produced for the use in the next. Thus, an established business is financed by returns from previous production. At this point, *savings* should be taken into accout. The magnitude of savings depends on the results of previous development. However, the greater part of these savings does not come from thrift. Instead, it consists of funds which are themselves the results of *successful innovation* and *entrepreneurial profit*. But, since there would be no such rich source, out of which to save, and essentially less incentive to save in the circular flow, the entrepreneur must resort to *credit* if he/she wishes to carry out a new combination. So, it should be concluded that, the *creation of purchasing power by means of banks* is the way through which new combinations are often financed, and through which they would have to be

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[15] **Ibid.**, pp.66-68.

financed always, if results of previous development did not actually exist at any moment.[16]

Schumpeter implies that every kind of credit extension for purposes of *innovation* is the granting of credit to the entrepreneur, and forms an element of economic development. Besides credit as a financial instrument, Schumpeter also emphasizes the role of a banker as a financial intermediary in the economic development process. A *banker* stands between those who wish to form new combinations (entrepreneurs) and the possessors of productive means (savers). By this function, he makes the carrying out of new combinations possible, directs people to form them, and be essentially a phenomenon of development himself.[17]

2. JOAN ROBINSON

In *The Rate of Interest and Other Essays (1952)*, Robinson advocates that the financial system automatically responds to the demands created by economic growth.

Robinson studies on the factors limiting the output level in an economy at any moment, and emphasizes the connection between ***the supply of finance***, as one of these factors, and the investment level which in turn affects the total amount of output. She argues that invesment plans are limited by the supply of finance, since there is *uncertainty* about future profits. The limits created by an inadequate supply of finance can be in the form of *high risk premiums* on industrial securities and *difficulties in arranging new loans*.[18]

In explaining the role of finance in the investment level, Robinson uses the relationship between saving and finance. In the absence of borrowing, each entrepreneur is confined to using his own past accumulated savings out of profits in order to invest. Thus, the only source of funds for investment is ***internal finance***, in which the decision making process of investment depends on two things: prospective profits and the amount of reserves at the disposal of investment. From this point, it

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[16] **Ibid.**, pp.42, 72-73.
[17] **Ibid.**, pp.74, 103.
[18] Joan Robinson, **The Rate of Interest and Other Essays**, London, MacMillan&Co. Ltd., 1952, pp.80-81.

can be concluded that the distribution of saving in one period has an influence on the course of investment in the next.[19]

Then, she introduces **lenders** to the investment process, and relates the amount of new borrowing that an entrepreneur can arrange at any moment to *the ratio of his total debt to his total assets*. If an entrepreneur uses the way of **external finance** for investment because of his inadequate saving balances, the ratio of debts to assets will rise and so the power of the entrepreneur to borrow will gradually be exhausted. At this stage, **banks** may enter the system to borrow from lenders by accepting deposits from them, and to transfer these funds to investors.[20]

Factors that affect the supply of finance, other than the total debt over total asset ratio, may be summed up under the headings of the general level of interest rates, the state of expectations, legal and institutional arrangements, and the habits of lenders. The general level of interest rates is worth of study, since a fall in this level reduces the opportunity cost of lending, and so increases the amount of finance available.[21]

After these explanations, Robinson makes her famous statement as *where enterprise leads finance follows*, and indicates that when a strong impulse of an entrepreneur to invest needs external finance, financial intermediaries take part, and get the experience necessary for their own development from this financing process.[22]

3. W. ARTHUR LEWIS

Lewis is one of the Post-Second World War period economists, and published *Economic Development with Unlimited Supplies of Labour* in 1954. He discusses the question of how to use financial policies in efficient ways to stimulate economic growth through capital formation.

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[19] **Ibid.**, p.83.
[20] **Ibid.**, pp.84-85.
[21] **Ibid.**, p.86.
[22] **Ibid.**

Governments affect the process of capital formation in many ways, like *taxation*, *inflation-financing*, and *credit creation*. If the government finances its expenditures through taxation, and this policy is accepted by all classes in the economy, then prices rise very little. On the contrary, if all classes refuse to accept a redistribution between themselves by means of taxation, prices tend to rise continuously as a result of increasing money supply that finances government expenditures.[23]

Lewis uses the Post-Second World War country cases in order to explain the role of taxation, inflation and credit creation in the development process. During this period, a number of governments of modern industrial states seem to be taking around 40 or 50 per cent of marginal incomes in taxation, and because of this reason, their price levels have not risen so much. However, governments of less developed countries take only a small part of marginal incomes, and face with rising price levels. To prevent these prices from rising, the gorvernment applies price controls which can be successful in large-scale enterprises, but can not in small-scale ones, like farmers. Therefore, in order to provide capital formation, the best thing to do is to allocate the money surplus as credit to the investors who will reinvest it productively, and according to Lewis, there is only one class that can use resources efficiently and create productivity: **the class of industrialists**. He also concludes that in any country which has a substantial industrialist class, even the most frightening inflations leave behind a substantial increase in capital formation.[24]

Lewis summarizes his discussion on the subject as, if labor is abundant and physical resources scarce, like in less developed countries, there are two ways to generate capital formation in order to enter a development process: creating capital out of taxation or out of credit creation. The primary effects of these two ways on output is the same: the output of consumer goods is unchanged, but redistributed.

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[23] W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labour", **The Manchester School**, Vol.22, 1954, p.167.
[24] **Ibid.**, pp.168-169.

However, credit creation has one further effect: it also redistributes income towards the industrial class and speeds up capital formation out of profits.[25]

B. FINANCIAL INTERMEDIATION AND CAUSALITY: 1960s

These were the years of financial intermediation concept, and economists have begun to discuss the causality relationship between financial development and economic growth during this period. The proper understanding of the importance of domestic financial system in the economic growth process also corresponds to 1960s.

1. KENNETH J. ARROW

Arrow published *The Economic Implications of Learning by Doing* in 1962, and formalized the ***learning by doing process*** in a growth model as an externality. This process is external to individual firms because the produced knowledge becomes publicly known.

He states that increases in per capita income can not be explained simply by increases in the capital/labor ratio, and the role of technological change in economic growth should be taken into account. But, unlike other economists who take technological knowledge as a constant factor $\left(\left(\dot{A}/A\right)= g\right)$, Arrow emphasizes that it is growing in time, and causing increasing returns as the production and capital accumulation take place $\left(\left(\dot{A}/A\right)= g + a\left(\dot{K}/K\right)\right)$. This statement may be accepted as a foundation for ***endogenous growth models***. Nevertheless, there are some limitations on this factor. First, measuring the quantity of knowledge is very difficult, and second, different countries, at the same moment of time, have different production functions even apart from differences in natural resource endowment. In spite of these limitations, Arrow suggests an endogenous growth theory of the changes in knowledge, which underlie intertemporal and international shifts in production functions. He calls the acquisation of knowledge as ***learning***, which is the product of

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[25] **Ibid.**, p.171.

experience, and his hypothesis, which depends on learning by doing, says that technical change in general can be attributed to experience.[26]

In modelling his hypothesis, Arrow assumes that technical change is completely embodied in new capital goods. Thus, he takes *cumulative gross investment* as an index of experience, instead of cumulative output, in order to get the possibility of *continued learning*, through new investments, new technologies and so the changing production environment, in the sense of a steady-state of growth in productivity.[27]

This study also includes some comments on the learning by doing model of Arrow. First, learning takes place in effect only in the capital goods industry, and no learning takes place in the use of a capital good once built. This is not realistic. Second, learning takes place only as a by-product of ordinary production, and does not include the institutions, education, and research created by the society for the purpose of enabling learning to take place more rapidly.[28]

2. JAMES TOBIN

In *Money and Economic Growth (1965)*, Tobin discusses the role of monetary factors in determining the degree of *capital intensity* (capital per effective man-hour) of an economy.[29]

He states that, in neoclassical growth models, the interest rate and the capital intensity of the economy are determined by *productivity* and *thrift*, that is, by the interaction of technology and saving propensities. Tobin introduces two concepts to this relationship, and suggests that, in general, **monetary supplies** and **portfolio behaviour** affect the interest rate and the capital intensity as well as productivity and thrift.[30]

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[26] Kenneth J. Arrow, "The Economic Implications of Learning by Doing", **The Review of Economic Studies**, Vol.29, No.3, June 1962, pp.155-156.
[27] **Ibid.**, p.157.
[28] **Ibid.**, p.172.
[29] James Tobin, "Money and Economic Growth", **Econometrica**, Vol.33, No.4, October 1965, p.671.
[30] **Ibid.**, p.684.

In a closed economy, he says, the alternative stores of value for the capital are monetary assets, and their yields set limits on the acceptable rates of return on real capital and on the acceptable degree of capital intensity through the process of portfolio choice. This process works as follows: If the two assets have different yields, savers will wish to invest in the asset with the higher yield. If their yields are same, then savers do not care with the proportions of their investment between two assets. Thus, it can be concluded that, on the assumption of portfolio behaviour, the institutionally determined rate of interest on monetary assets controls the yield of capital.[31] This statement also indicates the important role of governments and financial institutions in the process of investment, in the productivity, and so in the economic growth.

3. HUGH T. PATRICK

In 1966, Patrick published a seminal paper titled "*Financial Development and Economic Growth in Underdeveloped Countries*" which introduces the idea of the ***bi-directional*** causal relationship between financial development and economic growth, and suggests two new approaches to this causality.

Patrick defines two new phenomena, *demand-following* and *supply-leading*, in order to describe the relationship between financial development and economic growth. The first one is the ***demand-following phenomenon*** in which the creation of modern financial institutions, their financial assets and liabilities, and related financial services is in response to the demand for these services by investors and savers in the real economy.[32]

One assumption of this view is that, the growing financial system responds to the demand of the real sector growth *automatically*. But in fact, Patrick says, this response may not be at all automatic, flexible, or inexpensive in underdeveloped countries, some of which have restrictive banking legislation (like France in the early

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[31] **Ibid.**, p.677.
[32] Hugh T. Patrick, "Financial Development and Economic Growth in Underdeveloped Countries", **Economic Development and Cultural Change**, Vol.14, No.2, 1966, p.174.

19th century), religious barriers against loans and interest charges, or which do not have a modern investment bank (like Italy in 1880s).[33]

The second phenomenon defined by Patrick is the ***supply-leading phenomenon*** in which the creation of financial institutions and the supply of their financial assets, liabilities and related financial services is in advance of the demand for them. In other words, the growth of the financial system causes the growth of the real sector, and the financial system acts two functions in this process: to transfer resources from traditional (agricultural and commercial) sectors to new modern sectors, and to promote and stimulate an enterpreneurial response in these modern sectors. On the other hand, a problem emerges at this stage: new supply-leading financial institutions *initially* may not be able to operate profitably by lending to modern sectors. There are, however, some solutions: they may be government institutions, or may receive direct or indirect government subsidies as being private institutions, or, as a third way, they may initially lend to traditional sectors profitably, and then gradually shift their loan portfolio to new modern industries.[34]

After these theoretical explanations, Patrick indicates that, in actual practice, there is likely to be a ***bi-directional*** relationship between financial development and economic growth. In the earlier stages of the real sector growth, supply-leading phenomenon may be valid, and modern sectors may be financed in order to induce innovation-type investment. As the process of real sector growth occurs, the demand-following phenomenon becomes dominant, and the financial system grows in order to respond to the demands of the growing real sector. According to Patrick, Japan between the 1870s and the beginning of the World War I presents an excellent example of the sequence of these two phenomena.[35]

This paper also discusses the supply-leading phenomenon in detail, and implies the basic objectives of financial policy to promote economic growth as to encourage savers (asset-holders) to hold their saving (assets) in the form of financial rather than unproductive tangible assets; to ensure that investment (capital stock) is allocated

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[33] **Ibid.**, p.175.
[34] **Ibid.**, pp.175-176.
[35] **Ibid.**, p.177.

efficiently to the socially most productive uses; and to provide incentives to induce increased saving, investment, and production.[36]

4. RAYMOND W. GOLDSMITH

The first empirical study on the causal relationship between financial development and economic growth is the seminal book of Goldsmith titled *Financial Structure and Development (1969).*

Goldsmith defines financial development as the *change in the financial structure*, and uses the comparison of national balance sheets at benchmark dates, and the ratios derived from these balance sheets in order to analyse the changes in the financial structure.[37]

Since Goldsmith relates financial development to the size of the financial system, his empirical study contains 35 tables, each of which shows the *amount of total assets* of all important types of financial institutions in one country, in order to represent financial development; and a table, which shows the *GNP levels* of the same 35 countries at current prices, in order to represent economic growth. Time period of this study is from 1860 to 1963, which includes nine benchmark dates for which data are available for all countries: 1860, 1880, 1900, 1929, 1938, 1948, 1960, and 1963.

By using the ratio of the amount of financial intermediary assets to GNP in order to measure financial development[38], Goldsmith makes the following statements on the financial development and economic growth relationship[39]:

- The role of financial institutions and the ownership of financial assets generally increase in the process of economic development.

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[36] **Ibid.**, p.185.
[37] Raymond W. Goldsmith, **Financial Structure and Development**, New Haven and London, Yale University Press, 1969, p.37.
[38] Levine, "Financial Development and Economic Growth: Views and Agenda", p.703.
[39] Goldsmith, **Financial Structure and Development**, pp. 46-48, 400.

- The share of banks in the financial system declines, while the share of the newer types of financial institutions increases as economic development occurs.

- Foreign financing plays an important role in some phases of the development of most countries.

- The theoretical discussions indicate that, the financial superstructure, in the form of both primary and secondary securities, accelerates economic growth and improves economic performance to the extent that it facilitates the migration of funds to the best user, i.e. to the place in the economic system where the funds will yield the highest social return. But according to Goldsmith, there is no possibility of establishing with confidence the direction of the causality.

Assuming that industrial and financial technology, consumers' tastes, and attitudes toward risk are remained unchanged, Goldsmith suggests that, the separation of the saving and investment functions and the enlargement of the range of financial assets increase the rate of growth through the channels of increasing the efficiency of investment and raising the ratio of capital formation to national product.[40]

He also discusses the transaction and information costs of direct finance, and says that financial intermediation function can increase both the volume of investments and savings, and the marginal rate of return on investments by reducing transaction and information costs, and allocating savings among potential investments more efficiently.[41]

According to Levine, the weaknesses of this study can be summarized as the limited observations on only 35 countries, other factors influencing economic growth which are not controlled systematically, and the possibility that the size of the financial intermediaries may not be an accurate measure for financial development.[42]

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[40] **Ibid.**, p.392.
[41] **Ibid.**, p.395.
[42] Levine, "Financial Development and Economic Growth: Views and Agenda", p.704.

5. JOHN HICKS

Hicks published *A Theory of Economic History* in 1969, and studied on the development of financial system in England. He evaluates the ***Renaissance*** as a period in which not only the use of money increased but also money began to link up with credit and finance. Thus, the Renaissance is a turning point for financial development.[43]

Hicks argues that financial development is based on the need for widening the circle of credit worthy borrowers. Thus, information about the trustworthiness of borrowers is necessary. There are two main ways to get this information and extend the circle of credit worthy borrowers. The first one is *guarantee* provided by the borrower, and the second one is the development of *financial intermediaries*, in the broadest sense banks. Banks can reduce information costs and risks through the intermediation function. In addition, in the later stages of development, security markets enter the financial system, and help investors to reduce their risks through portfolio diversification.[44]

Then, Hicks examines the effect of financial intermediation function on the ***Industrial Revolution*** process, which he defines as the rise of modern industry as a result of mercantile development. Since a trade network is already exists, mercantile development may be get through the continual discovery of new opportunities for investment. At this stage, financial institutions enter the system in order to make greater amount of funds available for new investments by mobilizing savings, and in order to provide liquid funds against unexpected needs. Thus, financial system enhances economic growth through promoting the discovery of new opportunities for investment, and so contributes to the development process of a modern industry, which is the key factor for the Industrial Revolution.[45]

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[43] John Hicks, **A Theory of Economic History**, Oxford, Clarendon Press, 1969, p.72.
[44] **Ibid.**, pp.77-80.
[45] **Ibid.**, pp.141, 142-145.

C. FINANCIAL REPRESSION AND FINANCIAL LIBERALIZATION: 1970s AND EARLY 1980s

Three competing views emerged during the 1970s and early 1980s: *financial repression*, *financial liberalization*, and *the structuralist school*. The theoretical analyses of financial repression policies, which use negative real interest rates to stimulate investments, was first made by *McKinnon (1973)* and *Shaw (1973)*. They criticized financial repression policies seriously and proposed the financial liberalization policies instead which indicate banking sector as the most efficient financial sector, and support the orientation of funds to the banking sector by applying a positive real interest rate policy.

In 1980s, some of the *structuralist school* economists, including *Taylor (1983)* and *Buffie (1984)*, criticized the role of banking sector in financial liberalization policies, and advocated that the financial intermediaries other than banks, which they called as *curb market*, were more efficient than banking sector. According to them, if we don't take into account the financial institutions as a whole, the relationship between financial development and economic growth could be in a different way from expected.[46]

1. RONALD I. MCKINNON

Ronald I. McKinnon criticizes financial repression policies seriously, and advocates the positive effects of financial liberalization on the economic development in his famous book *Money and Capital in Economic Development (1973)*.

His discussion starts with the analysis of a *fragmented economy*, in which firms and households are so isolated that they face with different effective prices for the factors of production and produced commodities, and do not have the access to same technologies. Such a severe fragmentation in an underdeveloped economy,

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then, causes a pressure for ***public intervention***. But intervening directly in order to help some individuals or sectors at the expense of others can make the market mechanism become no better, and perhaps even worse. If government subsidies for entrepreneurship, like tariff protection, import licenses, tax concessions, and low-cost bank finance, commonly go to a small group of urban elites, then the *income inequality* between the rich and the poor grows, and according to McKinnon, it is the case of that period. [47]

McKinnon says that, the fragmentation in the factor markets provides the initial motivation for the pressure of government interventions, which in turn cause incredibly complex distortions in commodity prices. Thus, with an explicit policy improving the operation of factor markets, government interventions in commodity markets may be prevented, and then, carefully considered ***liberalization*** in all sectors can move forward. Since fragmentation in the capital market causes the misuse of other factors of production, labor and land, *capital market liberalization* is the key issue in general.[48]

At this point, McKinnon characterizes the fragmented state of the capital market as the state in which the processes of saving and investment are not specialized, and each entrepreneur provides labor, makes technical decisions, consumes, saves, and invests by himself. Thus, his utility maximizing level depends on his endowment, his own productive or investment opportunity, and his market opportunities for external lending or borrowing over time. When these components badly correlated, ***misallocation*** of existing capital, and so a fragmented capital market occurs.[49]

To prevent this misallocation, a single allocative mechanism, which allocates capital to the best productive or investment opportunities, should enter the

[47] Ronald I. McKinnon, **Money and Capital in Economic Development**, Washington, D.C., The Brookings Institution, 1973, pp.5-7.
[48] **Ibid.**, p.8.
[49] **Ibid.**, pp.10-11.

economic system. By this way, the investments necessary to adopt technological innovations can also be financed.[50]

McKinnon suggests banking system as the intermediary, and emphasizes the role of efficient bank lending in the enlargement process of the real size of the monetary system, and in alleviating *financial repression*, which he defines as the poor performance of organized bank lending that is related to *regulated interest ceilings* and *collateral requirements*. Since usury ceilings on the interest rates charged on bank loans by public intervention do not cover the administrative costs and potential default risks inherent in small-scale lending, the ability and willingness of commercial banks to serve small-scale borrowes are restricted. Furthermore, the available finance flows to completely safe borrowers whose reputation is known or whose collateral is relatively riskless, and the result of this process is further inequality in the distribution of income.[51]

To overcome financial repression and its negative effects, McKinnon suggests loans at high real interest rates, but in larger quantity and for longer terms. But, in an economy with high and unstable *inflation*, like underdeveloped country economies, this strategy may be nearly impossible. The reason is the real interest rates that are likely to be depressed to negative levels by this inflation. At this stage, a serious *deflation*, which will increase the demand for money by controlling the money supply and raising nominal interest rates, may be undertaken. Such a deflationary policy encourages people to acquire cash balances and to reduce their demand for commodities, thus the competitiveness and real size of the banking system increases.[52]

A large and efficient banking system, then, implies large and growing real cash balances which contribute to growth in saving, investment, and so in aggregate output. Thus, McKinnon concludes that, a monetary reform (financial development)

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[50] **Ibid.**, p.13.
[51] **Ibid.**, pp.69, 73.
[52] **Ibid.**, pp.79, 88.

can stimulate growth in real output (economic growth) by raising savings and capital formation, while he does not analyse the reverse causation.[53]

2. EDWARD S. SHAW

Shaw published his book titled *Financial Deepening in Economic Development* in 1973, and studied on financial deepening, the relationship between money, finance, and capital accumulation, financial repression and financial reform.

He defines the term *shallow finance* as a result of *financial repression*, which is the development strategy of decentralized economies with low levels of per capita income and wealth, and states that shallow finance reduces the real rate of growth and the real size of the financial system relative to nonfinancial magnitudes by distortions of financial prices including interest rates and foreign exchange rates, and by other means. Thus, a strategy of *financial liberalization* that has the effect of *financial deepening* is necessary to support economic development.[54]

Then, Shaw lists important *measures and indicators of financial deepening* as follows[55]:

- *Reserves of liquidity*, which increase when the distortions in financial prices, interest rates and foreign exchange rates, are removed or reduced by financial liberalization.

- *Financial flows*, which are affected by financial strategies. In shallow finance, an economy uses relatively heavily the fiscal policies and its international capital accounts in order to finance capital growth. On the other hand, in financial deepening, the strain on fiscal policies, especially on taxation, and the demand for foreign savings are moderated.

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[53] **Ibid.**, pp.89, 117.
[54] Edward S. Shaw, **Financial Deepening in Economic Development**, London, Oxford University Press, 1973, pp.3-4.
[55] **Ibid.**, pp.7-9.

- *The types of financial intermediaries*, which reflect the structure of the financial system. In shallow finance, organized finance is dominated by the banking system and other finance flows through the foreign exchanges or through the curb market and cooperative societies. But, in financial deepening, since it involves specialization in financial functions and institutions, other institutions like industrial banks and insurance companies, are taken into the system.

- *Financial prices*, which are the interest rates and the foreign exchange rates. The low real interest rates of a shallow finance repress the demand for financial assets. But, these rates increase by the introduction financial deepening. Similarily, shallow finance is commonly associated wih the overvaluation of domestic currency for foreign exchange, which discourages exporting and saving but encourages importing and consumption.

Shaw also explains **the objectives of financial liberalization** as follows[56]:

- Financial liberalization aims to raise *the ratios of private domestic savings to income* by increasing real interest rates that create opportunities for portfolio divesifying savers, and by improving income expectations that reduce the tendency to consume now.

- Financial liberalization develops *the financial system*, which displaces in some degree the fiscal process, inflation, and foreign aid used in capital accumulation by mobilizing and allocating savings. Savers are offered a broader range of selection in terms of scale, maturity, and available risks, and they can also get information necessary for comparison of alternatives more cheaply.

- Through its effects on the efficiency of financial system functions, financial liberalization also contributes the equalization process of *the distribution of income*.

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[56] **Ibid.**, pp.9-12.

- Financial liberalization contributes to *the stability of growth in output and employment* through more flexible foreign exchange rates absorbing some of the international trade shocks, and through the reduction in the dependence on the bursts of inflation to balance fiscal budgets.

Shaw implies that in spite of all these positive effects, financial liberalization is rare, and financial repression is preferred instead for many reasons which may be classified under four groups[57]:

- The first reason is *the prohibition of usury* in order to restrain the liquidity premium on assets other than productive capital, to protect the poor against high real interest rates, to prevent monopoly powers of lenders, and to remove the inflationary effects of high real interest rates, which emerge from the behaviour of the physical capital owners as increasing prices of final outputs in order to compensate their interest payment costs.

- The second reason is the absence of an effective control over growth rates in nominal money and rate of changes in the price level.

- The third one is related with the minimization and misinterpretation of the role of finance by various models of aggregate economic behaviour.

- The last reason is that the potentially beneficial results of real financial growth do not cover the costs involved. According to this view, real financial growth is expensive in terms of scarce factors of production, like marbled buildings and skilled personal to fill them, and it also depends on a framework of law and of sophistication in portfolio management. But, economies in short of physical and human wealth do not have these characteristics, and cannot achieve quickly.

Shaw do not agree with the economists of the above views, and recalls the positive effects of financial liberalization on the mobilization and allocation of

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[57] **Ibid.**, pp.92-107.

savings, and investments, and proposes financial liberalization as the necessary policy for real growth.

3. LANCE TAYLOR

Taylor, who wrote *Structuralist Macroeconomics: Applicable Models for the Third World* in 1983, is one of the structuralist school economists. He states that an economy has structure if its institutions and the behaviour of its members make some patterns of resource allocation and evolution substantially more likely than others.[58] Thus, structuralist economic analysis takes these factors as the foundation stones for its theories, and uses models that focus attention on how the income distribution and output levels vary to assure the overall macro balance is reached in the short-run. Longer-run developments depend on the results of these initial adjustments.[59]

His starting point is a country facing balance of payments difficulties, accelerating inflation, and mismanagement in the key sectors of its economy. Then, Taylor lists a standard set of remedies that tends to be applied, often through the intermediation of the IMF, as monetary contraction, devaluation, abolition or reduction of government intervention in the price system, internal financial reform and liberalization, external liberalization in the form of reduction of barriers to trade and capital flows, slowing the rate at which the local currency is devalued over time, and freezing of wage demands.[60]

The relationship between financial development and economic growth is related to the policy of internal financial reform and liberalization, which is constructed around an attempt to raise interest rates. In neoclassical growth theory, higher interest rates raise saving rates and available deposits in the banking system, and these extra savings are transferred into investment through the increased use of

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[58] Lance Taylor, **Structuralist Macroeconomics: Applicable Models for the Third World**, New York, Basic Books, Inc., 1983, p.3.
[59] **Ibid.**, p.7.
[60] **Ibid.**, p.191.

banking system and greater financial intermediation. The result is a faster growth path.[61]

However, Taylor discusses what happens if the world does not operate neoclassically, and assumes that higher interest rates raise savings, but investment demand is interest-sensitive as well. Then, he explains the interest rates that affect investment demand as the rates ruling in *informal markets*, such as *curb and village markets*, which are often efficient, which answer to the needs of small borrowers, and so which charge quite high interest rates. Thus, if the level of available deposits in the banking system increases, there could be two possibilities for the origin of these deposits: One possibility is a reduction in informal lending, and a second is a transfer of savings from other stores of wealth, such as gold, real estate, and similar goods, to bank deposits. If the second possibility occurs, there will be a transfer from unproductive assets to the productive ones, bank lending will increase, and investment demand will be stimulated. On the other hand, if the first possibility occurs, moneylenders pull their resources out of informal markets, and put them in banks in order to benefit from higher deposit rates. Then, there can easily be an overall credit contraction since reserve requirements or credit ceilings in official institutions are bound to be more strict than those along the curb. The result of this process will be a decline in investment demand and the level of economic activity.[62]

Consequently, unlike McKinnon and Shaw, Taylor emphasizes the efficiency of curb markets instead of banking system, and their role which must be taken into account in the economic growth process.

4. EDWARD F. BUFFIE

In his paper titled *"Financial Repression, the New Structuralists, and Stabilization Policy in Semi-Industrialized Economies" (1984)*, Buffie emphasizes the pivotal role of the curb market as the marginal supplier of the loanable funds, and

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[61] **Ibid.**, p.197.
[62] **Ibid.**

examines the short-run and long-run effects of a variety of macroeconomic policies in a simple model including the curb market.

Buffie argues that, an important feature of less developed and semi-industrialized countries is the dependence of their firms on credit to finance their purchases of working capital (intermediate inputs, raw materials, and labor – since the real interest costs are a significant determinant of employment –), and the *curb market*, which can be defined as an informal (sometimes illegal) credit market in which loan suppliers and demanders can transact freely at uncontrolled interest rates, is the most important financial market. However, there is only a limited literature on this issue. Financial repression theorists have neglected the curb market altogether, and the new structuralists have assumed the relevant interest rate to be some weighted average of the commercial bank and curb market rates.[63]

This paper includes a model of a financially repressed, structuralist economy which includes two types of financial intermediary: the curb market and the banking sector. The curb market has an informal structure, and the source of its funds consists entirely of *high-powered money* which would otherwise have been dishoarded. Loans in the curb market equal to the difference between aggregate loan demand and the supply of bank credit.[64]

In Buffie's model, the government can manipulate three distinct financial instruments: the supply of high-powered money, the supply of bank credit, and the interest rate paid on demand deposits. He labels the first two instrument *monetary policy* and the last one *financial liberalization*, and discusses the effects of contractionary monetary policies. His conclusion is that both increases in the reserve requirement ratio and decreases in the stock of high-powered money reduce the supply of loans in the economy.[65]

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[63] Edward F. Buffie, "Financial Repression, the New Structuralists, and Stabilization Policy in Semi-Industrialized Economies", **Journal of Development Economics**, Vol.14, No.3, April 1984, pp.306, 320.
[64] **Ibid.**, p.310.
[65] **Ibid.**

Then, he discusses financial liberalization and the idea advocating that increasing the interest rates paid on time, demand, and savings deposits is a reliable method to increase the supply of bank credit and to finance the working capital purchases. He states that an increase in the rate of demand deposits expands the supply of bank credit, but since there will be substitution from the curb market, foreign bonds, and currency toward demand deposits, it does not necessarily increase the total supply of loanable funds. If curb market loans constitute a large share of total loans and are relatively good substitutes with demand deposits, then the total supply of credit in the economy can contract. According to Buffie, financial liberalization can be successful only if the demand deposits are much better substitutes with currency and foreign goods than with curb market loans.[66]

Buffie also examines the claims of structuralists about *devaluation*, which says that devaluation creates stagflationary pressures by reducing real loan supply and rising interest costs, and finds that, if there is a substantial real wage rigidity and variations in the stock of high-powered money, structuralists can be correct in the short-run. Otherwise, devaluation will actually be a more effective policy instrument than in conventional models.[67]

D.   FINANCIAL   DEVELOPMENT   AND   ENDOGENOUS GROWTH MODELS: LATE 1980s, AND 1990s

These were the years of ***endogenous growth models***, which accept technological progress as endogenous and the return of capital as constant or increasing, and which give the necessary importance to the human capital, the positive externalities in the production process, and the government policies. The relationship between financial development and economic growth was investigated under the assumptions of endogenous growth models during this period.

The seminal studies, which examine the relationship between financial development and economic growth, and are belong to the period of late 1980s and

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[66] **Ibid.**, p.312.
[67] **Ibid.**, pp.313, 320, 321.

1990s, may be classified into seven groups according to their research areas such as early endogenous growth models, the relationship between financial development and economic growth, bi-directional causal relationship between financial development and economic growth, stock market development and economic growth, financial repression policies and economic growth, legal systems and economic growth, and international financial integration and economic growth. Among these models, only the ones examining the relationship between legal systems and economic growth use an *exogenous component*.

1. EARLY ENDOGENOUS GROWTH MODELS

Initial studies on the endogenous growth issue examine the two channels on which the functions performed by the financial system affect steady-state growth: *capital accumulation* (through influencing the rate of capital formation), and *technological innovation* (through influencing the rate of technological innovation).

a. PAUL M. ROMER

There are two important papers written by Romer on the endogenous growth issue. In *"Increasing Returns and Long-Run Growth" (1986)*, Romer develops a competitive equilibrium model with **endogenous technological change**, in which long-run growth is driven primarily by the **accumulation of knowledge** by profit-maximizing agents. Knowledge is assumed to be an input in the production process that has increasing marginal productivity.[68]

The growth model of Romer has three important characteristics[69]:

- New knowledge is assumed to be the product of a research technology that exhibits *diminishing returns*, which is a required characteristic to ensure that consumption and utility do not grow too fast.

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[68] Paul M. Romer, "Increasing Returns and Long-Run Growth", **Journal of Political Economy**, Vol.94, No.5, 1986, pp.1002-1003.
[69] **Ibid.**, pp.1003-1004.

- Investment in knowledge suggests a natural *externality*, because the creation of new knowledge by one firm has a positive external effect on the production possibilities of other firms.

- The production function of consumption goods exhibits *increasing returns*. In other words, knowledge as an input in the production process may have an increasing marginal product.

Romer says that, increasing marginal productivity implies a positive external effect on each of the firms in the economy created by an increase in the amount of knowledge. Thus, in a situation of high levels of consumption and low levels of research, an *intervention* that shifts the allocation of current goods away from consumption and toward research can improve the welfare and contribute to the economic growth process.[70]

In his second paper, *"Endogenous Technological Change" (1990)*, Romer defines **technology** as a nonrival and excludable input, and emphasizes the role of **technological change**, which is an endogenous factor arising from intentional investment decisions made by profit-maximizing agents in the economic growth process. [71]

Romer introduces three premises for his analysis[72]:

- Technological change, which is defined as the improvement in the instructions for mixing together raw materials, lies at the heart of economic growth.

- Technological change generally arises because of the actions of self-interested agents.

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[70] **Ibid.**, p.1026.
[71] Paul M. Romer, "Endogenous Technological Change", **Journal of Political Economy**, Vol.98, No.5, Part.2, October 1990, p.71.
[72] **Ibid.**, p.72.

- The defining characteristic of technology is that, once the cost of creating a new set of instructions has been incurred, these instructions can be used over and over again with no additional cost.

Then, he explains the features of rivalry and excludability in detail. A good is *nonrival* if the use of it by one firm or individual in no way limits the use of the same good by another. On the other hand, a good is *excludable* if the owner can prevent others from using it. According to these explanations, conventional economic goods are both rivalrous and excludable since they are privately provided and traded in competitive markets, and conversely, public goods are both nonrival and nonexcludable. The interesting case for the growth theory is that the set of goods, including technology, are nonrival but excludable.[73]

In order to give an endogenous explanation of the source of technological change, Romer uses a one-sector model including four basic inputs: capital, labor, human capital, which is a measure of the cumulative effect of activities such as formal education and on-the-job training, and an index of the level of the technology. There are also three sectors: the research sector that produces new designs by using human capital and existing stock of knowledge, an intermediate-goods sector, and a final goods sector.[74]

As a result of his examinations, Romer states two important implications. The first one is that because research projects exchange current costs for a stream of benefits in the future, the rate of technological change is sensitive to the rate of interest, which is an endogenous factor. The second implication of the model is that an economy with a larger total stock of human capital will experience faster growth, and so free international trade can contribute to this faster growth by increasing the stock of human capital.[75]

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[73] **Ibid.**, p.74.
[74] **Ibid.**, pp.78-79.
[75] **Ibid.**, p.99.

b. SERGIO REBELO

Rebelo published *"Long-Run Policy Analysis and Long-Run Growth"* in 1991 in order to study on the reasons of wide cross-country differences in economic growth rates.

His paper studies a class of endogenous growth models that have constant returns to scale technologies and steady-state growth paths, and finds that all these models have the implication that the growth rate should be low in countries with high income tax rates and poor property rights enforcement.[76]

Rebelo states that an increase in the *income tax rate* decreases both the rate of return to the investment activities of the private sector, and after-tax wages of workers. Thus, the results are a permanent decline in the rate of capital accumulation and in the rate of growth, and a tendency for workers of slow-growing (high-tax) economies to migrate to high-growth (low-tax) countries regardless of their level of education. By this conclusion, we can see how an economic policy can change the rate of growth in an endogenous model. However, in the neoclassical model, steady-state growth rate is determined by the rate of exogenous technical progress, and so economic policy can affect the rate of growth only during the transition path toward this specified steady-state level.[77]

To explain his endogenous growth model with ***constant returns to scale***, Rebelo uses an economy which includes a *core* of capital goods whose production does not involve nonrepruducible factors. Therefore, endogenous growth will be compatible with production technologies that exhibit constant returns to scale.[78]

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[76] Sergio Rebelo, "Long-Run Policy Analysis and Long-Run Growth", **The Journal of Political Economy**, Vol.99, No.3, June 1991, p.519.
[77] **Ibid.**, pp.501, 512.
[78] **Ibid.**, pp.515, 519.

2. FINANCIAL INTERMEDIATION AND ECONOMIC GROWTH

By using endogenous growth models, economists examine whether financial development affects economic growth through financial intermediation functions like mobilizing and efficiently allocating resources, providing information and control, and diversifiying risk.

a. VALERIE R. BENCIVENGA AND BRUCE D. SMITH

In "*Financial Intermediation and Endogenous Growth*" *(1991)*, Bencivenga and Smith develop an endogenous growth model in which financial intermediaries affect the real rates of growth through resource allocations.

As a first step, they summarized several points that are emphasized in the development literature as important in analyzing growth and intermediation as follows[79]:

- The state of financial market development is typically viewed as exogenously determined by legislation and government regulation. This situation is called as financial repression.

- Banks, in the absence of which too much investment is self-financed, constitute essentially the whole of organized financial markets in underdeveloped countries.

- There are long delays between investment expenditures and profit earnings from capital, and investors may face unpredictable liquidity needs during these delays. Therefore, the most important role of banks in the growth process is often viewed as providing liquidity, and improving the composition of savings by this way.

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[79] Valerie R. Bencivenga and Bruce D. Smith, "Financial Intermediation and Endogenous Growth", **Review of Economic Studies**, Vol.58, No.2, April 1991, pp.196-197.

- Economies with well developed financial systems often grow faster than the ones lacking such systems.

After explaining these points, Bencivenga and Smith list the basic activities of a *bank*, which will play the role of financial intermediary in their model, as accepting deposits from and lend to large numbers of agents, holding liquid reserves against predictable demand withdrawals, issuing liabilities that are more liquid than their primary assets, and reducing the need for self-financing of investments. Then, they develop an endogenous growth model including two types of self-financed investment opportunities: a liquid, but directly not productive investment, and an illiquid, but productive investment that yields productive capital.[80]

In the absence of the financial intermediation, each individual must self-insure against unpredictable liquidity needs. Therefore, the liquid, but unproductive investment opportunities will be preferred by most of the investors. Bencivenga and Smith introduce banks as financial intermediaries into this environment. Banks reduce the fraction of savings held in the form of unproductive liquid assets by eliminating the effect of unpredictable liquidity needs on the decision-making process of investment, and allocate these savings among productive investments. This increasing amount of productive investments affects economic growth through the channel of capital accumulation.[81]

Consequently, this study indicates that financial intermediation promotes economic growth by channeling savings towards productive investment opportunities, thereby increasing capital accumulation.

b. ROBERT G. KING AND ROSS LEVINE

King and Levine present a cross-country evidence of the view that financial development promotes economic growth in their paper titled *"Finance and Growth: Schumpeter Might Be Right" (1993)* by using data on 80 countries over the 1960-1989 period.

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[80] **Ibid.**, pp.195-196.
[81] **Ibid.**

This paper specifically investigates whether there is a significant and robust correlation between higher levels of financial development, and faster current and future rates of economic growth, physical capital accumulation, and economic efficiency improvements. Through the investigation, King and Levine uses four *indicators for financial development*, financial depth (the ratio of liquid liabilities of the financial system to GDP), the ratio of domestic assets of deposit banks to domestic assets of deposit banks plus domestic assets of the Central Bank, the ratio of claims on the nonfinancial private sector to total domestic credit, and the ratio of claims on the nonfinancial private sector to GDP, and two *indicators for economic growth*, per capita GDP growth (the rate of capital accumulation), and improvements in the efficiency of capital allocation.[82]

As a result of their investigation, a significant and robust correlation between higher levels of financial development, and faster current and future rates of economic growth, physical capital accumulation, and economic efficiency improvements is found. Moreover, they find that the predetermined component of financial development is a good estimator of long-run growth over the next 10 to 30 years.[83]

3. BI-DIRECTIONAL CAUSAL RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH

The two seminal papers of this section suggest a bi-directional causal relationship between financial development and economic growth: Financial development enhances economic growth, which in turn encourages the formation of new financial markets.

a. JEREMY GREENWOOD AND BOYAN JOVANOVIC

Greenwood and Jovanovic published the paper titled "*Financial Development, Growth, and the Distribution of Income*", which includes a model

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[82] Robert G. King and Ross Levine, "Finance and Growth: Schumpeter Might Be Right", **Quarterly Journal of Economics**, Vol.108, No.3, August 1993, pp.718, 720-721, 734.
[83] **Ibid.**, p.719.

linking financial development, economic growth, and the distribution of income together, in 1990.

Their study is based on two important themes in the economic growth and financial development literature. The first one is *the linkage between economic growth and the distribution of income*. Kuznets's (1955) hypothesis says that income inequality rises during the early stages of economic development, weakens as development occurs, and finally declines when the high development level is reached. This hypothesis is supported by the following studies.[84]

The second theme is *the linkage between financial development and economic growth*. Growth provides the means to develop financial structure by encouraging investment, and financial development in turn promotes growth by increasing the efficiency of investments through creation of higher and safer returns by means of a more efficient *resource allocation* and *risk diversification*.[85]

The model of Bencivenga and Jovanovic brings these two linkages together, and indicates that in the early stages of development, financial markets of an economy are virtually nonexistent and grow slowly. As the economy approaches to the intermediate stage of the economic growth cycle, financial structure begins to form, growth and saving rates increase, and the distribution of income across the rich and poor widens. Financial intermediation function develops during the development process of the economy, and in the final stage of development, the distribution of income across agents stabilizes, the saving rates falls, and the growth rate of the economy reaches to a higher level.[86]

b. JEREMY GREENWOOD AND BRUCE D. SMITH

The study of Greenwood and Smith titled *"Financial Markets in Development, and the Development of Financial Markets"* *(1997)* argues that financial markets promote economic growth, and economic growth in turn

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[84] Jeremy Greenwood and Boyan Jovanovic, "Financial Development, Growth, and the Distribution of Income", **Journal of Political Economy**, Vol.98, No.5, Part.1, October 1990, p.1077.

[85] **Ibid.**, pp.1078, 1099.

[86] **Ibid.**, pp.1078-1079.

encourages the formation of new financial markets. Five themes are also analyzed in order to pursue this thesis[87]:

- Financial markets enhance economic growth by allocating resources to the best investment opportunities in order to make their *social return greatest*. To do this, financial markets use the price signals and provide information as tools and share the risk.

- The formation of financial markets permits *increased specialization*, entrepreneurial development, and the adoption of new technologies through making funds available to potential entrepreneurs for larger-scale and productive activities. In the model of Greenwood and Smith, the adoption of new production technologies requires the use of specialized intermediate goods, which in turn requires the support of trading institutions. However, this process has a high cost, and may be financed when the economy is wealthy enough to support them. Thus, economic growth supports the formation of financial markets, and the formation of financial markets increases the equilibrium growth rate of an economy.

- Since financial markets provide *liquidity*, and permit the *efficient pooling of risk*, the incentives of agents' to accumulate various types of physical and human capital, as well as other kinds of assets, are supported. This, in turn, alters the social composition of savings, increases the amount of investment in productive opportunities, and so enhances *capital accumulation*.

- Financial markets meet the resource expenditures of trades. But poor countries, which do not have efficient financial markets, can not devote substantial resources to the trading process as well as wealthier countries. Thus, economic growth should lead to an increase in market activity, and this increase may in turn further stimulate economic growth. As a result, it can be concluded that market formation is an *endogenous process*.

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[87] Jeremy Greenwood and Bruce D. Smith, "Financial Markets in Development, and the Development of Financial Markets", **Journal of Economic Dynamics and Control**, Vol.21, No.1, January 1997, pp.145-147, 149.

- The competition in the financial markets can stimulate the efficiency of market services.

The model of Greenwood and Smith used in analyzing the above issues is a variant of the Bencivenga-Smith model, and implies that financial intermediaries alter the social composition of savings by channeling funds to more productive, illiquid capital investment through liquidity provision. But, this model emphasized the importance of the equity markets in the process of economic growth as well as banking sector, and allows for the endogenous formation of either banking or equity markets.[88]

4. STOCK MARKET DEVELOPMENT AND ECONOMIC GROWTH

The existence of a stock market eliminates liqudity and productivity risks of investments, and stimulates economic growth through this financial intermediation function. The seminal papers on this issue are the following ones.

a. ROSS LEVINE

In "*Stock Markets, Growth and Tax Policy*" *(1991)*, Levine examines a model in which liquidity and productivity risks provide the creation of stock markets, and how these markets affect the steady-state growth rates.

In the endogenous growth model of Levine, economic growth only occurs if society invests and if savings are allocated to firms in order to increase the productive capital investment which in turn augments human capital and technology in the production process. Then, Levine defines an *externality* in firm production which implies that the economy grows faster when investors do not prematurely

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[88] **Ibid.**, p.148.

liquidate firm capital in order to satisfy their short-run liquidity needs. At this point, the need for financial arrangements arises.[89]

Levine introduces a ***stock market*** to his model which affects economic growth through raising the fraction of resources invested in firms. A stock market can promote firm investment by increasing the liquidity of firm investment, reducing productivity risks, and improving firm efficiency[90]. This statement includes two important concepts, *productivity risks* and *liquidity risks*, which may be explained as follows[91]:

- ***Productivity risks***, which discourages risk averse investors from investing in firms, arise because productivity shocks can occur in the final period of production. Stock markets can eliminate these risks by allowing individuals to invest in a *large number of firms* and by diversifying away productivity shocks. Thus, investment in human capital-augmenting firms increases and economic growth enhances.

- ***Liquidity risks*** arise when some individuals face short-run liquidity needs, and so prematurely liquidate their firm investments in order to satisfy these needs. The risk of receiving such a liquidity shock discourages investors from investing in firms. Liquidity shocks also reduce firm productivity because premature removal of firm capital through liquidation retards the rate of technological innovation. Stock markets can eliminate these risks by allowing those investors receiving liquidity shocks to sell their *shares* to other investors without disrupting the production processes occuring within firms.

Then, Levine studies on the effect of ***tax policy*** on economic growth. She states that, public policies that lower investment, and so human capital accumulation, in firms lower per capita growth rates. Thus, taxes associated with stock market transactions reduce the amount of investment in firms and increase the premature

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[89] Ross Levine, "Stock Markets, Growth, and Tax Policy", **Journal of Finance**, Vol.46, No.4, 1991, p.1459.
[90] **Ibid.**, p.1453.
[91] **Ibid.**, pp.1446-1447, 1458-1459.

liquidation of firm investments, both of which slow the rate of economic growth through lowering human capital accumulation.[92]

b. ASLI DEMİRGÜÇ-KUNT AND ROSS LEVINE

The studies of Demirgüç-Kunt and Levine titled *"Stock Market Development and Financial Intermediary Growth: A Research Agenda" (1993)* and *"Stock Market Development and Financial Intermediaries: Stylized Facts" (1995)* focus on the relationship between stock market development and the functioning of financial intermediaries, and the effect of stock market development on the economic growth process.

Demirgüç-Kunt and Levine say that, economic literature demonstrates that financial services importantly influence economic development, which in turn influences financial system, and financial crises can retard economic development. Thus, in 1980s, the *World Bank*, as one of the international institutions, began devoting an increasing amount of effort toward improving the financial systems of countries, and coping with financial crises in order to stimulate economic development.[93]

More recent policies of the World Bank have stressed the development of capital markets in general and stock market in particular. Demirgüç-Kunt and Levine are among the economists who made initial studies on the development of stock markets, their role in financial sector development, and the process of economic growth. They, examine six types of *stock market development indicators* by using data on 41 countries from 1986 to 1993. These indicators are stock market size, stock market liquidity, stock market volatility, stock market concentration, institiutional development, and international integration.[94]

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[92] **Ibid.**, pp.1448, 1456.
[93] Aslı Demirgüç-Kunt and Ross Levine, "Stock Market Development and Financial Intermediary Growth: A Research Agenda", **World Bank Policy Research Working Paper**, No.1159, World Bank, July 1993, p.2.
[94] Aslı Demirgüç-Kunt and Ross Levine, "Stock Market Development and Financial Intermediaries: Stylized Facts", **World Bank Policy Research Working Paper**, No.1462, World Bank, May 1995, p.2.

Two different measures of *stock market size* are included in the study of Demirgüç-Kunt and Levine (1995). One of them is the *market capitalization ratio*, which equals to the value of stocks divided by GDP, and the other one is the *number of listed companies* on the stock market exchange. Similarily, there are two kinds of measures for *stock market liquidity*. The first one is the *total value traded / GDP ratio*, which measures the organized trading of equities as a share of national output, and positively reflects liquidity on an economy-wide basis. The second one is the *turnover ratio*, which equals to the total value traded divided by market capitalization. Both of these indicators are positively correlated with stock market development.[95]

Stock market volatility and concentration are two other indicators. **Stock market volatility** is a twelve-month rolling standard deviation estimate based on market returns. Although it is not necessarily a sign of stock market development level, it can be said that less volatility reflects greater stock market development. Similarily, **stock market concentration**, which is the share of market capitalization held by ten largest stocks, is negatively correlated with the stock market development.[96]

On the other hand, **institutional development** is measured by the *institutional indicator*, which is an average of some other regulatory and institutionals indicators: regular publication of price/earnings yield, accounting standards, quality of investor protection laws, existence of a securities and exchange commission, and restrictions on dividend and capital repatriation by foreign investors, and domestic investments by foreigners.[97]

The last indicator of stock market development examined by Demirgüç-Kunt and Levine (1995) is the **international integration**. They refer to countries that are

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[95] **Ibid.**, pp.5-7.
[96] **Ibid.**, p.8.
[97] **Ibid.**, pp.11, 35.

more integrated into world capital markets and price risk more efficiently as "more developed countries".[98]

Their next step is defining the *financial intermediary development indicators* in order to examine the linkage between stock market development and financial intermediary development. The first one of these indicators is *financial system development* measured by three ratios, *M3/GDP* (measuring liquid liabilities), *M3-M1/GDP* (measuring quasi-liquid liabilities, QLLY), and *PRIV/GDP* (measuring domestic credit to private firms as a share of national output). The second indicator is *banking system development* measured by two indicators: *BY/GDP* (measuring the total claims of deposit banks as a share of national output) and *SPREAD* (the difference between bank lending and borrowing rates). An the last two indicators are *nonbank development* measured by the ratio of *PNB/GDP* which equals the assets of private nonbank institutions divided by GDP, and *insurance and pension companies development* measured by *INPE/GDP* which equals the assets of private insurance and pension funds divided by GDP.[99]

As a result of studying on these indicators, Demirgüç-Kunt and Levine find that[100]:

- There are enormous cross-country differences in the level of stock market development for each indicator.

- There are intuitively appealing correlations among indicators, such as the negative correlation between concentration and liquidity, and the positive correlation between the size of the market and liquidity.

- The three most developed stock markets are Japan, the United States, and Great Britain, while the most underdeveloped ones are Colombia, Venezuela, Nigeria, and Zimbabwe. Tha data also suggests that, while countries with higher per capita incomes generally have more developed stock markets than

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[98] **Ibid.**, p.9.
[99] **Ibid.**, pp.21-23.
[100] **Ibid.**, pp.27-29.

the ones with lower per capita incomes, many emerging countries are systematically more developed than the already developed ones.

- Over the 1986-1993 period, some countries including Indonesia, Turkey, Portugal, and Venezuela have experienced very rapid development in terms of size, liquidity, and international integration.

- The level of stock market development is highly correlated with the development of other financial intermediaries. The stock market may facilitate risk diversification whereas the investor finances the project through banks and other financial intermediaries. Thus, a more developed stock market would also increase borrowing in the form of bonds, commercial paper, bank debt, and other financial instruments, and affect the development of other financial intermediaries.[101]

5. FINANCIAL REPRESSION POLICIES, FINANCIAL DEVELOPMENT, AND ECONOMIC GROWTH

Bencivenga and Smith (1992), and Roubini and Sala-I-Martin (1995) discuss why governments imply financial repression policies, how these policies affect economic growth, and what the optimal degree of financial repression is.

a. VALERIE R. BENCIVENGA AND BRUCE D. SMITH

In *"Deficits, Inflation, and The Banking System in Developing Countries: The Optimal Degree of Financial Repression" (1992),* Bencivenga and Smith studies on the effects of financial repression on economic development, and the optimal degree of this issue.

Bencivenga and Smith states that well-functioning financial markets, specifically banking system, play an important role in determining both short-term real growth rates and long-run levels of output in economies of early stage

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[101] Demirgüç-Kunt and Levine, "Stock Market Development and Financial Intermediary Growth: A Research Agenda", p.20.

industrialization. But, since the government is forced to monetize a sustained deficit, legislation in general, and government policies associated with *financial repression* in particular are widespread in such developing countries. These policies are carried out through *reserve requirements* and/or *deposit interest rate ceilings*, and impede the development of the banking system. In order to weigh output losses due to the implementation of such policies, the government should use the *inflation tax* more efficiently. It is also suggested that financial repression policies promote self-financed investment and investment financed through *informal money markets* which are presumably inefficient.[102]

This paper analyzes the *optimal degree of financial repression* by using a model in which banks provide liquidity, which plays a central role in determining equilibrium levels of output, and bind freely reserve requirements and interest rate ceilings in order to monetize a sustained deficit through specifying a maximum fraction of a bank's portfolio that can be held in the form of capital, and imposing restrictions that make currency more attractive relative to bank deposits.[103]

In the decision making process, negative and positive effects of a financial repression policy should be considered. In this model, repressive policies reduce the level of output, but increase at the same time the *inflation tax base*. The government must consider the trade-off between output losses and more efficient use of the inflation tax. The optimal degree of financial repression also depends on the size of the government deficit. Larger deficits require higher reserve requirements. Thus, the model suggests that some financial repression typically will be desired in the process of deficit financing. [104]

Bencivenga and Smith also develop a new structuralist critique of financial liberalization. They state that when higher reserve requirement policies are applied, an *informal financial sector* that is not subject to reserve requirements will co-exist

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[102] Valerie R. Bencivenga and Bruce D. Smith, "Deficits, Inflation, and The Banking System in Developing Countries: The Optimal Degree of Financial Repression", **Oxford Economic Paper**, Vol.44, No.4, October 1992, p.767.
[103] **Ibid.**, pp.769, 776, 785.
[104] **Ibid.**, pp.768, 787.

with the intermediated financial sector of the model. Savings in this informal sector are translated into greater capital formation than savings in the formal sector. In this situation, applying financial liberalization policies can simply shift funds from informal to the formal financial sector, and not expand output. Nevertheless, the liberalization of financial markets is always welfare improving, because financial intermediation provides better *risk diversification*, and increase the *inflation tax base*.[105]

b. NOURIEL ROUBINI AND XAVIER SALA-I-MARTIN

The paper of Roubini ans Sala-I-Martin titled "*A Growth Model of Inflation, Tax Evasion, and Financial Repression*" *(1995)* explores some reasons behind the existence of financial repression policies and their economic consequences.

As a first step, Roubini and Sala-I-Martin remind that financial development has a robust effect on economic growth, and financial repression policies can lead low levels of economic growth through affecting the productivity of investment, reducing the amount of savings, and increasing the intermediation costs. Moreover, they explain the reasons behind the existence of financial repression policies. Before 1970s, applying a financial repression policy is favored because it is accepted as a way to impose anti-usury laws, to control money supply effectively, to allocate resources more efficiently through the intervention of government from a social perspective, and to reduce the costs of government debts. The most valid one of these reasons is the last one: financial repression policies create revenues for the public sector.[106]

The most important one of the various kinds of revenues created by financial repression is the *seigniorage revenue* which is the value of real resources acquired by the government through its ability to print money[107]. As most money demand models, the model of Roubini and Sala-I-Martin implies that financial development

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[105] **Ibid.**, pp.769, 787-788.
[106] Nouriel Roubini and Xavier Sala-I-Martin, "A Growth Model of Inflation, Tax Evasion, and Financial Repression, **Journal of Monetary Economics**, Vol.35, No.2, April 1995, pp.276, 295, 297.
[107] David Begg, Stanley Fischer, and Rudiger Dornbusch, **Economics**, 4th edition, London, McGraw-Hill Book Company, 1994, p.491.

encourages people to invest in the form of productive financial instruments, and reduces the need of people to carry money. On the contrary, when financial repression policies, such as high reserve requirements, interest ceilings, taxation of financial intermediaries, and strict capital controls, reduce the level of financial development, there will be an increase in the demand of the banking system (through high reserve requirements) and of households (through restrictions of financial innovations and the imposition of interest ceilings) for money. Therefore, in order to get higher seigniorage revenues, the government enhances the money supply, and then increases the tax on this monetary base through a higher inflation rate in order to get *inflation tax revenues*. These revenues represent a large fraction of government revenues in many countries.[108]

The relationship between tax systems and financial repression should also be mentioned. Roubini and Sala-I-Martin state that the degree of tax evasion differs across countries as a result of different preferences and different levels of tax system efficiency, and these inefficient tax systems, and high tax evasion as a result, are associated with financial repression policies through seigniorage revenues. Governments of countries with high tax evasion may optimally apply financial repression policies in order to increase per capita real money demand, and then enhance the monetary base to increase the revenues through seigniorage revenues.[109]

Consequently, this study indicates that financial repression policies are associated with high monetary growth, high inflation rates, high seigniorage, and low economic growth.

6. LEGAL SYSTEMS, FINANCIAL DEVELOPMENT, AND ECONOMIC GROWTH

The existence and high quality of national legal and regulatory conditions can stimulate financial intermediary development through the *exogenous component* defined by these conditions, and thereby induce a rapid acceleration in long-run

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[108] Roubini and Sala-I-Martin, "A Growth Model of Inflation, Tax Evasion, and Financial Repression, pp.277, 297.
[109] **Ibid.**, pp.283, 297-298.

economic growth. It should be mentioned that only the following two models include an exogenous factor in this section.

a. RAFAEL LA PORTA, FLORENCIO LOPEZ-DE-SILANES, ANDREI SHLEIFER, AND ROBERT W. VISHNY

In *"Law and Finance" (1998)*, La Porta, Lopez-De-Silanes, Shleifer, and Vishny examines three issues: legal rules covering protection of corporate shareholders and creditors, the origin of these rules, and the quality of their enforcement in 49 countries. Their findings are classified into three statements[110]:

- Although laws differ markedly around the world, they tend to give investors a rather limited bundle of rights.

- Law enforcements differ considerably around the world.

- Countries with poor laws and their enforcements develop substitute mechanisms for poor investor protection.

Then, this paper discusses how poor protections and their enforcements affect economic growth of a country by introducing the positive correlation between financial development and economic growth. By implying that countries with poor investor protections indeed have significantly smaller debt and equity markets, this paper suggests a negative effect of a poor legal system on financial development, and thereby on economic growth. In addition, it is mentioned that this negative effect can be overcomed.[111]

b. ROSS LEVINE

In 1999, Levine published *"Law, Finance, and Economic Growth"* which examines how the legal environment affects financial development, and then how this in turn influences long-run economic growth.

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[110] Rafael La Porta, et. al., "Law and Finance", **Journal of Political Economy**, Vol.106, No.6, December 1998, pp.1151-1152s.
[111] **Ibid.**, p.1152.

Her starting point is that if financial development accelerates economic growth and therefore induces higher standards of living, financial economists should identify legal and regulatory variables that policymakers can use to improve the functioning of financial systems. From this point, Levine specifies three **measures for national legal and regulatory conditions**: the legal and regulatory treatment of *creditors*, the enforcement of *contracts*, and the accuracy and comprehensiveness of the *information* disclosed to outsiders. Then, she suggests that since these measures are closely linked to counties' legal origins, and since most countries obtained their legal systems, which change little over time, through occuption and colonization, these legal and regulatory measures should be treated as *exogenous*.[112]

After introducing the measures for national legal and regulatory conditions, Levine uses the size of financial intermediaries, the relative importance of commercial banks versus the Central Bank in allocating credit, and the degree to which intermediaries allocate credit to the private sector versus the government or public enterprises as **indicators of financial intermediation**, and finds that financial intermediaries are better developed in countries with legal and regulatory systems that give a high priority to creditors who receive the full present value of their claims on corporations, enforce contracts efficiently, and promote accurate and comprehensive financial reporting by corporations. Thus, it can be said that these national legal and regulatory conditions can define an **exogenous component** for financial intermediary development.[113]

The second important finding of the model is that the exogenous component of financial intermediary development, the component defined by national legal and regulatory conditions, positively influences economic growth. Thus, legal and regulatory changes can induce a rapid acceleration in long-run economic growth by means of stimulating financial intermediary development.[114]

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[112] Ross Levine, "Law, Finance, and Economic Growth", **Journal of Financial Intermediation**, Vol.8, No.1-2, January 1999, p.9.
[113] **Ibid.**, pp.8, 10.
[114] **Ibid.**, p.33.

7. INTERNATIONAL FINANCIAL INTEGRATION AND ECONOMIC GROWTH

In theory, international financial integration affects financial intermediation development through international risk diversification, which creates a world portfolio shift from safe but low-yield capital to risky but high-yield capital, and therefore promotes economic growth. However, the results of some empirical studies indicate that there is no robust evidence to support the view that international financial integration stimulates economic growth.

a. MAURICE OBSTFELD

In *"Risk-Taking, Global Diversification, and Growth" (1994)*, Obstfeld develops a model in which ***international risk diversification*** causes a world portfolio shift from *safe low-yield capital* to *riskier high-yield capital*, and raises the growth rate by this way. International risk diversification can also yield substantial welfare gains through its positive effect on expected consumption growth.[115]

Obstfeld starts with a closed economy and identical individuals who face the choice between consuming or investing a single good. Consumption behaviour depends on attitudes toward substitution and risk, whereas portfolio choice, with given uncertainty, depends only on risk aversion. The portfolio choice of individuals in this model depends on two alternatives, risky capital and a composite safe asset offering a specific real return, and in order to get higher expected growth, lower risk aversion should be created by holding some riskless capital.[116]

Then, Obstfeld introduces *international asset trade* into his model, by which each country can hold a globally diversified portfolio of risky investments, and all countries are simultaneously encouraged to shift their portfolio from *safe low-yield* capital to *risky high-yield* capital. Obstfeld states that the process of expanding global

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[115] Maurice Obstfeld, "Risk-Taking, Global Diversification, and Growth", **American Economic Review**, Vol.84, No.5, December 1994, pp.1326-1327.
[116] **Ibid.**, pp.1312-1314, 1316.

diversification opportunities always raises expected growth as well as national welfare.[117]

b. HALI J. EDISON, ROSS LEVINE, LUCA RICCI, AND TORSTEN SLOK

One of the empirical studies on the relationship between international financial integration and economic growth is the common paper of Edison, Levine, Ricci, and Slok titled *"International Financial Integration and Economic Growth" (2002)*.

They summarize conflicting views on this relationship. Some theories advocate that international financial integration facilitates risk diversification, and thereby enhances production specialization, capital allocation, and economic growth. International financial integration may also ease the flow of capital to capital-scarce countries with positive output effects, and enhance the functioning of domestic financial systems through the introduction of competition, and importation of financial services. On the contrary, international financial integration may induce a capital outflow from capital-scarce countries to capital-abundant ones because of the weak institutions and policies, such as weak financial and legal systems, in the capital-scarce country. Thus, institutional and political structures should be considered in analyzing the effect of international financial integration on economic growth.[118]

This study includes a model, which studies the relationship between international financial integration and economic growth through examining up to 57 countries over the period 1980-2000, and assesses whether this relationship depends on the development levels of economy, finance, legal system, on government corruption, and on macroeconomic policies.[119]

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[117] **Ibid.**, p.1311.
[118] Hali J. Edison, et. al., "International Financial Integration and Economic Growth", **Journal of International Money and Finance**, Vol.21, No.6, November 2002, pp.749-750.
[119] **Ibid.**, pp.749, 772.

Edison, Levine, Ricci, and Slok examine an extensive array of *international financial integration indicators* including IMF-restriction measure, which classifies countries on an annual basis by the presence or absence of restrictions, various types of capital flows, such as foreign direct investment, portfolio, and total capital flows, the accumulated stock of foreign assets and liabilities, the accumulated stock of financial assets and liabilities, such as foreign direct investment, portfolio, and total financial claims. Moreover, they examine whether international financial integration affects economic growth positively under the *conditions of economic success*: having well-developed banks and stock markets, well-functioning legal systems, low levels of government corruption, sufficiently high levels of real per capita GDP, high levels of educational attainment, prudent fiscal balances, and low inflation rates. Given these qualifications, and by using the specified indicators, they find that although international financial integration is positively associated with economic success, there is no robust evidence to support the view that international financial integration stimulates economic growth.[120]

E. RECENT EMPIRICAL STUDIES ON THE DIRECTION OF CAUSALITY BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH

Recent empirical studies have extensively used econometric modelling in investigating the causal relationship between financial development and economic growth, and find important results.

One of these studies is the one written by *Beck, Levine, and Loayza (2000)*, and titled "*Finance and the Sources of Growth*". These economists investigate the long-run effect of the exogenous component of financial intermediary development on economic growth, total factor productivity growth, physical capital accumulation, and private savings rate by using a cross-country sample with data averaged over the period 1960-1995 and the legal origins of countries as instruments. The results of this study imply that there is an economically large and statistically significant relation

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[120] **Ibid.**, pp.751-752, 772-773.

between financial intermediary development and both real per capita GDP growth, the indicator of economic growth, and total factor productivity growth. On the other hand, although there tends to be a positive link, the results of this study imply an ambiguous relation between financial intermediary development and both physical capital accumulation and private savings rates. After reminding the sensitivity of these results to differences in estimation techniques and measures of financial intermediary development, *Beck, Levine, and Loayza (2000)* suggest the direction of causality as being from financial development towards economic growth.[121]

In "*Financial Development and Economic Growth: Another Look at the Evidence from Developing Countries*", *Al-Yousif (2002)* also examines the direction of causality between financial development and economic growth by using both time-series and panel data from 30 developing countries for the period 1970-1999, and finds the following results: There is a strongly supported ***mutual causality*** between financial development and economic growth. Furthermore, there is also some weak support for the other views presented in the literature: supply-leading, demand-following, and no relationship. The results supporting no relationship can be attributed to the business cycles of 1980s and/or to the weakness of their financial structure. One more important finding of this study is that the relationship between financial development and economic growth cannot be generalized across countries because economic policies are country specific and their success depends, among other things, on the efficiency of the institutions implementing them.[122]

Calderón and Liu (2003) published "*The Direction of Causality Between Financial Development and Economic Growth*" which is one of the empirical studies examining the direction of causality between financial development and economic growth, and which uses the data of 109 developing and industrial countries, including Turkey, during the period of 1960-1994. Calderón and Liu (2003)

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[121] Thorsten Beck, Ross Levine, and Norman Loayza, "Finance and the Sources of Growth", **Journal of Financial Economics**, Vol.58, No.1-2, 2000, pp.261, 293, 295-296.
[122] Yousif Khalifa Al-Yousif, "Financial Development and Economic Growth: Another Look at the Evidence from Developing Countries", **Review of Financial Economics**, Vol.11, No.2, 2002, pp.131, 148.

introduce financial deepening as the indicator of financial development. Their findings can be given as follows[123]:

- Financial development generally enhances economic growth. There are two ways for this process. The first one is more rapid capital acumulation, and the second one, which is also stronger, is technological changes.

- Empirical results support the bi-directional causality between financial development and economic growth. However, it should be noticed that economic growth influences financial development generally in developed economies.

- Financial deepening is more effective in the process of causal relationships in developing countries than in the industrial ones.

- If the sampling interval is longer, then the effect of financial development on economic growth will be larger. This finding implies that the impact of financial deepening on economic growth takes time.

Consequently, this section indicates that developing countries should further undertake financial reforms in order to gain sustainable economic growth, and should stimulate the real sector development besides financial sector.[124] After arriving this conclusion, the development of the financial system and banking sector in Turkey, as a developing country, will be discussed in the next chapter, and the effect of this development on the economic growth process will be analyzed with the help of some important ratios.

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[123] César Calderón and Lin Liu, "The Direction of Causality between Financial Development and Economic Growth", **Journal of Development Economics**, Vol.72, No.1, October 2003, pp.321, 331-332.
[124] **Ibid.**, p.332.

III. THE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN TURKEY

Both theoretical and empirical studies examined in the literature survey indicate that an efficient financial system stimulates productive investments through its intermediary functions: mobilizing, and then allocating savings to the most productive investments, providing investment control, facilitating risk management, and facilitating the exchange of goods and services. These functions affect economic growth through the channels of *capital accumulation* and *technological innovation*. Therefore, in order to gain sustainable economic growth by means of production, the financial system of a country should be developed, and such a financial development can be measured by the stimulation level of national and international savings by the financial system.

The importance of financial functions for economic growth is clear, but the role of the government control on these functions has been discussing by economists for many years. ***Financial repression*** policies which imply the strict government control on the financial system through negative real interest rates, high reserve requirements, restrictions on the international finance, and etc. was first analysed theoretically by *McKinnon (1973)* and *Shaw (1973)* as stated in the second chapter.

1970s were the years of financial repression. But, the policy of meeting public budget deficit through interest rate controls and high reserve requirements introduced distortions in the adjustment to the sudden adverse changes in the terms of trade which hit several developing countries towards the end of the 1970s.[1] For this reason. *McKinnon (1973)* and *Shaw (1973)* criticized financial repression policies seriously and proposed the ***financial liberalization*** policies which provide a free market economy, and efficient resource allocation instead. According to them, positive effects of financial liberalization on the mobilization and allocation of savings, and investments can stimulate real economic growth.

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[1] Jean-Claude Berthélemy and Aristoméne Varoudakis, **Financial Development Policy and Growth**, Paris, Development Centre of The Organisation for Economic Co-operation and Development, 1996, p.15.

Implementing financial liberalization policies needs *financial deregulation*, which is briefly the increasing variety of financial institutions and financial services created by deregulation policies diminishing the control of and intervention into the financial system. Then, successful financial deregulation is accompanied by *financial deepening* which is simply the resource mobilizing capacity of the financial sector. Higher financial deepening means a higher amount of savings is concentrated in the financial system in order to be allocated to the productive investment opportunities by financial intermediaries, which in turn enhances economic growth. Beside financial deregulation and financial deepening, *economic stability* is also a growth enhancing factor. In the absence of economic stability, investors can not predict their long-term earnings, and therefore, the funds in the financial system can not be transffered into the real sector and can not be used in the production processes.[2]

Turkey is one of the developing countries experienced financial repression policies in 1970s. Therefore, before studying the relationship between financial development and economic growth in Turkey, historical evolution of the Turkish financial system will be examined with the help of policy changes and their effects on the financial system.

A. HISTORICAL EVOLUTION OF THE FINANCIAL SYSTEM IN TURKEY

In order to focus on the concepts of financial deregulation, financial deepening, and economic stability which affect the level of economic growth significantly, historical evolution of the financial system in Turkey will be examined in two main eras. These are the planned period between 1960 and 1980, and the liberalization and open economy period after 1980.

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[2] Suna Oksay, "Finansal Piyasalarda Yeni Yasal Düzenlemeler (Reregulation) İhtiyacı ve Türk Finans Sistemi", (Çevirimiçi) http://www.econturk.org/Türkiyeekonomisi, June 01, 2005, p.2.

1. PLANNED PERIOD: 1960-1980

Until 1940s, the importance of national banking was emphasized, and state aids were seen as obligatory in the establishment of powerful banks in Turkey. But, during the period of *1945-1959*, the economic policy of state control was replaced by the policy of accelerating economic development through supporting private sector as an industrialization strategy. The reasons behind this policy change were the emergence of a wealthy private investment area in agriculture and trade sectors due to the high inflation and the speculation period of the 2nd World War years, and the liberal economic policy of the government which came into power in *1950*. But, this liberal policy could not be successful, and bad harvests and limited agricultural areas created problems in investment financing. Beside foreign aids, the Central Bank reserves were also used to solve these problems. As a result, inflation and foreign debts increased, insufficient foreign currency reserves made it difficult to import inputs and led the devaluation of Turkish Lira (TL). By the *1958 Stabilization Program*, one US dollar was increased from 2.8 TL to 9 TL. Altough European countries support the program by providing extra credit, the unsuccessful attempt of limiting public expenses and continuous use of the Central Bank reserves maintained the upward trend of inflation in *1959*.[3]

After the *1963 Development Plan*, an *import-substitution industrialization policy* aiming to produce imported industrial goods within the country was applied in order to accumulate economic growth. By following this policy, investments planned in the 1963 Development Plan were realized with the joint efforts of S*tate Economic Enterprises (SEEs)* and *private sector*. These investment plans were emphasizing selected sectors, such as industry, housing, energy, transport, mining, and export, to be developed, and the economy of this period was a *closed economy* using *financial repression policies* and *protecting selected sectors*.[4]

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[3] Banks Association of Turkey, **BAT's 40th Year Book**, 1999, (Çevirimiçi)
http://www.tbb.org.tr/english/40.htm, May 02, 2005, pp.9-10, 12-14.
[4] **Ibid.**, p.14.

The general structure of the Turkish financial system in the period *1960-1980* was determined under the strict control of the government. *Low levels of lending interest rate ceilings,* in order to provide low-cost credit to meet the funding needs of the target sectors, and *low levels of deposit interest rate ceilings,* in order to channel savings towards the investment projects in these sectors, were implemented. Banks were also encouraged to give credits to the entrepreneurs investing in these target sectors.[5]

Beside the target sector protecting interest rate restrictions, *high reserve requirements and liquidity ratios* were implemented as a result of the government control on the economy. The *TL was overvalued* in order to maintain low costs for the target sectors using imported inputs, and foreign exchange holdings and operations of banks and depositors were exposed to significant restrictions (*foreign exchange restricitons*).[6]

The development of the *financial system* was also prevented by the government control. Financial sector operations and gains were taxed with relatively high tax rates, and the cost of financial intermediation functions increased. Moreover, few banking licences were given to domestic commercial and develoment banks, and not any for foreign ones, and a large number of commercial banks were turned into a holding bank as a private sector investment accelerating process.[7]

Because the development of the banking sector was prevented, and the bond and stock markets did not exist, medium and long-term financial needs of investments were only met by transfers from state budget, public sector borrowing, resources derived from private savings, and especially by the Central Bank loans. Therefore, in order to meet the demand for its loans, the Central Bank had to increase the *money supply*, and eventually *high inflation* occured.[8]

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[5] Banks Association of Turkey, **BAT's 40th Year Book**, p.14.
[6] Oksay, "Finansal Piyasalarda Yeni Yasal Düzenlemeler (Reregulation) İhtiyacı ve Türk Finans Sistemi", p.3.
[7] Banks Association of Turkey, **BAT's 40th Year Book**, p.14.
[8] **Ibid.**, p.16.

Consequently, despite increasing investment and accelerating economic growth in the early stages of the planned period, import-substitution policy could not create savings enough to meet this high investment level. Besides, strict government control restricted financial intermediation functions channeling savings to productive investment opportunities. Thus, the extensive use of public sector funds, the Central Bank loans, and foreign exchange reserves enhanced, and therefore inflation rates and the amount of foreign debts also increased. The real deposit and lending interest rates became negative due to the rapid increase in inflation. All of these issues jointed together with the *first oil price shock* in the *1973-1974* period which deteriorated the terms of trade of Turkey as a raw material importing country, and caused a ***balance of payments crises in 1977***. The *second oil price shock* in *1979* deepened the crises[9], and therefore, provided the need for a policy change.

2. LIBERALIZATION AND OPEN ECONOMY PERIOD: AFTER 1980

The previous section implies that the Turkish economy was experienced a ***financial repression*** period during *1960-1980*. As stated by *McKinnon (1973)* and *Shaw (1973)*, the implementation of financial repression policies resulted in a poor performance of the financial system, and so inefficient allocation of resources in Turkey, which in turn decreased the level of investments and the rate of economic growth.

In order to remove the economic recession and to meet the foreign exchange currency requirement of the industry, a new development strategy aiming to promote ***foreign trade and exports*** was adopted in the ***January 24, 1980 Stabilization and Structural Adjustment Program*** (by the widely known name January 24 Decisions). Such a development strategy should be accompanied by ***financial liberalization*** policies which provide a free market economy, and efficient resource allocation.

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[9] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, June 2002, http://www.tcmb.gov.tr/yeni/evds/yayin/kitaplar/global.pdf, June 13, 2005, p.5.

a. INTEREST RATE LIBERALIZATION

The first impact of the government control abolishment was on the interest rates. The ceilings on deposit and lending interest rates were abolished in order to increase the accumulation of savings, channel these savings into the financial system, and encourage the competition among the financial institutions to deepen the financial sector. The initial reaction of the major commercial banks to interest rate liberalization was to make a consensus on setting interest rates collectively through *gentleman's agreement* in order to prevent further increases in interest rates.[10] However, the smaller banks did not accept the guidance of this agreement, and issued the *negotiable certificates of deposits* in order to attract deposits. The free determination of interest rates on certificates of deposits, caused the introduction of bankers, who trade these certificates for high interest rates without paying much attention to how they could utilize these high cost deposits, into the financial system. In order to meet high demand, bankers began to pay the interest payment of a certificate of deposit by the sale of new certificate of depoists. Since the sale of new certificates depend on high interest rates, the economy faced with a *Banker Crises in 1982* as a result of continuously increasing interest rates on certificates of deposits, and the Central Bank intervened in order to regulate deposit interest rates. The process of interest rate liberalization faced with government intervention several times until the year 1988 when the short term interest rates became market determined and the Treasury debt markets became well established.[11]

b. FOREIGN EXCHANGE RATE LIBERALIZATION

A more realistic and flexible foreign exchange rate policy was initiated with the January 24 Decisions in order to stabilize the valuation of the TL and support the export-oriented growth policy. The TL devaluated against other currencies and the Central Bank started setting daily exchange rates. But, since the foreign exchange rate regime could be broadly liberalized by setting necessary preconditions for freely

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[10] **Ibid.**, p.12.
[11] Cevdet A. Denizer, Mustafa N. Gültekin, and Nihat Bülent Gültekin, "Distorted Incentives and Financial Development in Turkey", January 2000, (Çevirimiçi) http://www.worldbank.org/research/projects/finstructure/pdf_files/mustafa.pdf, June 09, 2005, pp.6-7.

determined exchange rates, new regulations were introduced to the system with **Decree   No:30 in 1984** [12]:

- Residents were given the right to hold foreign currencies or open foreign currency deposit accounts.

- Banks were allowed to accept foreign currency deposits from residents, to keep foreign currency abroad and to engage in foreign exchange transactions.

- Non-residents were given the right to purchase real estate and real rights in Turkey, to invest, to engage in commercial activities, to purchase shares, and to engage in partnerships.

- Banks gained freedom to fix their own exchange rates within a narrow band around the exchange rate declared by the Central Bank. The freely setting of exchange rates by banks corresponds to the year *1985*.

In order to complete the liberalization process of the foreign exchange sector, **Foreign Exchange and Banknotes Markets** were established in *1988*, and foreign exchange transactions and capital movements were kept free in *1989*.[13]

c. CAPITAL ACCOUNT LIBERALIZATION

The liberalization of money and capital markets also experienced after *1980*. The **Capital Markets Law** came into force in *1981* in order to create necessary legal and institutional structures for the use of capital market instruments, and the **Capital Markets Board** was founded in *1982* as a regulatory and supervisory authority on the capital market activities. Beside these legal and institutional developments, the government began to issue *treasury bills and bonds* to finance the budget deficit in *1985*, and set up a secondary bills and bonds market at **Istanbul Stock Exchange** which opened in *1986* and engaged in *open market operations* at the Central Bank in *1987* in order to adjust the liquidity level of the banking sector and thereby control

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[12] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, pp.11-12.
[13] Banks Association of Turkey, **BAT's 40th Year Book**, p.17.

the money supply. Since the interest rates of these government securities were determined under market conditions and had zero credit risk, a significant amount of investment realized in this area.[14]

Before *1980*, capital flows were controlled through foreign exchange regulations as a part of the government control policy. After *1980*, like in the other sectors, liberalization started in the capital account. Capital account liberalization began with the *Decree No:30* liberalizing the exchange rate regime in *1984*, and was fully accomplished with the ***Decree No:32 in 1989***[15]:

- Residents were allowed to buy and keep foreign exchange without any limitation from the banks and special finance institutions, to purchase and sell government securities denominated in currencies and to transfer abroad their purchase value.

- Non-residents were allowed to buy and sell all the securities listed at the Istanbul Stock Exchange and the securities issued upon the permission of the Capital Markets Board, to open TL accounts and to make transactions.

d. BANKING SECTOR LIBERALIZATION

Banking sector, as playing a prominent role in the Turkish Financial System, also experienced liberalization regulations. After the several repeated failures in the banking system, the ***Savings Deposit Insurance Fund (SDIF)*** was established at the Central Bank in *1983* in order to reestablish public confidence and to protect depositors. The unsuccessful experience of interest rate liberalization also reflected the poor regulatory state of financial markets in Turkey, and thereby, the ***first Banks Law*** came into force in *1985* in order to introduce new regulations, such as international banking standards and supervision, a uniform chart of account plan, and external auditing to the banking system.[16] The ***Interbank Money Market*** was also established in *1986* in order to facilitate the asset-liability management of the

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[14] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, pp.14-15.
[15] **Ibid.**, pp.16-17.
[16] Banks Association of Turkey, **BAT's 40th Year Book**, p.17.

banking sector. Then, in *1999*, the ***second Banks Law*** aiming to provide necessary conditions according to the international standards and the European Union implementations in terms of supervision mechanism came into force. In order to enhance the efficiency, the competitiveness, and the soundness of the banking sector, to maintain public confidence, and to minimize the potential risks due to banking sector failures, the ***Banking Supervision and Regulation Agency (BSRA)*** was also established with the Banks Law of 1999. Beside such a supervisory and regulatory agency, banks were also required to establish internal control and risk management systems.[17]

The structure of the banking system has also been affected from the financial liberalization policies. The total bank assets as percentage of GDP increased from % 29 in *1980* to % 70 in *2003*. The number of commercial banks, as another measure of the size of the banking sector, increased from 36 in *1980* to 48 in *2004*.[18] Although their number declined from 8 to 3 by 2004, state-owned banks continued to have an important position in the financial system.[19] These banks support a variety of subsidized lending programs, provide credits to targeted sectors, and are used in the budgetary process. Therefore, the existence and high importance of state-owned banks has been a serious shortcoming of the financial liberalization process aiming to reduce the control of the government on the financial system.

Beside these regulative and structural reforms, there has been an improvement in the ***human capital*** and ***information technology*** in the financial sector. The number of well-trained personnel have increased, banks invested in new technologies, and thereby engage in the use of new financial instruments such as *swaps* and *forwards*. The entry of foreign banks has also supported this process.[20]

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[17] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, pp.17-19.
[18] Banks Association of Turkey, **Financial Sector and Banking System in Turkey**, March 2005, (Çevirimiçi) http://www.tbb.org.tr/english/default.htm, May 02, 2005, pp.5, 33.
[19] The shares of the banking groups as percent of the total banking sector in Turkey can be found in Appendix 1.
[20] Denizer, Gültekin, and Gültekin, "Distorted Incentives and Financial Development in Turkey", p.14.

During the liberalization and open economy period after *1980*, integration with the world economy, deepening in the financial sector, and the outward orientation of the domestic financial markets enhanced. However, economic performance in terms of internal balance implied disappointing results. Fluctuations in the interest and foreign exchange rates created an unstable environment which had negative effects on the economic balances.

Especially after the announcement of the convertibility of TL, and accomplishment of complete capital account liberalization in *1989*, the experienced overvalued TL and high interest rate policy caused *short-term speculative capital flows (hot money)*. During this period, in order to create demand for the TL financial assets in an economy with increasing foreign currency assets ratio as opposed to TL assets, short-term real interest rates were increased which in turn enhanced the interest payment burden in the government budget. Therefore, high levels of *public sector borrowing requirements* were emerged and met with the short-term speculative capital flows. The Turkish economy became dependent on these flows, and financial system became a system financing public sector borrowing needs instead of mobilizing and allocating savings to productive investments. Thus, financial liberalization resulted with high real interest rate and overvalued TL policy, and as opposed to the hypothesis of *McKinnon (1973)* and *Shaw (1973)*, savings turned into speculative investments instead of real productive ones. High inflation level, as a result, accompanied to other negative effects.

In order to control its own budget and to restore confidence in financial markets against the continuing deterioration in the public finance, the Central Bank announced a *monetary program* in *1990* [21]. In spite of this attempt, risks arising from the exchange rate and interest rates increased to a greater scale in the balance sheet, and the short-term speculative capital flows created an unstable economy. Eventually, these risks turned into losses in the financial sector by the *financial crises* emerged in *1994, 1998/1999,* and *2000/2001*.

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[21] Banks Association of Turkey, **BAT's 40th Year Book**, p.17.

e. FINANCIAL CRISES IN THE LIBERALIZATION PERIOD

Three important financial crises occured during the liberalization period:

- **1994 Financial Crisis:**

The unstable economy created by the steadily increasing public sector borrowing requirements, the risks arising from the exchange rate and interest rates, and short-term speculative capital flows experienced a financial crisis in *1994*.

In the last quarter of 1993, the government decided to reduce the internal debt stock, and therefore decreased the interest rates on government securities. The Treasury cancelled a series of auctions,[22] and hence, the demand for government securities decreased and the monetization of debt was realized. Then, the excess liquidity in the market immidiately transformed into a speculative attack on foreign currency, and the Central Bank attempted to defend the exchange rate by a policy of selling foreign currency, which in turn reduced the foreign exchange reserves of the Central Bank to their historical low levels in the first quarter of 1994. After that, the rumors that the government would introduce a legislation to convert foreign exchange deposits into TL deposits at a specified exchange rate were introduced, and led to a bank run in the form of foreign exchange deposit withdrawals as the initial reaction. Then, this reaction turned into a general bank run creating an overall *liquidity crisis* in the banking sector.[23]

As a result of this crisis, the credit rating of Turkey decreased, and a massive devaluation of the TL, significant increases in the interest rates and in the inflation rate were soon followed. Hence, the government signed a *stand-by agreement* with the IMF in *1994* in order to overcome the crisis and regain credibility. The *full deposit insurance* by the government, which created moral hazard problems

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[22] H. Evren Damar, "The Turkish Banking Sector in the 1980s, 1990s and Beyond", September 2004, http://www.plu.edu/~damaree/turkey.pdf, June 09, 2005, p.5.
[23] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.32.

afterwards[24], was introduced, and a bill was issued in order to eliminate public sector borrowing requirements gradually after the stand-by agreement.[25]

In *1995*, another *stand-by agreement,* which came to an end with the announcement of the early elections of parliament in *September 1995,* was signed with the IMF. Although the announcement of early elections created a political instability in Turkey, the revision of the *Central Bank Law* in *October 1995,* and the accumulation of foreign exchange reserves and the flexibility of interest rates on Treasury bills which enabled the Central Bank to prevent speculative attacks on foreign currency after 1995 were particularly important in avoiding a liquidity crisis similar to the one experienced in 1994 until the *Russian Crisis* in *1998.*.[26]

- **1998 Financial Crisis:**

At the beginning of *1997*, Turkey experienced a rising tension in the political area, and discussions about tax reform and the budget policy of the new government aiming to have a balanced budget through lowering inflation. The new government also prepared a calender with the support of the IMF in order to solve the main macroeconomic problems and create possibilities of foreign borrowing. Moreover, indirect taxes were increased, the resource demand was directed to financial markets, lowering the uncertainty in the markets was aimed, and as a result, public sector borrowing requirements and short-term interest rates decreased, and the demand for TL denominated financial instruments increased by leading a fall in the foreign currency reserves.[27]

The *Asian Crisis* created a loss of confidence in the emerging countries, which in turn resulted in an increasing demand for foreign exchange reserves. For this reason, the foreign exchange reserves of the Central Bank of the Republic of Turkey fell significantly in the last quarter of 1997, but since the Central Bank was

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[24] Damar, "The Turkish Banking Sector in the 1980s, 1990s and Beyond", p.6.
[25] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.32.
[26] **Ibid.**, p.33.
[27] Banks Association of Turkey, **BAT's 40th Year Book**, p.20.

aiming to achieve financial market stability and not using the exchange rate policy, the Asian Crisis was not as significant as the Russian Crisis in Turkish Economy.[28]

The *Russian Crisis* in *1998* affected the Turkish economy seriously. Large amounts of capital outflows from Turkey occured, and thus foreign currency reserves decreased dramatically, the liquidity shortage occured, external debt and interest rates rised sharply. Besides, the *trade volume* in Turkey declined due to the pessimist behaviour of the industry on production, and the decreasing amount of exports as a result of the crisis in Russia which is one of the main export markets of Turkey for textiles, clothing and leather goods. Thus, the downturn in the trade volume was especially observed in the manufacturing industry. [29]

The Russian Crisis, the political uncertainties, and the earthquakes in August and November 1999, prevented the agreement on the comprehensive disinflation program, *Staff Monitored Program*, signed with the IMF in the second half of *1998*. Thus, the Turkish government announced a new comprehensive program with the guidance of the IMF at the end of *1999*.[30]

- **2000 and 2001 Financial Crises**

The 1999 program was aiming to decrease inflation rates to single digits until the end of 2002, to decrease the real interest rates, and thus, to provide a stable macroeconomic environment in order to improve the long-term growth potential of Turkey. It was an *exchange rate based stabilization program* using the *crawling peg* regime, where the TL was pegged to an announced basket.[31] After this crawling peg period of one and a half year, the foreign exchange rates were allowed to fluctuate within a gradually widening band.[32]

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[28] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.27.
[29] **Ibid.**, pp.27-28.
[30] **Ibid.**, p.50.
[31] Damar, "The Turkish Banking Sector in the 1980s, 1990s and Beyond", p.13.
[32] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.50.

The removal of the foreign exchange rate uncertainty by means of the crawling peg regime was accompanied with a sharp decline in interest rates and an important progress in curbing inflation. However, the stable inflation rate led to the real appreciation of the foreign exchange rates, which in turn affected the current account balance negatively. As a result of the increasing amounts of capital outflows, the short-term interest rates increased, the IMF postponed the release of the 3rd tranch of loan in *October 2000*, which in turn affected the expectations of international investors negatively and enhanced the capital outflows further. Thus, the foreign exchange reserves of the Central Bank declined, the liquidity problems occured, interest rates increased, and a new financial crisis was experienced in ***November 2000***.[33]

The November 2000 crisis increased the overall vulnerability of the banking sector. The shortened maturities of both domestic and foreign funds, high levels of interest rates, high inflation rates, and the appreciation of the TL against the foreign exchange basket generated doubt about the peg sustainability.[34] Finally, an argument occured between the President and the Prime Minister on ***February 19, 2001*** which caused a massive outflow of capital. Hence, another liquidity crisis was experienced, the intereset rates rised sharply and overnight interest rates reached 5000 % by the late February.[35] Inevitably, the crawling peg regime was abandoned on *February 22*, and the TL was devaluated on *February 23*.

In *May 2001* a new agreement was made with the IMF in order to reduce the uncertainty in the financial markets, to stabilize the money and foreign exchange markets, and to establish the macroeconomic stability.[36]

All these financial crises imply the macroeconomic instability, and the financial fragility in Turkey. Moreover, the significant role of the IMF in the post-crisis periods has led Turkey to be a debt paying country.

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[33] **Ibid.**, pp.50-51.
[34] **Ibid.**, p.52.
[35] Damar, "The Turkish Banking Sector in the 1980s, 1990s and Beyond", p.14.
[36] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.53.

B. THE EFFECT OF FINANCIAL LIBERALIZATION POLICIES ON REAL ECONOMY

After 1980, the Turkish financial system has experienced deregulation policies in terms of liberalization that diminishing the control and intervention of the government on the financial system, opening the system for international financial integration, and increasing the variety of financial institutions and financial services which in turn raises the availability of efficient resource allocation.

The literature survey on the relationship between financial development and economic growth indicates that an efficient financial intermediation function, which mobilize and then allocate resources to productive investment opportunities, diversify risk, provide investment control, and facilitate the exchange of goods and services, enhances economic growth through capital accumulation and technological innovation. In other words, financial liberalization policies should be growth promoting policies.

Thus, in order to evaluate the growth enhancing effects of financal liberalization policies in Turkey, the efficiency of financial intermediation functions during the liberalization period should be analysed.

1. THE EFFECT OF FINANCIAL LIBERALIZATION POLICIES ON RESOURCE MOBILIZATION AND SAVINGS

The resource mobilization capacity of the financial sector can be measured by *financial deepening* for which economists use **stocks of financial assets** and **broad money supply**, **M2Y**, as indicators.[37] The changes in the stocks of financial assets and money supply measurements as percents of GNP in Turkey for the period 1980-2003 are given in **Table 2**.

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[37] Oksay, "Finansal Piyasalarda Yeni Yasal Düzenlemeler (Reregulation) İhtiyacı ve Türk Finans Sistemi", p.5.

Table 2: Indicators of Financial Deepening

I. Stocks of Financial Assets (as percent of GNP, %)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	19993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003**
I. CURRENCY IN CIRCULATION	4,1	3,5	3,9	3,9	3,3	2,9	2,5	2,9	2,7	3,0	2,9	2,7	2,7	2,6	2,6	2,4	2,1	2,0	1,9	2,4	2,5	2,5	2,5	2,7
II. TOTAL DEPOSITS*	14,1	18,8	22,2	22,1	22,5	26,1	25,9	27,7	26,0	24,5	21,2	24,3	24,5	21,5	28,5	28,5	36,2	37,1	36,8	51,2	44,6	59,4	48,5	38,4
Saving Deposits	6,5	10,4	12,8	12,6	13,7	13,7	12,7	11,0	10,7	10,8	8,8	9,6	8,6	6,3	8,5	8,8	11,6	10,9	12,0	17,0	14,2	15,5	12,7	11,7
Other	7,6	8,4	9,5	9,5	8,8	8,9	9,8	10,9	9,1	8,3	7,8	7,2	7,1	6,2	6,0	5,4	7,1	7,5	8,4	10,7	10,2	9,7	8,6	8,4
FX Deposits	0,0	0,0	0,0	0,0	0,0	3,3	4,8	7,1	7,4	6,1	5,5	8,0	9,4	9,5	14,7	14,5	17,5	18,7	16,4	23,5	20,2	34,2	27,3	18,4
III. TOTAL SECURITIES	4,9	4,5	5,3	5,1	5,9	6,5	8,2	9,9	9,5	10,2	10,4	12,5	17,7	19,2	18,0	19,1	22,0	23,9	25,6	34,6	34,8	75,6	60,0	55,0
Public Securities	3,6	3,1	3,2	3,0	4,0	4,7	6,1	7,1	6,5	6,7	6,4	7,0	12,2	13,6	14,6	15,3	19,0	20,7	22,0	29,8	29,3	69,7	55,2	50,4
Treasury Bills	0,9	1,1	1,4	0,4	1,5	1,4	1,6	2,6	2,0	1,5	1,4	2,9	3,8	3,2	7,8	8,0	10,2	8,1	10,9	4,1	1,6	11,3	13,5	9,2
Government Bonds	2,7	2,0	1,7	2,6	2,4	2,9	3,0	3,2	3,8	4,7	4,7	3,9	7,8	9,5	6,0	6,5	8,3	12,1	10,8	25,1	27,4	57,9	41,3	40,8
Other	0,0	0,0	0,0	0,0	0,0	0,4	1,5	1,4	0,8	0,5	0,3	0,3	0,6	0,8	1,6	0,8	0,5	0,5	0,3	0,5	0,3	0,4	0,4	9,2
Private Securities	1,3	1,4	2,1	2,1	1,9	1,7	2,2	2,8	3,0	3,5	4,0	5,4	5,5	5,6	3,4	3,8	2,9	3,2	3,5	4,8	5,5	6,0	4,8	4,6
Stocks	0,8	0,8	1,7	1,7	1,6	1,5	1,9	2,2	2,4	2,9	3,6	5,1	4,5	3,6	2,8	2,8	2,8	3,1	3,5	4,8	5,5	6,0	4,8	4,6
Asset Backet Sec.	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,8	1,8	0,5	0,9	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other	0,5	0,5	0,5	0,4	0,3	0,3	0,3	0,6	0,5	0,5	0,4	0,3	0,2	0,2	0,0	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
TOTAL	23,1	26,8	31,4	30,5	31,7	35,5	36,6	40,5	38,2	37,7	34,5	39,5	44,9	43,3	49,1	50,0	60,3	63,0	64,3	88,2	81,9	137,5	111,0	96,1

II. Financial Deepening Ratios

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003[2]
M1/GNP	13,9	12,7	13,3	15,0	11,0	9,7	10,3	11,5	8,8	8,5	7,9	7,4	7,1	6,5	5,9	4,9	6,0	5,4	4,8	5,5	6,0	6,4	5,8	6,4
M2/GNP	17,4	21,3	25,2	25,0	24,8	24,2	23,8	23,5	21,1	20,5	18,0	18,5	17,3	14,1	16,2	16,0	19,5	19,3	21,3	28,1	25,4	26,8	22,6	23,2
M2Y/GNP	17,4	21,3	25,2	25,0	26,0	26,3	28,5	30,7	28,4	26,6	23,5	26,5	26,6	23,7	30,7	30,7	35,9	36,3	37,8	51,3	45,3	60,4	48,9	42,3

*Excluding interbank deposits
**Provisional figures by the end of September
Source: SPO, Economic and Social Indicators; Treasury, Treasury Statistic Annual.

As shown in **Table 2**, by the implementation of financial liberalization policies after 1980, a significant increase was realized in the financial asset holdings of economic agents. As a result of increasing deposit interest rates, the ratio of *total deposits* over GNP increased from 14,1 in 1980 to 48,5, more than triple, in 2002. Besides the amount, the composition of deposits has also been significantly changed after the capital account liberalization steps in 1984 and in 1989. After the given permission to open foreign exchange deposit accounts to residents and non-residents in 1984, the increasing trend in the amount of foreign exchange deposits began. As a result of the full capital account liberalization in 1989, the amount of *foreign exchange deposits* reached half of the amount of total deposits in 1990s.

The effect of capital account liberalization on the financial assets can also be observed by analyzing the changes in the *M2Y/GNP ratio*. After 1984, M2Y, which includes foreign exchange deposits besides currency in circulation and saving deposits, displayed an upward trend and increased from 26,0 in 1984 to 48,9 in 2002. In spite of these developments, Turkey has low *total deposits/GNP* ratios in comparison to other countries.[38]

The increasing amount of *securities* are the other indicator of the effect of financial liberalization policies on savings. **Table 2** indicates that the ratio of total securities over GNP increased steadily from 4,9 in 1980 to 60,0 in 2002. The main reason of this development was the significant increase in the issue of public sector securities which had a share in GNP increased from 3,6 in 1980 to 50,4 in 2002. The share of issued government bonds in GNP displayed an important progress after the capital account liberalization 1989, and constituted the biggest part of the increase in public securities.

The increase in the financial assets holdings of economic agents indicates that there was a significant rise in *financial deepening* in the 1980s created by financial liberalization policies. On the other hand, these policies could not realize the efficient use of the resources concentrated in the financial system in order to provide

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[38] Denizer, Gültekin, and Gültekin, "Distorted Incentives and Financial Development in Turkey", p.15.

productive investments as suggested by *McKinnon (1973)* and *Shaw (1973)*. Since the financial deepening was going on simultaneously with the increasing public sector borrowing requirements, the mobilized resources were mainly used to finance the public budget deficit, and could not be transformed into fixed investments.[39]

2. THE EFFECT OF FINANCIAL LIBERALIZATION POLICIES ON RESOURCE ALLOCATION AND INVESTMENTS

The main growth enhancing function of financial intermediaries is providing efficient allocation of mobilized resources among investment opportunities in such a way to get highest returns. The experience of Turkey indicates that financial liberalization policies have a resource accumulating effect by means of increasing financial asset holdings. But, the same experience also suggests that financial liberalization policies without *macroeconomic stabilization* and a *proper regulatory structure* does not necessarily lead to efficient allocation of these resources.[40]

The main characteristics of the financial system in Turkey after 1980 were being a banking sector based system creating the dominance of the bank deposits among financial assets without a proper regulatory structure, having a volatile macroeconomic environment experiencing high public sector borrowing requirements, high interest and inflation rates, overvalued TL, and artifical bubbles in the stock markets as a result of short-term capital flows (hot money).

High deposit interest rates as a result of financial liberalization policies, increased the amount of resources by means of total deposits. But, these resources flow towards *speculative investments* instead of productive real sector investments, and bank portfolios shifted towards *short-term lending*. The main reason for this outcome was the increasing issue of safer and attractive *public sector securities* in a

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[39] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.37.
[40] Denizer, Gültekin, and Gültekin, "Distorted Incentives and Financial Development in Turkey", p.25.

volatile macroeconomic environment. The dominance of public securities in capital markets also prevented the capital market development in real sense.[41]

Moreover, since the increasing issue of public sector securities after 1980s depended on the increasing *public sector borrowing requirements*, indicated in **Figure 8**, these newly issued securities were used in financing public sector budget deficits instead of real sector investments.

Figure 8: Public Sector Borrowing Requirements (as a percent of GNP, %)*
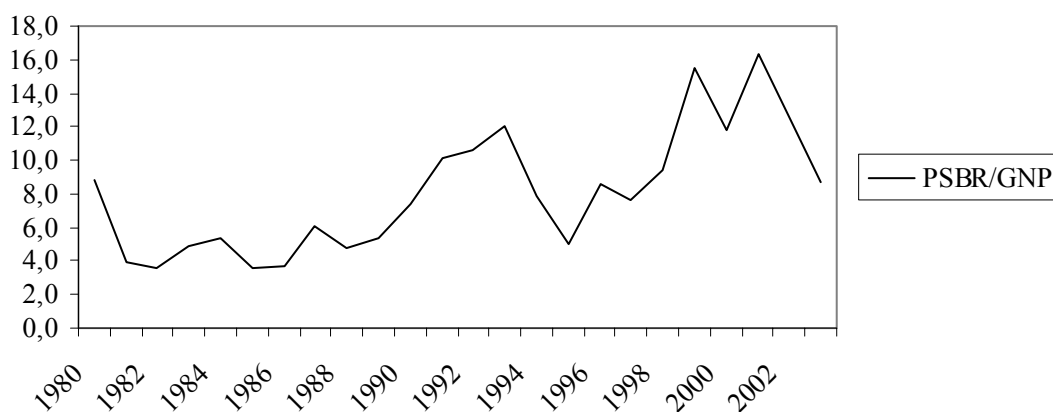
*Original Frequency, Constant, Original Observation
Source: CBRT, General Statistics

In order to analyse the effect of financial liberalization policies on resource allocation, the changes in the shares of *gross fixed investments* in GNP should be examined in more detail by using **Figure 9**.

As shown in **Figure 9**, the shares of public, private, and total fixed investments in GNP moved together until 1989. All of these three shares decreased between 1979-1983 post-crisis period, and became stagnant until 1987. Then, they increased again together as a result of liberalization policies, and had their peak values in the period 1988-1989

After the accomplishment of full capital account liberalization in 1989, the difference between the shares of public and private sector investments in GNP

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[41] **Ibid.**, p.26.

started to increase. While the volume of private sector investments maintained its upward trend, the volume of public sector ones started to decline. This decline continued more seriously after the 1994 crisis as a result of the saving precautions of the new stabilization program.[42]

Figure 9: Gross Fixed Investments (as a percent of GNP, %)

The share of public investments in GNP started to recover in 1996. In spite of this upward trend of public investments, the share of gross fixed investments began to decline after 1999 as a result of the sharp decline in the volume of private investments during this period. High levels of public sector borrowing requirements between 1999 and 2002, as shown in **Figure 8**, and so the increasing amount of public sector borrowings from the financial system by means of public securities became one of the reasons behind the decreasing amount of private investments.

Consequently, the total investments increased slightly during the 1990-1999 period compared with the 1980s. However, because of the poor macroeconomic environment and regulatory framework, mobilized resources could not be allocated

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[42] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.40.

efficiently among investments, speculative investments increased instead, and thereby the volatility of the total investment also increased in the same period.[43]

Figure 10: Deposit Banks Credits (as a percent of GNP, %)

Source: SPO, Economic and Social Indicators.

The share of ***deposit bank credits*** in GNP should also be analysed in studying the effect of financial liberalization policies on resource allocation and real investments. As shown in **Figure 10**, except the period between 1996-1997, no important increase was observed in the ratio of deposit banks credits over GNP, and this credit volume decreased to the level of 12 % in 2002. Moreover, the distribution of bank credits suggests that more than 80 % of credits were used for working capital or pre-export needs, and the maturity structure of credits also confirms that most credits financed trade and short-term activities. Since the maturities of bank credits were less than one year, the amount of funds necessary for fixed investments decreased to the volume of 5 % of total lending.[44]

The changes in the composition of the financial services of the banking sector can also be compared by examining **Table 3**. As shown, the shares of *liquid assets*, including cash, securities, reserve requirements, and other liquid assets[45], and

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[43] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.37.

[44] Denizer, Gültekin, and Gültekin, "Distorted Incentives and Financial Development in Turkey", p.16.

[45] Banks Association of Turkey, **BAT's 40th Year Book**, p.60.

deposits increased between 1970 and 1999, while the share of *credits* declined in total assets, indicating limited financial liberalization effects.

Table 3: Composition of the Banking Sector Balance Sheet (percent shares, %)

	1970-1979	1980-1989	1990-1999
ASSETS			
Liquid Assets	25,9	33,9	36,3
Credits	55,4	46,0	41,3
Fixed Assets	7,7	6,2	7,8
Other Assets	11,1	13,9	14,6
Total Assets	100,0	100,0	100,0
LIABILITIES			
Deposits	48,9	57,4	61,3
Non-Deposit Liabilities	9,0	14,4	18,3
Other Liabilities	35,0	20,0	11,5
Shareholders' Equity	6,3	6,4	6,1
Net Income (Profit)	0,8	1,9	2,7
Total Liabilities	100,0	100,0	100,0
Total Assets/GNP	42,0	44,9	58,7

Source: Banks Association of Turkey, **BAT's 40th Year Book**, 1999, (Çevirimiçi) http://www.tbb.org.tr/english/40.htm, May 02, 2005, p.144.

Short-term capital flows (hot money) also have important effects on the domestic economy and investment decisions, since they have increased financial instability and have resulted in a series of crisis in the developing countries, like the ones in Turkey.[46]

Turkey has completed its capital account liberalization in 1989, and started to experience capital movements effectively displaying very high sensitivity to the net *differential between the domestic and foreign interest rate*, and the *rate of currency*

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[46] Erol Balkan and Erinç Yeldan, "Peripheral Development under Financial Liberalization: the Turkish Experince", (Çevirimiçi) http://www.hamilton.edu/academics/Econ/workpap/01_01.pdf, June 09, 2005, p.1.

depreciation. Hence, the CBRT has lost its control over these two instruments, and external financial markets have taken on this role. The experienced overvalued TL and high interest rate policy caused high levels of short-term capital flows (hot money).[47]

The available data indicates that the gross speculative inflows increased rapidly from $ 50 billions in 1991 to $ 120 billions in 1995. Then, they entered a deceleration path, and again reached to $ 108 billions, which is almost 2/3 of the GNP, in 1999. According to these statistics, the pressure of the international speculative agents on the domestic financial system can be very rigit. The effects of these agents on the Turkish economy through short-term capital flows should be studied in more detail[48]:

- With the increasing control of international speculative agents, the Turkish economy has experienced high real interest rates and an overvalued TL, and the CBRT has taken on the passive role of foreign reserve administration. It has also been forced to hold significant foreign exchange reserves. Thus, the *independence of the CBRT* has been restricted, and its *foreign exchange reserves* have rapidly been build up instead of productive investments.

- Short-term capital flows have led to *artifical bubbles in the stock markets* with no real foundation, and thereby have inflated the stock pices which, in theory, have to depend on the productive performance of the corporations.

  The effects of the artifical bubbles on the Turkish economy have been clearly visible after *1993*, as shown in **Table 4**, where the ***Istanbul Stock Exchange (ISE) Index*** have accelerated in along with the intensification of hot money flows. The total *trading volume* which was used as a measure of stock market liquidity, and the *market capitalization* which was used as a mesure of stock market size by *Demirgüç-Kunt and Levine (1995)*, also implies parallel movements with the ISE Index. This process has prevented the stock market from contributing to the real production capacity of the

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[47] **Ibid.**, p.7.
[48] **Ibid.**, pp.8-10.

economy. The stock market has became the major cause of the economic crises in Turkey, rather than promoting firm investments by reducing the productivity and liquidity risks as suggested by *Levine (1991)*.

Table 4: Main Indicators of the Stock Market on the ISE

Years	Trading Volume (Million $)	Market Capitalization (Million $)	ISE Index* (January 1986=100)
1986	13	938	170,9
1987	118	3125	673,0
1988	115	1128	373,9
1989	773	6756	2217,7
1990	5854	18737	3255,7
1991	8502	15564	4369,2
1992	8567	9922	4004,2
1993	21770	37824	20682,9
1994	23203	21785	27257,1
1995	52357	20782	40024,6
1996	37737	30797	97558,8
1997	58104	61879	3451,0**
1998	70396	33975	2597,9
1999	84034	114271	15208,8
2000	181934	69507	9437,2
2001	80400	47689	13782,7
2002	70756	34402	10369,9
2003	100165	69003	18625,0
2004	147755	98073	24971,7

*The Composite Index according to the closing prices is taken as basis since January 1991.
**While the ISE Indexes accounted between 1986-1996 are stated as January 1986=100, they began to be stated as January 1986=1 after 1997.

Source: Capital Markets Board of Turkey, **2004 Faaliyet Raporu**, (Çevirimiçi)
http://www.spk.gov.tr/yayinlar/yayinlar, June 10, 2005, pp. 29, 31.

- Continuous speculative capital inflows have created an unstable environment including extremely volatile macroeconomic issues, which in turn has increased *external fragility* and has lowered the *creditworthiness of Turkey* by the foreign investors.

Consequently, the amount of real investments could not be increased during the financial liberalization period because of two main negative effects. First, the increased amount of resources mobilized through increasing deposit interest rates was accompanied with *speculative investments* instead of the real ones in the absence of *macroeconomic stability*. The increasing public sector borrowing requirements and the issue of public sector securities in order to meet these requirements created this negative effect. The dominance of public sector securities also prevented the development of private securities and the capital market in real sense. Second, the volume of *deposit banks credits* were not increased in order to finance productive investments after 1980s, since increasing deposit interest rates constituted a burden for financial markets, and a risky environment for the banking system without a *proper regulatory structure*.

Thus, financial liberalization policies failed in using the increasing amount of deposits and the tools of credit policy in supporting productive investments, and thereby failed in allocating the mobilized reources efficiently to stimulate economic growth as opposed to the suggestion of *McKinnon (1973)* and *Shaw (1973)*.

4. THE EFFECT OF FINANCIAL LIBERALIZATION POLICIES ON ECONOMIC GROWTH

In the literature, a variety of indicators, such as total deposits, private and domestic credits, and broad money supply (M2Y) as ratios of GNP have been used for financial development most of which measuring the size and efficiency of the financial intermediation function. On the other hand, economic growth has generally been proxied by the growth rate of GNP. Thus, the sectoral growth rates of GNP will be evaluated in studying the effect of financial liberalization policies on economic growth.

Table 5: Growth Rates of the 1970-2003 Period (%)

	GNP	AGRICULTURE	INDUSTRY	SERVICES
1970	4,4	2,8	1,3	4,3
1971	7,0	5,2	9,0	4,5
1972	9,2	1,1	10,4	10,3
1973	4,9	-7,8	11,9	6,4
1974	3,3	6,3	7,3	4,5
1975	6,1	3,1	9,1	8,5
1976	9,0	7,0	9,0	12,9
1977	3,0	-1,9	6,9	4,4
1978	1,2	2,8	3,4	0,1
1979	-0,5	0,0	-4,4	0,8
1980	-2,8	1,1	-3,3	-3,7
1981	4,8	-1,9	9,2	6,2
1982	3,1	3,1	4,9	3,2
1983	4,2	-0,9	6,3	7,0
1984	7,1	0,5	9,9	7,9
1985	4,3	-0,5	6,2	5,1
1986	6,8	4,6	11,1	6,0
1987	9,8	0,4	9,1	12,9
1988	1,5	7,8	1,8	0,5
1989	1,6	-7,6	4,6	0,9
1990	9,4	6,8	8,6	10,3
1991	0,3	-0,9	2,7	0,6
1992	6,4	4,3	5,9	6,5
1993	8,1	-1,3	8,2	10,7
1994	-6,1	-0,7	-5,7	-6,6
1995	8,0	2,0	12,1	6,3
1996	7,1	4,4	7,1	7,6
1997	8,3	-2,3	10,4	8,6
1998	3,9	8,4	2,0	2,4
1999	-6,1	-5,0	-5,0	-4,5
2000	6,3	3,9	6,0	8,9
2001	-9,5	-6,5	-7,5	-7,7
2002	7,8	7,1	9,4	7,2
2003*	5,0	-2,9	6,5	6,0

*Estimate
Source: SPO, Economic and Social Indicators.

After the abolishment of the government control on the financial system by the January 24 Desicions, the Turkish economy, which had contracted in 1979 and 1980, entered a growth path in 1981. However, as shown in **Table 5**, the average growth rates in the 1980s and 1990s were below the rates of the 1970s and were more volatile.[49] The peak values were observed in the years of 1987, 1990, 1993, 1995, 1997, and 2002, while the lowest ones in 1980, 1994, 1999, and 2001. These observations indicate that the growth rate of GNP was decreased to negative levels in the year of a crisis, and recovered rapidly afterwards with the help of the stabilization programs. **Table 5** also consists of the growth rates of agriculture, industry and services sectors which can be compared with the growth rate of GNP in **Figure 11**.

Figure 11: Sectoral Growth Rates (annual percentage changes, %)
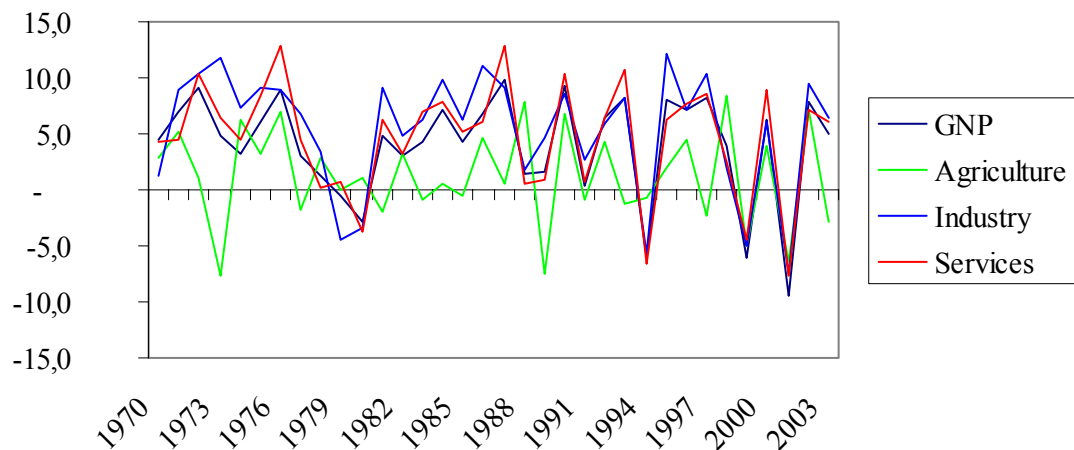
Source: SPO, Economic and Social Indicators.

By comparing the growth rates of the agriculture, industry and services sectors with the growth rate of GNP, the most significant correlation can be observed between the growth rate of the services sector and the growth rate of GNP. Especially after 1994, the services sector and GNP have been growing at almost the same rates. The curve representing the growth rate of the industry sector also moves

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[49] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, p.40.

closely to the curve of GNP growth rate in comparison with the agriculture sector. As **Figure 11** shows, altough few exception periods, there are significant differences between the growth rate of the agriculture sector and the growth rate of GNP. All of these findings are fit the development process of a country, and can be presented together by **Figure 12**.

The agriculture sector accounts for a significant fraction of production in developing countries. However, as the developing country moves ahead to the upper stages of the development process, the share of the industry sector displays an upward trend while the share of the agriculture sector declines. This change is related with the change in the consumption bundles of individuals earning higher incomes. As they have more incomes, their demand for the industrial products, such as telephone, television, otomobile, and the like, will increase. Similarily, in the next stage of the development process and with the higher per capita incomes, the demand for services, such as banking, tourism, restaurants, and the like, will be higher. Thus, the share of the services sector will be larger than the other sectors.

Figure 12: Shares of Sectors in GNP (percent shares, %)

Source: SPO, Economic and Social Indicators.

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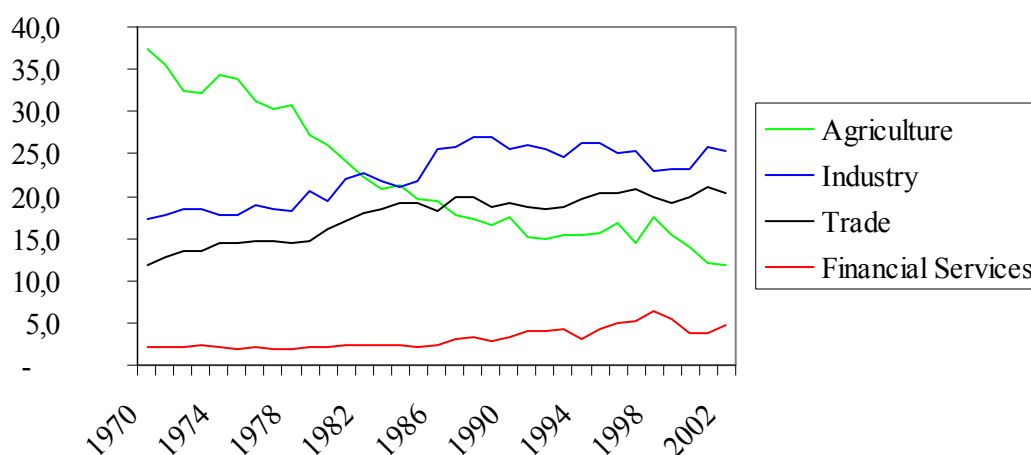
The Turkish experience can be analysed with the help of **Figure 12** which presents the shares of the agriculture, industry, and trade sectors, and the financial services as the sub-sector of the total services sector. It is clear that while the share of the agriculture sector in GNP was 37 % in 1970, it decreased significantly to the rate of 12 % in 2002 as a result of its steady downward trend. On the other hand, both of the shares of the industry and trade sectors displayed upward trends after the year 1970, while the trend of the financial services turned into an upward direction only after the late 1980s.

The share of the industry sector in production was emphasized, and increasing especially the role of the manufaturing sector was stated among the targets in the January 24 Decisions. However, the increase in the share of the industry sector in production has been stayed below the targeted level, and the expected increase in the amount of manufacturing investments could not be realized.[50]

The employment composition of the labor force should also be taken into account in studying the sectoral shares in GNP. Available data indicates that although the share of agriculture in production has decreased from 37 % to 12 %, the agriculture sector still employs around 30 % of the labor force. On the other hand, the increasing share of the industry sector in GNP from 17 % to 25 % has stimulated the employment share of the industry sector only slightly from 13 % in 1980s to 15 % by the year 2003.[51]

Finally, the share of the financial services in GNP need to be analyzed in detail. As mentioned before, the trend of the share of financial services turned into an upward direction only after the late 1980s. The implementation of financial liberalization policies, and the accomplishment of the full capital account liberalization, which introduces foreign investment to the financial system, caused the financial services to improve and get a higher share in GNP.

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[50] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, pp.41-42.
[51] Traesury, Treasury Statistic Annual, (Çevirimiçi) http://www.hazine.gov.tr/yayin/hazineistatistikleri/contents.htm, June 15, 2005.

Consequently, financial liberalization policies aim to remove the government control on the financial system, to open the market for international finance, and thereby to provide more efficient resource allocation among productive investment opportunities. Increasing productive investments are expected to contribute to the GNP level of the country. In other words, financial development policies aim to provide financial development through increasing the efficiency of the financial intermediation function, and thereby stimulate economic growth. However, the case of Turkey indicates that, the growth enhancing effects of financial liberalization policies can be limited by macroeconomic instability of the country and the absence of a proper regulatory structure. This observation supports the finding of *Levine (1999)* which says that legal and regulatory changes can induce a rapid acceleration in long-run economic growth by means of stimulating financial intermediary development.

5. SOME IMPORTANT REGULATORY AND INSTITUTIONAL REFORMS IN THE FINANCIAL SYSTEM

All of the above problems proved that the reform efforts should be much more comprehensive. For this reason, new reforms have been carried out in the late 1999. However, early success of these reforms caused reluctance among the policy makers, and the November 2000 and the February 2001 crisis occured. Therefore, additional financial and public sector reforms carried out with the help of the *European Union (EU) accession process* in shaping reform agenda and providing a benchmark for the reforms. The most impotant ones of these regulatory and institutional reforms can be explained as follows [52]:

- The *BRSA* was established with the *Banks Act of 1999* in order to contribute to the efficiency, competitiveness and soundness of the banking sector, and thereby to achieve the long-run economic growth.

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[52] Central Bank of the Republic of Turkey, **The Impact of Globalization on Turkish Economy**, pp.54-58.

- In order to realize the *transition to an independent Central Bank*, the primary objective of the CBRT was set to achieving and maintaining price stability with the new law enacted in *April 2001*. The CBRT was prohibited to grant advance and extend credit to the Treasury and public institutions, and to purchase debt instruments issued by both of these institutions in the primary market. Moreover, the transparency and accountability in determination and implementation of monetary policies were also enhanced.

- Increasing the *transparency in the public accounts* and the *efficiency of the budget process* was also aimed. Hence, a new program was prepared in *2000* which provided a significant progress in eliminating obstacles and delays in the management of public expenditures, and in providing budgetary discipline.

- With the aim of building an effective, accountable, and merit-based *public administration*, the recruitment of civil servants was based on the merit of the worker, and a committee was established in order to prepare a plan to prevent corruption in the public sector. Beside, in order to strengthen the *public finance*, new reforms aiming to enlarge the scope of the budget, to increase the role of the priorities of the budget, and to implement more flexibility in the budget were planned.

- As it is stated previously, although the share of agriculture in production has decreased from 37 % to 12 %, the *agriculture sector* still employs around 30 % of the labor force. In addition, the income level of this labor force group is very low and inequal. Hence, new reform programs were initiated in *2000* in order to set a direct support system targeting the poor farmers directly.

- The *social security system* was also reregulated with a reform proposal program enacted in *September 1999*. A minimum retirement age of 58 (female) and 60 (male) was introduced for contributers entering the system, the ceiling on the SSK contributions was raised, unemployment insurance was introduced, the Social Security Institution (in order to provide the unity

of norms and standards, to establish a common and reliable database between the three different institutions, and to monitor the developments) and the Turkish Employment Institution (in order to monitor and meet the needs of the active labor markets, and to manage the unemployment insurance system) were established. Another important reform was the establishment of the voluntary-funded private pension schemes.

All of these reforms are expected to strengthen the regulatory structure of the financial system, and thereby contribute to the economic growth process.

CONCLUSION

The relationship between financial development and economic growth is a crucial issue especially for developing countries. The importance of this issue depends on the financial intermediation functions, and their effects on the economic growth process.

A financial system is a driving force behind huge flows of funds throughout an economy. These flows have two routes: *direct finance through financial markets*, and *indirect finance through financial intermediaries*. In direct finance, investors borrow funds directly from savers in financial markets, such as bond markets, stock markets, and foreign exchange markets, by selling them securities. On the other hand, in indirect finance, resources are allocated to their best possible uses by financial intermediaries, such as banks, insurance companies, finance companies, credit unions, and the like. This intermediation process reduces both **transaction costs** which are the time and money spent in carrying out financial transactions, and **information costs** which depend on the *asymmetric information* problem. Asymmetric information is simply the information inequality of borrowers and lenders, and takes the name *adverse selection* if the problem is created before the transaction occurs, and the name *moral hazard* if the problem is created after transaction.

After these explanations, **financial development** can be defined as the development of the financial system by means of increasing efficieny of financial intermediation functions. On the other hand, **economic growth** can be measured by its generally accepted indicator, the growth rate of GNP, since the theory of growth investigates the reasons of the differences in income over time and across countries.

Evaluating the findings of *Solow* who published two seminal papers on economic growth may help to understand these income differences. The *Solow growth model* finds that if a country has a high *saving/investment rate*, and a low *population growth rate*, it can accumulate more capital per worker and thus will tend to be richer. Besides, one of the factors that cause the saving/investment rate

differences between countries is the *development levels of their financial markets*. Solow also states that *technological progress* can offset the tendency of the marginal product of capital to fall. Therefore, *capital accumulation* increases, and in the long-run, per capita growth rates become equal to the rate of technological progress. Thus, the relationship between financial development and economic growth can be explained with the guidance of the Solow growth model.

A financial system can affect the rate of economic growth by providing the financial system functions, which are mobilizing and then allocating savings to productive investments, providing investment control, facilitating risk management and the exchange of goods and services, efficiently. Each of these functions affects economic growth through two channels: *capital accumulation* (by influencing the rate of capital formation) and *technological innovation* (by altering the rate of technological innovation). Therefore, the findings of the Solow growth model implies that in order to achieve sustainable economic growth by means of production, the financial system of a country should be developed.

The importance of financial development on the economic growth process has also been realized by other economists, and many theoretical and empirical studies have investigated the relationship between financial development and economic growth since 1910s.

In *1950s*, countries of the Second World War gave importance to the financial system in order to get funds and enter a development process. However, the discussion of financial intermediation functions, and the proper understanding of the importance of domestic financial system in the economic growth process correspond to *1960s*, and the first empirical study identifying a positive relationship between financial development and economic growth was made by *Goldsmith* in *1969*.

After that, three competing views emerged during *1970s and early 1980s*: **financial repression**, **financial liberalization**, and the **structuralist school**. The theoretical analysis of financial repression policies was first made by *McKinnon (1973)* and *Shaw (1973)*. They seriously criticized financial repression policies which

apply high reserve requirements and interest rate controls, and proposed the financial liberalization policies aiming to remove the government control on the financial system, and indicating the banking sector as the most efficient financial sector. On the other hand, some of the structuralist school economists, including *Taylor (1983) and Buffie (1984),* emphasized the role of financial intermediaries other than banks, which they called as **curb market**, and advocated the consideration of financial institutions as a whole in order to evaluate the relationship between financial development and economic growth.

1990s, were the years of **endogenous growth models** which accept technological progress as endogenous and the return of capital as constant or increasing, and give the necessary importance to the human capital, the positive externalities in the production process, and the government policies. Their findings imply that financial system has *growth effects* on economic growth in endogenous growth models, while it only has *level-effects* in exogenous ones.

More recent empirical studies have extensively used econometric modelling in investigating the causal relationship between financial development and economic growth, and have found that developing countries should further undertake financial reforms in order to gain sustainable economic growth, and should stimulate the real sector development besides financial sector. Therefore, the case of Turkey, as a developing country, analyzed with the guidance of these studies.

The liberalization process of the Turkish financial system aiming to remove the government control on the financial system, to organize a free market mechanism, to open the economy to international finance, and thereby to provide financial development has started after the *January 24, 1980* Decisions, but could not achieve all of its targets.

With the implementation of the financial liberalization policies after 1980, the resource mobilization function of the financial system was performed successfuly, a significant increase was realized in the financial asset holdings of the economic agents, and thereby *financial deepening* was provided. Despite increasing amounts of

resources, the financial system could not increase the amount of productive investments because of the misallocation of the mobilized resources. The main result of this failure is the absence of a *proper functioning regulatory structure* and *macroeconomic stability.*

The absence of a regulatory structure in the financial system has created a *banking based financial system* which is accompanied with the dominance of the bank deposits among financial assets, and prevented the development of other financial intermediaries. By the year 2003, the total assets of the banking sector accounted for 92 % of total assets of the institutions in the financial system as indicated in Appendix 2. Therefore, economic crises initially affect the banking sector, increase interest rates, and thereby are reflected to the monetary indicators.

On the other hand, the absence of macroeconomic stability means *high public sector borrowing requirements*, *high interest rates*, and *chronic inflation*. Since mobilized resources have been used in financing the public budget deficits instead of productive investments, private sector development could not be achieved, and thereby financial development process has been limited. The *short-term capital flows (hot money)* have increased financial instability and have resulted in a series of crises in 1994, 1998, and 2000/2001. Consequently, the Turkish economy has experienced volatile economic growth rates after 1980, and could not achieve the targeted development paths.

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APPENDIX 1: SHARES OF THE BANKING GROUPS AS A PERCENT OF THE TOTAL BANKING SECTOR IN TURKEY (%)

		1970-1979	1980-1989	1990-1999		1970-1979	1980-1989	1990-1999
PRIVATE BANKS	**Total Assets**	**37,6**	**44,2**	**49,9**	**Total Liabilities**	**37,6**	**44,2**	**49,9**
	Liquid Assets	63,2	56,8	56,8	Deposits	59,3	56,6	52,1
	Credits	32,1	39,5	49,2	Non-Deposits Liabil.	0	22,0	40,5
	Fixed Assets	26,2	47,1	47,5	Other Liabilities	19,6	28,3	42,7
	Other Assets	13,6	30,1	38,8	Shareholders' Equity	21,0	36,1	68,6
					Net Income (Profit)	38,2	38,2	65,1
PUBLIC BANKS	**Total Assets**	**44,3**	**44,7**	**38,7**	**Total Liabilities**	**44,3**	**44,7**	**38,7**
	Liquid Assets	30,8	37,2	33,4	Deposits	37,0	40,4	44,0
	Credits	40,3	45,1	37,1	Non-Deposits Libil.	2,5	37,0	26,4
	Fixed Assets	70,9	46,9	43,6	Other Liabilities	62,8	57,7	39,0
	Other Assets	76,7	58,7	50,8	Shareholders' Equity	60,6	45,4	29,9
					Net Income (Profit)	34,9	42,7	20,7
FOREIGN BANKS	**Total Assets**	**2,7**	**3,4**	**3,7**	**Total Liabilities**	**2,7**	**3,4**	**3,7**
	Liquid Assets	4,4	4,6	6,0	Deposits	3,2	2,9	2,4
	Credits	2,3	2,5	2,7	Non-Deposits Libil.	0	4,2	6,4
	Fixed Assets	1,0	1,4	1,8	Other Liabilities	2,8	4,5	5,2
	Other Assets	2,0	4,4	2,2	Shareholders' Equity	1,5	3,2	5,1
					Net Income (Profit)	3,9	7,2	7,9
DEVELOPMENT AND INVESTMENT BANKS	**Total Assets**	**15,4**	**7,7**	**6,8**	**Total Liabilities**	**15,4**	**7,7**	**6,8**
	Liquid Assets	1,6	1,4	3,2	Deposits	0,5	0,1	0
	Credits	25,4	12,9	10,5	Non-Deposits Libil.	97,5	36,8	26,2
	Fixed Assets	1,8	4,7	4,8	Other Liabilities	14,7	9,5	11,4
	Other Assets	7,6	6,9	7,3	Shareholders' Equity	17,0	15,3	10,7
					Net Income (Profit)	23,0	11,8	6,2

Source: Banks Association of Turkey, **BAT's 40th Year Book**, 1999, (Çevirimiçi) http://www.tbb.org.tr/english/40.htm, May 02, 2005, pp.68-102.

APPENDIX 2: SELECTED FIGURES OF THE FINANCIAL SYSTEM INSTITUTIONS IN TURKEY[*]

	2002	2003	2004 June
Number of Institutions	**387**	**364**	
Banks	54	50	49
Non-Bank Financial Institutions	333	314	
- Special Finance Institutions	5	5	5
- Insurance Companies	58	55	54
- Leasing Companies	36	39	39
- Factoring Companies	110	93	39
- Consumer Finance Companies	5	5	5
- Intermediary Institutions in Capital Markets	119	117	115
Number of Employees	**145,859**	**146,552**	
Banks	123,271	123,249	126,970
Non-Bank Financial Institutions	22,588	23,303	
- Special Finance Institutions	2,530	3,520	4,135
- Insurance Companies	10,538	10,941	10,941[**]
- Leasing Companies	862	894	936
- Factoring Companies	1,745	1,550	
- Consumer Finance Companies	277	363	341
- Intermediary Institutions in Capital Markets	6,636	6,035	5,916
Total Shareholders' Equity (YTL Million)	**29,134**	**40,539**	
Banks	25,695	35,540	35,605
Non-Bank Financial Institutions	3,439	5,001	
- Special Finance Institutions	380	672	771
- Insurance Companies	1,167	1,635	2,460
- Leasing Companies	710	1,077	1,148
- Factoring Companies	430	671	
- Consumer Finance Companies	37	50	99
- Intermediary Institutions in Capital Markets	715	896	

	2002	2003	2004 June
Total Assets (YTL Million)	**228,616**	**271,286**	
Banks	212,675	249,693	274,843
Non-Bank Financial Institutions	15,941	21,536	
- Special Finance Institutions	3,840	5,112	6,297
- Insurance Companies	5,434	7,584	8,873
- Leasing Companies	3,165	3,835	4,329
- Factoring Companies	2,091	2,939	
- Consumer Finance Companies	414	771	1,206
- Intermediary Institutions in Capital Markets	997	1295	
Distribution of Assets (%)	**100,0**	**100,0**	
Banks	93.0	92.1	
Non-Bank Financial Institutions	7.0	7.9	
- Special Finance Institutions	1.7	1.9	
- Insurance Companies	2.4	2.8	
- Leasing Companies	1.4	1.4	
- Factoring Companies	0.9	1.1	
- Consumer Finance Companies	0.2	0.3	
- Intermediary Institutions in Capital Markets	0.4	0.5	
Assets as percentage of GDP	**82.8**	**64.1**	
Banks	77.1	70.0	
Non-Bank Financial Institutions	5.8	6.0	
- Special Finance Institutions	1.4	1.4	
- Insurance Companies	2.0	2.1	
- Leasing Companies	1.1	1.1	
- Factoring Companies	0.8	0.8	
- Consumer Finance Companies	0.1	0.2	
- Intermediary Institutions in Capital Markets	0.4	0.4	

[*] Consolidated figures collected from the own members of the representative organisations in the sub-sector in the financial sector in Turkey.
[**] 2003 figure.

Source: Banks Association of Turkey, **Financial Sector and Banking System in Turkey**, March 2005, (Çevirimiçi) http//www.tbb.org.tr/english/default.htm, May 02, 2005, p.33.