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MACROECONOMIC POLICIES AND STOCK MARKET BEHAVIOUR

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OUTLINES

ABSTRACT

The purpose of this study is to analyze the role of financial markets, especially stock markets, as a mechanism of the allocation of capital resources which plays a critical role in the determination of the growth rate of the nation's output by investigating the logic in setting up a stock market and policy instruments which affect this role of stock markets.

To do this, firstly the problems of an economy have been mentioned briefly. At the same time economic policies have been mentioned generally and described as the instruments to achieve the goals of economy. The contrast between expansion problem of economy in the long term and the effects of economic policies effects in the short-term on capital markets has been tried to make clear.

Then, I tried to explain the financial system as a mechanism in order to achieve the objectives of an economy. After describing the financial system as a composition of financial markets, institutions, businesses, households and government, and its function, capital markets and stock markets have been explained to show the relationship between them.

The last section includes the methodology. The econometric models have been used to indicate the relationship between stock market index and variables which represent economic policies implementation.

ÖZET

Hisse senetleri ve tahvillerin işlem gördüğü piyasalar, bir ekonomide çok gerekli ve faydalı işlevler yerine getirirler. Bu piyasaların en önemli etkilerinden birisi, ekonominin sermaye kaynaklarının dağıtımını etkin bir şekilde, bu kaynaklar için rekabet halinde olanlar arasında dağıtabilmesidir.

Bu kaynak dağıtım işlevi, aslında ekonominin büyümesine ve etkin bir şekilde çalışmasına da direkt etki eden bir işlevdir. Bu sebepten dolayı, hükümetler mali piyasalara ve hisse senedi ve tahvil piyasalarına yönelik olarak, bu piyasaların performansını ve etkinliğini sağlamaya ve arttırmaya yönelik düzenlemeler yapmaktadır. Bu direkt düzenlemelerden başka, ekonomide uygulanmakta olan makroekonomik politikalar hisse senedi ve tahvil piyasalarında, bu piyasaların performansını ve kaynak dağılımındaki etkinliğini bozan etkiler yaratmaktadır.

Bu etkileşimi ortaya koyabilmek için, çalışmamın birinci bölümünde ekonominin ne olduğu, hangi tür problemleri çözmek için uğraş verildiği ortaya konulmak istenmiştir. Bu ekonomik problemler içinde, ekonomik büyüme ile ilgili olan probleminin çözümünde mali piyasaların rolünün ne olduğu ikinci bölümde anlatılmıştır.

Çalışmamım en son bölümünde ise sermaye piyasalarının gelişmesi için şart olan ikincil piyasaların işlevleri açıklanmıştır. İkincil piyasaların önemli parçasını oluşturan Hisse Senedi Piyasalarının kurulmasından beklenen amaçlar, kurulması için gerekli olan şartlar belirtilmiştir.

Hisse senedi piyasasında oluşan fiyatlar, işlem gören firmaların kazanç yaratma potensiyelinin kapitelize edilmiş değeridir. Hisse senedi piyasalarında oluşan fiyatların kaynak dağılımında etkin bir yeri vardır. Bunun için de hisse senetleri piyasasında bu fiyatların nasıl oluştuğunu açıkladıktan sonra, bu fiyatların gerçekten etkin bir kaynak dağılımı sağlayıp sağlayımadığı sorusuna cevap verilmeğe çalışılmıştır. Bunu yapabilmek için de ülkemizde uygulanmakta olan makroekonomik politikaların bazı göstergeleri ekonometrik modellerde kullanılmış ve İstanbul Menkul Kıymetler Borsası fiyat endeksinin bu politikaların sonucu oluşan enflasyondan etkilendiği için gerçek kaynak dağılımında tam olarak bir etkinlik sağladığını söylemenin zor olacağı sonucuna varılmıştır.

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TABLES

FIGURES

1. INTRODUCTION

In recent years, a number of developing countries have taken steps to establish and revitalise stock markets. The promotion of Emerging stock markets[1] partly arises from the concerns that they are a mechanism which is available for providing financial support for the development of the productive sector in the Least Developed Countries.

It is said in an article that the reason for the growth of emerging markets in LDCs is the liberal policies implemented in these countries. After the 1980s, conditions in the international financial system have also promoted the growth of emerging markets. It is very clear that while liberal policies are preparing the structural background of capital markets, the main growth has been characterised by the external conjuncture. [2]

It is not clear that whether the emerging stock markets facilitate or complicate the macroeconomic adjustment process in the least developed countrys' economy. It is therefore useful to investigate the interaction between economic policy and the behaviour of the stock market in the economy. The argument is that if these markets were able to channel funds to the most productive sectors of the economy, they would make an important contribution to economic development in the least developed country. The pervasive theme of this study is what kind of unsolved problems there are in any economy and why stock market comes into existence.

For the purpose of explaining the role of stock market in the economy, the question whether the stock market facilitates or complicates the macroeconomic adjustment in the economy has to be answered.

To answer this question, it is necessary to mention what the economic activity and economic policy are. By doing so, we remember the goal of economic activity and the objectives of economic policy, and make connections between the

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[1] Emerging stock markets refer to the markets which emerged in developing countries during last years.

[2] Suat Oktar, Gelişmekte Olan Ülkelerde Sermaye Piyasalarının Büyümesi, Ekonomik Görüşler, Mayıs 1994.

goals of economic activity, objectives of economic policy and role of capital markets which are necessary to achieve these goals and objectives.

To do this, firstly, it is argued that economy tries to solve some economic problems and all these problems are closely related to the capital formation. Of course economy cannot solve these problems only with its own means; effective use of economic policies are needed to achieve economic goals.

2. FINANCIAL MARKETS AND ECONOMY

2.1. Determination of Economic Policy

I will try to show the framework of the interaction between economic activity, economic policy and capital accumulation.

The goal of economic activity is a level of want satisfaction(level of living) as high as the economy can provide. To achieve this goal the best possible techniques must be used, resources must be fully employed, and resources must be properly allocated or distributed among the alternative wants of customers.

In brief, basic economic problem comes from the scarcity of resources and the alternative usage opportunities of these resources.

When giving a war against the basic economic problems three main problems which can be divided into three groups must be solved.

1. full employment of the resources,
2. efficiency in the employment of resources (resource allocation)
3. maintenance and expansion of production capacity of economy-economic growth.

Different societies are organised through alternative systems, and economists study the different mechanisms that a society can use to allocate its scarce resources. Today, we can distinguish two fundamentally different ways of organising an economy. At one extreme, the government makes most economic decisions. At the other extreme, decisions are made in markets, where individuals or enterprises voluntarily agree to trade inputs and outputs, through payments of money.[3]

Economic systems vary, the composition of the government and the nature of the economic system may change, but the same core problems will remain. In each economic system the way in which decisions are made will differ, but each society must diversify some mechanisms to solve economic problems.

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[3] Paul A.Samuelson and William D. Nordhaus, Economics, International Edition, 1995, p. 6.

A system of prices is the main organising force in free market economy. Prices determine what is to be produced. Prices organise production. Prices play a major role in distribution of the product. They are also an element in providing economic maintenance and growth. But the role of the price mechanism and its degree of importance in providing economic maintenance and growth are not clear.

A free-enterprise economy can function effectively only if the price system is instrumental in determining which goods shall be produced and sold. The producer who can make and sell a product at a price that yields him a volume of sales large enough to cover all costs and to make enough profit to attract capital for his business stays in business and grows. Certainly prices and profit prospects are an important element in determining whether or not maintenance and growth occur. Economic maintenance and growth are affected by other factors. Economic maintenance refer to keeping the productive power of the economy, and to continue multiplication in the kinds and quantities of the economic resources, together with continuous improvement in techniques of production. For economic growth the most important factor is capital accumulation. Capital accumulation depends upon a variety of complex economic motives . To accumulate capital some resources must be diverted from the production of current customer goods and used to produce capital goods in excess of the amount needed to offset depreciation. In a free enterprise economy, this process occurs partly in response to the mechanism of prices and profits.

The process of capital accumulation, i.e., saving and investment, in a market economy is intimately associated with financial factors as lending and borrowing and the functioning of money and capital markets. The function of financial markets is to channel savings into investment. The flow of savings into investment occurs primarily on the basis of price, expressed by interest rates. That is, savings in an economy are allocated primarily through interest rates.

An ideal market economy is one where all goods and services are voluntarily exchanged for money at market prices. Such a system squeezes the maximum benefits out of society's available resources without government intervention. But in the real world, no economy actually conforms totally to the idealised world of the smoothly functioning invisible hands. Rather, every market economy suffers from imperfections which lead to such ills as excessive pollution, unemployment and extremes of wealth and poverty[4].

In modern economies, governments take on an almost infinite variety of roles in response to the flows in the market mechanism. In spite of all the wide range of possible activities, governments have three main economic functions in a market economy; to increase efficiency, to promote equity, and to speed up macroeconomic stability and growth.[5]

This economic role of governments focuses on solving the main economic problems of full employment, efficiency and economic growth since in the real world, a market economy may fail against economic problems.

2.2. Goals of Economic Policy

Economic policy is the sum of decisions aimed to influence the decisions of the decision makers; the householders, the producers, and the government, to affect the economy in macro level.

The major objectives of economic policy may be listed as follows:

(1) relatively stable price level;
(2) 'full' employment level of income and output;
(3) equilibrium in international balance of payments;
(4) high rate of economic growth.

These goals, in turn, need to be pursued within the framework of a social, political and economic structure[6].

These four goals just about cover the field of aggregates about which the economy may be concerned. There are others, but they are directly related to those mentioned. If we analyse the goals of the economic policy, we see that the goals deal with the solving of the key elements of economic activity. If we put the key elements

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[4] Ibid, p. 29.

[5] Ibid, p. 30.

[6] Walter Haines, Money Prices and Policy, Second edition,1961, p. 605.

of economic activity and goals of economic policy together, we can find out the importance of the goals of economic policy.

The first three of these goals are sometimes seen as measures to achieve short-run stability, while the fourth concerns with long-run changes in the economy. There is great difficulty, however, in simultaneously achieving all of these objectives. The difficulty is that goals often will be competitive rather than complementary.

According to another classification, objectives of economic policy can be classified as follows[7];

1. National balances and stability
- stability in price level
- full employment of resources
2. International balance sand stability
3. Economic growth.

To develop optimal economic policies, first it is necessary to be clear as to what our basic economic policy goals are, who the important policy makers are, and what instruments they have at their disposal.

2.3. Instruments and Channels of Economic Policies

Economic policy, especially macroeconomic policy, is concerned chiefly with maintaining a level of aggregate demand that will provide high-level employment without inflation in a growing economy. For this purpose fiscal and monetary policy are two main instruments available to the policymaker. Other instruments- debt management, differential ceiling on interest rates, margin requirements in the stock market, control of international capital movements, and wage-price guidepost- may also play important roles in macroeconomic policy. But none of these additional instruments plays a role as important as the broad and powerful role of fiscal and monetary policy. Instead they act primarily on particular groups or sectors of economic activity.

[7] Prof.Dr. Ertan Oktay, Makro İktisat Teori ve Politika, Ankara,1992, page 205.

2.3.1. Monetary Policy

The monetary policy instruments include the open market operations, the discount mechanism, and changes in reserve requirements that can be used to influence the money supply, credit and , interest rates[8].

The Central Banks issue all the paper money used by economy and also control the stock of money that is in the form of demand deposits. If a central bank wants to increase the stock of money and make credit more easily available, it provides more reserves to the banks through open market operations. That is, it buys up outstanding government bonds from the banks or the public and pays for them through the issue of new deposits. The new deposits serve as reserve, which in turn can serve as the foundation for the further expansion in loans, investment, and deposits by the commercial banks. Conversely if the central bank authorities want to reduce the money stock and tighten the availability of credit, they sell government securities in the open market, collecting as payment from the banks a comparable amount of reserves and thus reducing potential bank loans and investments. These open market operations are the principal instruments of monetary policy.

In addition, central banks have the power to raise and lower the legal reserve requirements imposed on member commercial banks. Each bank is required to hold a certain percentage of reserves against its deposits. Changes in reserve requirements can have the same general effect as open market operations. The authorities change reserve requirements only infrequently; open market operations usually provide a more gradual, flexible means of accomplishing the same goals.

Central bank authorities also have the power to raise or lower discount rates. The discount rate is the interest rate that the central bank charges when they lend reserves temporarily to the commercial banks. Changes in the discount rate are less powerful instruments than either open market operations or changes in reserve requirements. However, the business and financial world attaches considerable importance to discount changes as symbols of changes in monetary policy.

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[8] Thomas F.Cargill, Money, The Financial System and Monetary Policy, Fourth Edition, 1991page 481.

In nontechnical terms, the use of monetary policy (open market operations, reserve requirements, and discount rates) directly affects the reserve positions of commercial banks and interest rates (yields) on securities. These affect spending on goods and services through three channels:

1. Interest rates influence investment in business plant and equipment, housing, construction, and consumer durable goods.

2. Changed rates of return on securities and other assets influence the total wealth position and the portfolio balances of households, and hence their consumption. For example, rising stock market prices increase the perceived wealth of households and hence their spending.

3. Credit rationing by lenders (particularly financial institutions) affects investment.

These changes in investment and consumption spending in turn have multiplier effects as the generated additional income is resent throughout the economy. The multiplier effect feed back on the entire system and induce further "accelerator" effects (that is, they induce further investment spending). The time lags involved vary according to the initial conditions of the economy-the level of employment, prices, inventories, and excess reserves. Monetary policy effects are substantial in most circumstances, and they extend over months-even years if indirect effects are considered.

Interest rates play an important part in the process. Monetary policy can affect the interest rates on the market securities almost instantaneously; for example, open market purchases drive bill prices up and yields down. But the stimulative effects of higher bank reserves and lower interest rates then help to induce more spending, higher incomes, and an increased demand for credit; this income effect partially offsets the first-round depressive effect on interest rates. Moreover, if the economy is near full employment, these higher incomes are likely to induce inflation, and inflation, if continued, affects the expectations of both lenders and borrowers, so that both increasingly incorporate an "inflation allowance" in their interest rate bargaining. Market interest rates thus tend to rise by roughly the expected rate of inflation. Thus, the long-run effects of open market purchases during a period of inflation may be to raise interest rates, even though, in the short-run, an increase in reserves leads to lower interest rates.

There are many different interest rates, which are prices paid for different kinds of credit borrowed for different periods of time, as well as for the direct use of money (demand deposits and currency). Thus, market interest rates reflect supply and demand condition in a wide variety of markets. If the relationship among credit flows and interest rates associated with them are stable, Central Bank reserves or money stock may be an effective control over borrowing and real expenditure and employment. But they are not stable. Thus, most economists doubt that one simple, direct causal relationship exists among bank reserves, the money stock, and real output, employment, and prices- though bank reserves and money appear clearly to be one major force influencing these ultimate variables.

2.3.2. Fiscal Policy

Fiscal policy is the use of government spending, taxing, and borrowing, to increase or decrease aggregate demand. Aggregate demand is the sum of private spending on consumption and investment plus government spending more than it currently takes away from private spending through taxes. Conversely, when total private spending is too high, the government can reduce aggregate spending by taxing away more than it spends. Thus broadly speaking, budget deficit is expansionary, and the surplus is restrictive. The amount of stimulus or restraint depends largely on the size of the deficit or surplus.

Most modern economist believe that the total impact of fiscal policy on aggregate demand will be multiplied through the re-spending of new income that is generated.

This uncertainty arises partly from the loose interlinkage between monetary and fiscal factors. Some economist argue that the apparent fiscal multiplier effect in fact reflects primarily changes in the money stock that may be generated by the government's borrowing from the banks to finance its budget deficit, or conversely by the decrease in the money stock when the government pays off debt.

Measuring the effect of fiscal policy on aggregate demand, and thus on employment and real output, is a very complex task. To deal with the measurement problem, economist have devised the concept of a high-(or full-) employment budget. This budget calculates what the surplus or deficit would be if the economy were operating at high level employment. Using this measure, fiscal policy may be called deflationary or expansionary, depending on whether the high-employment budget shows a surplus or a deficit.

Fiscal policy directly affects employment, output, and incomes through government spending and taxing. The effect of tax changes may be rapid (for example, when tax withholdings rates change the disposable income of families), or delayed (for example, when tax changes alter profit expectations of businesses and the availability of cash flows to finance investment). "Permanent" changes in taxes and government spending generally have stronger effects than do temporary ones. As with monetary policy, changes in private spending induced through changes in fiscal policy have further multiplier effects, which in turn have accelerator effects, inducing still further spending. As with monetary policy, the total direct and indirect effects cover a long time span, though the average time lag for fiscal policy is apparently somewhat shorter than that for monetary policy, and its initial impacts are quite different. As indirect effects take over, the difference in timing of effects lessens rapidly.

The high employment budget surplus provides a useful intermediate indicator of the net impact of fiscal policy on the real variables in the economy. The level of free reserves and short-term interest rates on the one hand, and the rates of growth of bank reserves and the money stock on the other provide alternative intermediate indicators of the impact of monetary policy. Both sets of financial measures have some validity; monetary policy acts through multiple channels. But it is important to remember that most credit markets are dominated by private supplies and demand and that interest rates become increasingly misleading as indicators of the stance of monetary policy when inflation is expected. This is because market interest rates then include both the "real" interest rate and a hard-to-measure inflation allowance. The inflation allowance reflects both increasing demands for credit when inflation is expected and allowance for expected inflation by lenders. "Real" interest rates may thus be much lower than "money" (actually paid) rates. In such periods, growth in bank reserves and in the money stock are more reliable indicators of the impact of monetary policy on the real economy. because they are less distorted by variable inflation allowance, in noninflationary periods, substantial divergence among the different indicators is likely, and both sets may be valuable for determining policy. The details of these fiscal and monetary models are not critical to most of the analysis that follows. Many of the main conclusions are the same as would follow from different macro models. But in planning coordinated macroeconomic policies it is essential to recognise that linkage channels are complex and that time lags are often long. It might appear that, to stabilise the economy, maximum flexibility in the use of all macro instruments would be optimal so that policymakers could continuously adjust their instruments individually and in combination. However, given the differences in linkages and lags for different macro instruments each focusing on different intermediate target variables, indeed, these uncertain linkages and lags suggest substantial difficulties for any discretionary policies aimed at "fine-tuning" the economy. Coordination of macro policies, therefore, is a necessary, but not sufficient, condition for achieving optimal over-all macro policy.

2.3.3. Debt Management Policies

Changes in the size of public debt are the direct result of surplus or deficit in the budget. When the government runs a deficit, the debt must be increased accordingly to provide the extra funds the government wants to spend. The Treasury which is primarily responsible for managing the public debt, may exert some influence over aggregate demand and financial markets by changing the composition of the debt. For example, if the Treasury borrows at short term on bills or certificate, it tends to raise short-term interest rate relative to long-term. Conversely, if it borrows on long-term bonds, it tends to raise long-term interest rate relative to short-term. Similarly, Central Bank officials can influence the structure of interest rates through the maturity dates of the securities they buy or sell in the open market operations.

Changes in the term structure of rates, as the relationship among rates on securities maturing at various dates is called, may exert some influence on the composition of demand in the private sector of the economy. However, market interest rates are determined by the total supply of, and demand for, the funds in Justin, thus, government action is only one of many factors affecting interest rates. There is some question whether, barring dramatic actions, government debt policy can significantly affect the term structure of interest rates more than temporarily. And there is further doubt whether changes in the structure of interest rates normally exert much effect on aggregate spending and hence on aggregate employment and output

The impact of debt management on total economic activity occurs through the adjustments induced to the policy change on the portfolio of financial assets held by the public. For example, if the Treasury buys short-term governments and sells an equal amount of long-term governments, and assuming that "shorts" and "longs" are imperfect substitutes for each other, this transaction will require a shift in the structure of interest rates in order to induce the public to hold the changed composition of government debt; e.g., short rates will fall, while long-term rates will increase. Putting it another way, assuming "longs" are less liquid than "shorts", the public suffers a decline in liquidity or structure of interest rates, will then affect GNP via interest sensitivity of investment spending or the liquidity sensitivity of (consumption) total spending.

The change in the relative supplies of short term governments versus long-term governments will change the term structure of interest rates (or the liquidity associated with the entire stock of governments) only if "shorts" and "longs" are not perfect substitutes for each other. The concept of perfect substitutes has a very precise meaning. In particular, two securities if their respective yields are held in a certain relationship to each other in their portfolios if the yield differential deviates in the slightest degree from normal.

The manipulation of term structure of interest rates is the channel through which debt management influences the real sector of the economy. Hence, an increase in the supply of short debt and a reduction in the supply of long debt is aimed at reducing the long-term government bond rate and increasing the short term rate. This would have an expansionary effect on investment spending assuming, first, that long-term rates on private securities would fall (i.e., rates on corporate bonds, equities mortgages, and term loans) and, second, that investment is sensitive to long-term interest rates.

The efficacy of mechanism described above depends upon three factors;

1. whether changes in the relative supplies of different maturities of a security affect the term structure of interest rates,

2. whether a change in the rate on long-term governments is transmitted to rates on private securities,

3. the interest sensitivity of investment spending.

While investment is a function of long term rates primarily, there is also some impact of short-term rates on investment spending. Twisting the rate structure via debt management, therefore, produces both expansionary and contractionary effects on investment spending. Since the impact of long-term rates is more powerful, it is correct to conclude that a reduction in long- term rates and a simultaneous increase in short-term rates to a debt management operation will be expansionary.

2.3.4 Direct (Selective) Controls

Financial regulatory agencies all have power to establish ceilings on the interest rates that banks and other financial institutions pay on their deposits. If the rate of interest paid by any financial institutions is held below that available on alternative investment elsewhere, savers tend to transfer their funds from low-to-high interest rate institutions. Thus, by holding down the interest rates paid by banks, the regulatory authorities can reduce the flow of funds to the banks and to the sectors of the economy that they serve.

Regulatory authorities also have the power to set margin requirements on the purchase of common stocks and the other securities. If they raise margin requirements, they will restrict borrowing to purchase securities. Conversely, if margin requirements are lowered, it becomes easier for individuals and institutions to buy in the security markets. This control has its primary effect on the stock market.

For example, it was believed that excessive bank credit had been used to support the speculative stock market in the late 1970s which led subsequently to the stock market crash of 1929. Hence, margin requirements were designed to give the FED selective control over credit in the stock market.[9]

Regulatory authorities also have power to regulate directly international capital flows to and from their own country.

Direct regulation of wages and prices has been used intermittently when aggregate demand exceeded potential aggregate supply, with resulting inflation. Wage-price guidepost is issued to spelling out the wage and price increases that would be consistent with a roughly stable price level at high employment. However, guideposts and related direct attempts to check rising wages and riches sometimes have served as supplementary, and limited, instruments of macroeconomic policy.

[9] Ibid, p. 462.

2.3.5. International Monetary Policy

Independent national monetary and fiscal policies are used to achieve domestic stabilisation, preferably in a way that is consistent with equilibrium in the international balance of payments at the fixed exchange rates. Thus, the policy of fixed exchange rates means that changes in our international balance of payments may put pressure on domestic monetary and fiscal authorities to stimulate or restrain the economy in order to maintain a reasonable international reserve position. If the international monetary policy rests on fixed exchange rates, clearly there may be conflicts with its fiscal and monetary polices that are aimed directly at domestic stabilisation.

One other approach to international monetary policy is to shift to a floating exchange rate. Exchange rates fluctuate with supply and demand, rather than holding them fixed through government stabilisation measures. This action would basically alter the world's international monetary arrangements. If floating rates, or periodic devaluation is ruled out, the government has left, as instruments of international monetary policy, mainly with capital controls and other direct restrictions on international flows of goods and services.

2.4. Functions of Financial markets.

It is clear that there is an interrelationship between economic and financial activity. This part is focused on the channelling of the savings made in a monetary economy into investment. In an economy, the conversion of savings into investment is done in the financial markets of the economy. It is done either directly or indirectly. The conversion of these savings occurs primarily on the basis of price, expressed by interest rates. Although the conversion process is affected by capital rationing and government restrictions, interest rates are the primary mechanism whereby supply and demand are brought into balance for a particular financial instruments across financial markets. Therefore, the importance of saving and investment in terms of their effects on such major economic goals as full employment, levels of income, price stability, and high growth rates will be emphasised. In so doing, we will say something about the fundamental problem of just what kind of institutional mechanism is necessary to bring together savers and investors in order to achieve these objectives. The transfer process by which savings become available for investment involves the development of a financial system. In a market economy, real and financial variables interact in complex ways. This interaction and the emergence of financial or credit markets need to be given careful consideration.

Financial markets are of two types; money markets and capital markets. In the money markets, money markets instruments with the maturity of less than one year are bought and sold. And it does not function as a mechanism which enables the transfer of savings into investment. Capital markets can be defined in the narrow sense, as the markets where shares and bonds are traded, and in the broad sense, as the mechanism which enables the transfer of savings into investment. When the capital market is functioning, firstly the available savings of society should be allocated, or made available, to the most efficient users. Secondly, this resource transfer should take place at a low cost. These are the conventionally analysed objectives. But in a world of uncertainty where the future is unknown to us, we should require that the capital markets be stable or at least not be a source of instability of the economic system.

Changes in the budgetary and financial policy, both anticipated and unanticipated, affect the real interest rate, real profits and share prices, consumption as well as investment. The most obvious impact of fiscal policy on the financial sector occurs through the change in Gross National Product (GNP) and the subsequent flow of savings into financial intermediaries. The pattern of saving flow into financial institutions depends upon the income elasticity of the various financial assets in the public's portfolio. The second major tool of public policy, the level and structure of tax rates has a more direct impact on the financial sector. The use of monetary policy (open market operations, reserve requirements, and discount rates) directly affects the reserve positions of commercial banks and interest rates (yields) on securities.

3. ECONOMICS OF STOCK MARKETS

3.1. Economic Rationale Of Stock Exchanges

In order to understand the economic rationale of the stock exchanges it is better to look at the development of stock exchanges, in Turkey. The surge and growth of capital markets in Turkey was different from those of the markets in Europe. In the West, the progress of the capital markets was parallel to the industrial and the technological developments. However, in Turkey, we see the issue of the government debt securities for the Ottoman empire to incur debt from Europe in the middle of the 19th century. That is, in Turkey it was by experiment, there was not any effect of industrialisation or technological developments in the background of the development of Turkish capital markets. In this section, I will try to answer the question of why capital markets and stock exchanges are so important. To answer this question, firstly economic rationale of capital markets and stock exchanges will be determined, secondly, effects of economic policies which are necessary for government intervention against the market failure of free market economy will be analysed in theory.

In our economy, the government and private financial institutions of many kinds have developed instruments and procedures to perform some financial functions; such as creation of money, transferring money, accumulation of savings in financial institutions, lending and investing money, marketing claims to wealth arising out of the lending and investing process, other activities that facilitate the lending and investing process.

In the process of lending and of selling securities several types of institutions serve as facilitating agencies. For example, if shares of stock are to be sold to the general public, it is desirable to have a ready market in which such stocks can be resold later if the investor no longer wants to hold them. Several stock exchanges serve this purpose.

The stock market performs many essential and useful functions in economy. One of the most important is the influence which this market along with other financial and non-financial institutions, exerts in allocating the nation's capital resources among numerous competing users of these resources. The efficiency with which this allocation function is performed determines in large part the overall growth and efficiency of the economy itself. Thus, the government has from time to time passed legislation aimed at improving the performance and efficiency of the stock market.

The stock market is the epitome and the essence of capitalism. It is part of the system itself, but it is also the lubricant that keeps the wheels in the system neatly turning. And it is a mirror of a country's business.[10]

Another view that represents the relationship between economic policy and emerging stock market is the one which says, " Economic reforms in developing countries -including equity market openings, international equity offerings, and policies to stabilise price and exchange rates- have encouraged large increases in foreign purchases of emerging-market equity shares in recent years. Privatisation program have played a particularly important role in this process. Together with economic reform, equity portfolio inflows have helped integrate developing country equity markets with the global financial system. Price linkages between emerging and developed markets have tightened and as emerging markets have matured, they have had to resemble more closely their developed - country counter parts. These findings raise the questions of the possible contribution of equity markets to economic development".[11]

Especially for the emerging stock markets the question whether these markets are efficient; or whether they can evolve into a viable alternative for financing the productive sector in Least Developed Countries(LDCs) ; or whether they can provide the means for development banks to channel direct foreign investment to LDCs especially in the era of increased privatisation in LDCs must be asked. It is easily understood that there is a possibility of integration between the LDCs and industrial countries' stock market that could illuminate the prospects for a new global financial system for private sector financing.

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[10] Robert Jr. and Edwin A. The Stock Markets, 1965, p. 9.

[11] Federal Reserve Bank of Newyork, Quarterly Review, Summer 1993, vol.18, No.2

3.2. Economic Characteristic Of Capital Markets

The allocation of its capital resources is among the most important decisions which must be made by any economy. In the long run an appropriate allocation of real capital is absolutely indispensable to the implementation of consumer sovereignty because unless the flow of capital goods is responsive to the goals of the members of the public, the community will only be able to exercise a very short-run and temporary control over the composition of output and its activities. After all, capital is the economy's link with the future and unless our desires can influence the apportionment of capital inputs, our wishes can at most effectively control only today's events.

In addition, the allocation of capital resources plays a critical role in the determination of the rate of growth of the nation's output. If capital resources are not provided to those industries the demand for whose products is growing or is at least expandable; if capital is not made available to sectors which are capable of increasing production and productivity and, above all, if there is no investment in research and development, we can be sure that the rate of expansion of the economy will suffer.

Finally, the mechanism which allocates these capital resources can itself play an important economic role. Even if it tends to distribute capital in accord with the wishes of the public, it may do so only slowly to the accompaniment of the discordant squeaking of its rusty gears. The flexibility and speed of response to our capital allocation mechanism affects directly the adaptability of our productive mechanism, and thereby bears on the long-run prospects of our entire economy.

So far we have considered only the nation's real capital, its machinery, its factories, its goods-in-process, its inventories of raw materials and its final products. But the apportionment of these real resources among industries and individual firms and, indeed, the selection of the physical forms which constitute the embodiment of our capital resources, is largely controlled through the funds market- the market on which money capital is provided. Thus, the allocation process is heavily influenced by the decisions of the nation's financial institutions, its banks, its insurance companies, and a variety of the other bodies many of which will come to mind immediately. In addition, the government's monetary and fiscal policy obviously play a highly important role in a variety of ways.

Finally one may reasonably attribute a regulatory role to the securities markets, and in particular to the markets for stocks and bonds.

3.3. Economic Characteristic Of Stock Exchange

The stock exchange markets are characterised by a number of properties which render them specially suitable to serve as capital resource allocations. First, they offer guidance to business managenement-information on the current cost of capital which is so important in determining the level of investment which is appropriate for the firm to undertake. For example, if the stock prices are high so that the company's securities can be exchanged for relatively generous quantities of resources, this is generally taken to indicate that the cost of capital is low and that the net returns to be expected of any given real investment project will be correspondingly generous. Second, the securities markets offer the advantage of accessibility to vast numbers of capitalists, many of whom posses only extremely small amounts of money and yet who in their aggregate have command over vast quantities of wealth. Third, the markets offer a simple mechanism for the transfer of funds that imposes only a minimum of administrative effort upon the lender. Fourth, markets offer him an easily understood evaluation of the financial condition and future prospects of the borrowing firm as indicated by the market price of its securities and by movements in the magnitude of that price. Finally, the market performs an act of magic, for it permits long-term investments to be able to withdraw them. Thus, it gives a measure of liquidity to long-term investments that permits their instruments to be sold at a price that yields a lower rate of return than would otherwise be required.

For all of these reasons, and no doubt for others as well, one has come to look upon the stock market as the allocator of capital resources , and aside from some uneasiness about the unfavourable effects of speculation, one is readily inclined toward the view that the stock market constitutes an allocation mechanism of remarkable efficiency. This is not meant to imply that the bulk of the business sector's new funds are obtained through the stock markets or that a large proportion of the markets' operations help directly to supply new capital. Firms obtain new funds preponderantly from retained earning, not from new stock issues, and the stock exchanges deal in second-had shares-not in new issues. As such, the exchanges therefore do not supply new capital. But they can control its allocation by determining the terms of prices on which funds are available, and by making easily available to investors the alternatives open to them.

3.4 Stock Exchange And Theory Of Allocation

Whether the demand for a stock is motivated by income or profits, so long as it is related to a corporation, the prices of the securities markets will play a realistic part in determining the corporation's ability to raise funds.[12]

The stock market constitutes a reasonably close approximation to a competitive market. It seems all the more reasonable to conjecture that it will serve as a relatively effective allocator of resources. However, a bit more thought can lead us to become somewhat suspicious of this conclusion. The reason is the crucial role played by the market value of a company's securities in the entire process. To serve as an effective resource allocator it would appear that the market should value a stock in some manner on the basis of the capitalised value of the company's expected future earnings as determined by the investment opportunities available to it. For it would seem that only if it does so will funds become most readily available to companies which can best make use of them in the light of prospective consumer demands, technological circumstances and other pertinent developments in the future. Apparently, only if stocks are valued in this way will funds be provided most abundantly and at most reasonable terms to the most promising innovator who, according to the classical theory of economic development, has the greatest use for them and who is the one that can obtain the profits which will serve as the investor's reward. Finally, it may seem that only if stocks are valued in this way, that is, if they are priced in terms of the prospective earnings of the company, the market can serve as an effective disciplinary device which punishes management whose operations are insufficient or unprofitable. For only then will poor performance cause the market to deny funds to the company or to provide them only on extremely unfavourable terms.

In sum, the prices assigned to stocks by the free market are critical to the effectiveness of the market as a resource allocator. And if these prices are perversely or even randomly related to the future earnings prospects there is no reason to believe that this function will be performed well and effectively. Yet we have all

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[12] Sidney Robbins, The Securities Markets Operations and Issues, 1966,p. 47.

seen cases where the behaviour of prices on the stock market has apparently been capricious or even worse, cases where hysteria has magnified largely irrelevant events into controlling influences.

However, even if the stock market proves to provide a good allocation machine, it may somehow turn out that it is not put to good use or that it is largely redundant in that other forces exist which can perform at least some of its allocation functions just as well. It is obvious that not all firms are equally subject to the discipline of the securities markets.

3.5 Stock Exchange Markets And Economy

Stock prices are sometimes said to be a symptom or reaction, either to past conditions or expected future conditions in the economy. This may be true in large part, but the size of the stock market reaction may well change these future conditions. For example, if it is thought that the economy is going into recession, so that the profits of companies with stocks sold on the stock exchange will take an unexpected dive the following year, stock prices immediately fall. If the stock prices fall by a huge amount, this reaction of stock prices could make the recession bigger than expected. This is because people who own stocks will suffer a significant decline in their wealth. If this decline is thought to be long term, these individuals may dramatically reduce their spending. If individuals regard the decline in stock prices as temporary, some may start spending their money furiously to buy up companies at low prices, creating chains of new spending, which would to some extent offset the stock market decline.

Investment in new plants and equipment may be curtailed by low stock prices. It can become less expensive to buy this capital in another company by buying up their stock at the low prices.

It may well be that one of the reasons for a stock market decline is the attempt to sell off stocks in order to invest funds in other parts of the economy, such as the home building industry, in which case the stock market's decline may to some extent be the result of another sector's expansion. Economist call this a portfolio adjustment.

Stock prices are set by the supply and demand forces. Supply and demand factors affect not only the price levels but also the other characteristics of the market such as depth and liquidity.[13] Özçam says that there are two main primary sources in Turkey; one is the private sector and the other is public sector issues through privatisation. And he adds that the reasons for neglecting the stock market in a bank-based system until recent years were the following:

1-The family companies were afraid to lose the control of management by public offerings.

2-Every conglomerate has its own bank for financing its operations, and furthermore many firms have close ties with banks.

3-Debt financing has the tax advantage that interest payments can be subtracted from income.

The low real interest rates policy of government until the 1980s can also be taken as a reason for choosing debt financing.[14] The stock market is notoriously important in influencing a wide range of decisions. The amount of business capital expenditures and the length of forward commitments are clearly influenced. Such things as vacation spending, foreign travel, sales of automobiles, markets for expensive housing are all influenced by shortrun stock market movements. The connection of other capital markets and of money markets to business activity in a causal sense is less clear, but some relationship probably exists.[15]

3.5.1. Determining the Stock Price

The price of a stock is determined by the interaction of the demand and supply factors. This is the same way in determining the price of any commodity. Many factors affect the demand for stock. Sidney Robbins says in his book about factors affecting the demand for stock that the amount of national income represents the basic source from which funds must be drawn. Individual saving patterns influence the flow

[13] Mustafa Özçam, Macroeconomic Factors That Determine Stock Returns in Turkey, Capital Market Board Publication,Ankara,1997. page 55.

[14] Ibid, p. 55.

[15] Roland Robinson, Money and Capital Markets, London, 1964, p. 25.

of these funds to the stock market or to competing saving outlets. Credit availability may add to this flow.[16]

Robbins also adds that the public interest in the stock market, which may be stimulated through the uses of modern advertising practises, may divert funds from other sources, thereby augmenting demand. Similarly public confidence in the integrity of the securities markets is a powerful factor in creating willingness to buy stocks. Much of the apathy toward securities in countries like Turkey and Iran, which have little history of financial markets but are eager to develop them, arises from public reluctance to trust funds to this source. In order to overcome this reluctance, efforts to develop securities markets in these countries place considerable reliance upon the commercial banks, which are held in high regard by the general public.

The desire motivating the purchase of a stock is more complex. In the case of a proxy battle, the desire may be for power and control of the business. Or a corporation may desire to repurchase its own stock in the open market to raise its book value, to procure shares for subsequent use in option and savings programs, or to effect corporate acquisitions. More fundamentally in most cases, stocks are bought for two principal reasons: income or capital gains. Both reasons may, and indeed probably will, be present at the same time, but depending upon the period involved and the nature of investor, one is likely to be more prominent than the other.[17]

An investor does not necessarily know that the purchase will satisfy his want for income or profits. In most instances this will depend upon the economic fortunes and financial policies of the firm whose stock he has bought. In guiding his purchases by attending to anticipate these conditions, the investor influences the prices of the stock and therefore the company's direct and indirect financing potential.

Sidney Robbins says also in his book about the supply of stock that as the demand for securities has grown, coincident with rising income and expanding investing community, upward pressure on stocks has been exerted. In the trading markets, however, supply is determined not only by the amount of new issues but also by the amount of currently held shares that may be offered by existing holders. Like the

[16] Ibid, p. 34.

[17] Ibid, p. 35.

demand for stock, similar forces affect the supply in the trading markets but in an obverse manner. During an economic boom, investors are more likely to hold their shares and therefore supply characteristically lags behind demand, driving prices upward. As the cycles turns, and profit shrinks while unemployment rises, both individual and institutional investors find it necessary to sell stock to protect profits or to raise funds not forthcoming from other relapse.[18]

It seems generally agreed that the price of a company's shares should, ideally, measure the value of the firm whose ownership they represent. More specifically, most analysists would doubtless agree that the price of a security should be determined, ultimately, by the prospective earnings of the company. It is not clear, however, how closely the value of future earnings and share prices correspond in practise.

Price of corporate shares are determined by the state of and outlook for the economy, by the fortunes of particular industries, by the performances - past, present, and potential - of particular companies, and by millions of individual estimates of all these things by the investing public. The market is acutely sensitive and overreacts to events. The market fears uncertainty most of all.

Moreover, it can be argued plausibly that the pricing of securities in accord with earnings prospects is precisely what is required for an efficient allocation of capital resources. For if the prices of the securities of an operating company did not correspond to its earnings, funds would not flow more readily to the firms best able to utilise them, where such ability is necessarily measured by prospective returns to the firm. An issue of a given number of securities by a firm with particularly promising investment opportunities need not, in such circumstances, yield a correspondingly large amount of money capital. Real resources would, as a consequence, be allocated imperfectly. Moreover, if security prices were divorced from earnings potential the stock market could not be expected to serve as an effective disciplinary force capable of pressing management to maintain the efficiency of company operations If a low earnings firm were as likely to encounter favourable funds market conditions as was one offering higher returns, a tangible incentive to efficiency would be destroyed. Thus

[18] Ibid, p. 36.

the price of a security on the market is of critical importance for resource allocation, and we have good grounds for concern with the subject.

If the security market have a structure which tended to produce prices corresponding to long run competitive equilibrium we would have some presumption that all would automatically be well. All the usual conditions of long-run competitive equilibrium , the marginal equalities which guarantee that everything is optimal would apply equally here. In such circumstances the price of the stock would, to begin with, reflect the marginal valuation of the security by its purchaser. Here we encounter a complication-the utility obtained by holding a security is in some sense a derived demand- that is, the security is itself an instrument whose value stems from the stream of income it provides to its holder. But it is precisely this feature of the long-run competitive securities price which would guarantee that it did reflect the earnings prospects of the economy.

In addition to the demand adjustment implied in as long-run competitive equilibrium, it also must satisfy the usual supply condition which requires that the value of the security equal its marginal cost. Unfortunately, in the case of a stock, what we mean by its marginal cost is not even clear in principle. A great deal of controversy has centred about just this matter. There is no good reason to doubt that the market's valuation mechanism will serve to produce equality between a security's marginal cost and price.

There are two conflicting views on security pricing. These views can be summarised as follows. Determination of security prices can be characterised in terms of two limiting cases. One of these two extreme types of explanation accounts for the price of a stock in terms of the value of the company whose securities are in Justin. In this type of analysis stock prices tend generally to be set systematically and rationally by a process which leads them to approximate the economy value of the real resources which they represent.

The second limiting approach envisions the determination of stock prices, essentially, as a speculative and anticipatory phenomenon in which stock prices are what they are only because of what purchasers and sellers expect them to be. Thus, market values would largely or exclusively reflect the psychological state of security purchasers and sellers. In one extreme variant of this sort of model the earnings prospects of the firm only enter the pricing process because they constitute one among the many stimuli which happen to influence speculative anticipations as to what other speculators are going to do.

Superficial observation readily lends support to either of the views on the determination of stock prices which we are discussing. When there is an announcement of a piece of news about a company's earnings prospects which disappoints current expectations, the price of its security can be expected to fall; so that security prices are quite sensitive to changes in the anticipated future returns of the firm. On the other hand, many stock price movements seem to have no interpretation unless one is prepared to attribute absolute and totall irrationality to security traders.

4. FUNCTIONS, GOALS AND CONDITIONS OF STOCK MARKETS

4.1. Functions of Stock Markets

Stock markets if they are accepted as a main part of secondary markets, perform the functions of secondary markets. Secondary markets are vital to the development of capital markets. The basic functions of secondary markets are summarised below under the assumption that the markets have depth, breadth and resiliency, and that transactions costs are low.[19]

The function of secondary markets are detailed in the study of Akyüz as follows:[20]

1. Secondary markets provide liquidity for outstanding securities. As both sellers and buyers can trade quickly in such markets, investors are provided with the desired flexibility.
2. Secondary markets provide liquidity and the possibility of increased asset diversification, encouraging investment in securities. Therefore financial savings are encouraged.
3. Secondary markets provide the basis for prices/rates and maturities in the primary markets. On the other hand, the marketability of securities increases share and reduces the cost of borrowing in the primary markets.
4. The liquidity provider role of the secondary markets permits long-term investments to be financed by short term funds.
5. The existence of secondary market is an absolute prerequisite to the development of a primary stock market, as investment in stock is a life time commitment.

In addition to these basic functions, properly operating secondary markets protect investors and encourage widespread share ownership and good business practices.

In his speech, Bolak also says something about the functions of stock exchanges. He says that stock exchanges are the most important institution which help the proper functioning of financial markets, especially capital markets. The

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[19] Jamshed Gandhi, Reflection on the Operation of capital Markets, Conference, Capital Market Board Publication, p.13.

[20] Abdullah Akyüz, The Organization, Operation And Efficiency of Secondary Markets in Turkey, Conference, CMB Publication, p. 153.

stock exchange which is one of the basic institutions of a market economy can functions as follows;[21]

1- to provide liquidity and mobilise the savings,

2- to determine a unique price in the market for any security, by providing marketplace between sellers and buyers,

3- to spread the ownership to the public,

4- to provide a security environment for small investors,

5- to become an indicator like a barometer, just to show the success of the companies whose shares are listed in the stock exchange,

6- to mobilise investment and promote investment structure.

He also adds that, in spite of the functions of stock exchange, companies in Turkey are irritated to use the functions of stock market. He has determined the reasons why companies do not open their ownership to the public as;

1- the issue of new stocks will reduce the well-being of current stockholders by making a portion of their rights, available to new ones.

2- opening the ownership to the public will reduce the control of the company on current stockholders, and give the rights to the new stockholders to vote for some company decisions.

3- obeying the regulations for full disclosure will need to submit the financial statements to the public after independent auditing. This means that they will consider transaction costs and explain some trading rules to the public.

In his opinion, these are the reasons which are in mind of current stockholders. But after 1 July, 1980, because of high nominal interest rates in deposits and on credit loans, these sources have become an expensive sources for companies. Moreover, due to the competition, they have a low profit margin and are unable to use retained earnings for internal source of investment. These have caused to opening to the public.

By looking at the tables prepared by Bolak, we can see that in Turkey until 1994, companies were not able to use the functions of stock market. The

[21] Mehmet Bolak, Tasarrufların Yatırıma Dönüştürülmesinde Menkul Kıymet Borsalarının İşlevi, Karşılaşılan Sorunlar ve İzlenecek Politikalar, Seminer, İktisadi Araştırmalar Vakfı Yayınları, İstanbul,1995, p. 47.

percentage of public offering between 1986-1994 can be seen in Table 2. Table 3 shows the funds which are obtained by borrowings.

Table 1. Funds Obtained By Issuing Shares. (Billion TL)

Years	Rights	Public Offering	Total
1986	(a) 23.1	(b)	23.1
1987	(a) 100.9	-	100.9
1988	317.0	-	317.0
1989	859.5	-	859.5
1990	1,934.8	-	1,934.8
1991	5,993.4	1334.1	7,327.5
1992	6,266.1	620.5	6,886.6
1993	6,364.0	1649.9	8,013.9
1994	29,289.0	7683.7	36,972.7
(c)1995	32,745.5	10177.7	43,073.2

Source: Prepared by using the ISE 1986-1994 Yearly Bulletin And 1995 Weekly Bulletin

(a) Capital Increases between 1986 and 1987 belong to the companies who are listed in first market.

(b) Information about the public offering before 1991 is non available

(c) Comprise the period until September

Table 2. Funds Obtained By Borrowings (Billion TL)

Years	Bonds	Bank	Commercial Paper	ABS*	Total
1986	111.1	60.3	-	0.9	172.3
1987	317.5	76.2	55.8	0.8	450.3
1988	210.9	238.0	271.0	0.2	720.1
1989	604.5	98.0	465.4	2.0	1,169.9
1990	762.4	330.0	215.1	4.0	1,311.5
1991	813.4	726.0	667.3	15.0	2,221.7
1992	796.9	770.0	1,006.6	60.0	2,633.5
1993	715.2	2,387.5	1,205.5	-	4,308.2
1994	491.1	2,024.6	156.5	-	2,672.2

Source: Capital Market Board, Government Planning Institute, Undersecretariat of Treasury and Foreign exchange

* Asset Back Securities

4.2. Goals In Setting Up A Stock Market

4.2.1. Stimulating Saving

A function performed by many different types of financial institutions is the accumulation or gathering together of individual savings. It is known that one of the functions of a financial system is to accumulate savings in financial institutions. Government and private financial institutions of many kinds have developed instruments and procedures to perform the accumulation of savings in financial institutions. In establishing a stock exchange and listing securities on stock exchange, this function of financial system is considered.

Every economy strives to increase saving in order to introduce greater capital into economic circulation. A negative rate of interest and monopoly in the accumulation of deposits do not encourage saving. The development of a capital market and the spread of various forms of securities make it possible that those who formerly spent their savings on some luxury articles or invested their money outside the economy, should now buy stocks and thereby help the realisation of certain investments.

Dynamic capital market does more than simply promote optimal allocation of given funds. It also stimulates additional saving and investment. In the process of obtaining the best compositional flow of funds, a well-functioning capital market, simultaneously, raises the marginal utility, usefulness of saving and lowers the marginal cost of finance. By widening savers' choices, both risk averters and risk takers are encouraged to save more, because the effect of these capital market pooling operations is to increase the rate of return available for a given risk. Similarly, through the implicit diversifying operations of the capital markets, higher rates of return are possible without decreasing somebody's liquidity. In sum, an effectively cooperative capital market not only makes for optimal uses of a pool of existing funds but it also tends to augment the size of that pool by lowering the required rate of return on investment and by raising the rate of return on saving for given risk classes.

It may rightfully be expected that the introduction of new types of securities will continue to raise the stock of savings. When deciding on their savings the owners of money take widely varying factors into consideration. Some prefer relatively low proceeds and high safety, others are willing to take higher risk for higher proceeds. One cannot speak about a well operating capital market unless every potential investor can find a form of investment that is best suited to this aim and unless the foreseeable proceeds stimulate investments in the first place, i.e. redirect money which would be spent on something else. From the very safe state securities, through the somewhat less safe and unguaranteed enterprise bonds quite up to very unsafe and non-guaranteed enterprise bonds which, however, hold out the promise of substantial gains, stock of all kinds are necessary. Of course it is not sufficient to develop a variety of forms of stocks, the conditions under which they work must be entrusted to the market. The task of state control, even in this field, is to develop market rules and elaborate laws which ensure a relative freedom for their enforcement.

In its widest and most comprehensive sense a capital market consist of the channels or institutions by which the savings of a society are collected and transferred to the ultimate users, commercial and industrial enterprises or the government.

The stock markets, as a secondary market, by trading previously issued securities does not directly affect current savings or spending decisions because any activity in the stock market constitutes for society a whole portfolio substitution effect. That is, the composition of wealth is affected but not its volume.[22]

However, that a security is tradable on a stock market affects the ability and the terms upon which it can be issued. Thus the markets interconnect and this interconnection is central in the operations of capital markets.

4.2.2. Improving the Investment Structure

One of the functions of financial system is lending and investment. This function is performed mainly by the financial institutions.

The money that has been put into these institutions may be loaned to businesses, farmers, consumers, institutions, and governmental units. It may be loaned for different purposes, such as to buy buildings or equipment, or to pay current bills.

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[22] Gandhi, p. 4.

This money may also be loaned for varying time periods. Some financial institutions make loans of almost all types to all groups of borrowers, others specialise in only one or perhaps several types since procedures are different in different types of lending. Some financial institutions invest all or part of the savings that have been put into them in shares of ownership in a business.

In an efficient capital market earnings must be channelled to areas where their utilisation offers the best potential. Buying stocks means decision on an investment, and even if the motivation for the acquisition of stocks is exclusively that of making profit, decisions on investment will nonetheless be induced by that acquisition. In such cases decisions on investments take place on the market, and for financing those investments which the holder of the money finds unsafe or excessive, the required funds will not be forthcoming.

The effect of the capital market on the transformation of investment structure operates only over the long run and only within certain limits. As in every market, this one is open to manipulation, particularly over the short term. Nor is it certain that every decision is correct. Nevertheless, the capital market system offers an important advantage over state investments, in that the risk is shouldered by those who hold the money and by society. If their decisions were wrong, if they invested their money in the wrong place, they bear the consequences.

The presence of investment sources on the capital market acts as another motive force in the improvement of enterprise management. The very existence of the capital market ensures openness. Namely, to sell stocks, the issuer must provide complete information to the investors, and this enables the holders of the money to exercise supervision only over the use of their money. If bonds are concerned, this supervision is only over the investment in questions, if shares are concerned, over the entire business. Over the long run wrong decisions, even for the share companies might lead to a drop in the quotations, even to the unsaleability of the shares and ultimately the relieving of the whole management.

It would be erroneous to overestimate the influence of the capital market on investments.

4.2.3. Promoting the Engagement of Foreign Capital

The creation of a stock market and its opening to foreign parties will give a major impetus to foreign parties to invest and induce people to buy stocks. It may give rise to the engagement of foreign capital.

In the development of the economy and the efforts to promote and finance restructuring the engagement of foreign working capital plays a particularly important role. Foreign capital can be attractive as a direct investment in productive sectors or financial investment in financial markets. One of the major impediments to the engagement of foreign capital is lack of a well organised capital market. Such a market might attract sizeable sums of operating capital. Without an operative stock market the share in the capital of the foreign parties cannot be sold at all or only with difficulty, and so their chances for withdrawing their invested capital is small. This naturally discourages potential investors or induces them to take a particular attitude.

Existence of an operative capital market may be instrumental in the engagement of foreign capital. It may make further investors interested, allow them to buy securities in the stock markets.

According to John Molton, economic reform in developing countries- including equity market opening, international equity offerings and policies to stabilise prices and exchange rates- have encouraged large increase in foreign purchase of emerging markets equity shares in recent years. Economic reforms and equity portfolio in flow have helped together to integrate developing country equity markets with the global financial system.[23]

4.2.4. Marketing of Claims and Market Building Role

Financial system provides markets and procedures for the transfer of claims to wealth, such as promissory notes and share of ownership in a business, and for the conversion of such claims into cash. Such markets and procedures facilitate the process of capital creation since saving will be made available for investment in

[23] John Molton, Emerging Equity Markets In the Global Economy, Federal Reserve Bank of Newyork, 1993, Vol. 18, Number 2, p. 82.

sufficient sums by a large group of investors only when the saver quickly and easily converts his claim into the cash when he has a need or desire to do so. For example, several million of individuals are willing to invest billions of Turkish Lira in the shares of Petkim because the facilities of the Istanbul Stock Exchange make it possible to sell their shares of ownership to other investors easily and quickly.

Existence of a small and weak stock market must comply with rules. No doubt that market may be manipulated but only in recognition of its rules and by consciously evolved interference. Otherwise, attempts to manipulate the market may produce perverse results quite different from those desired by the interfering parties.

The recognition of and obedience to laws, and interventions on their basis, may have favourable effects on economic policy. The capital market has an important role to play in providing information that helps senior management to exercise control over economic policy and structural decisions. While it is not an absolute yardstick, its trend provides significant information in the long run. It is of no coincidence that the analysis of the quotations at the stock market constitutes an important basis for judgement about the economic situation.

The capital market may help to judge decisions of lesser significance. It is extremely important for the economy what the potential investors expect, how they behave and what their points of view are. These are clearly indicated by the capital market. From the analysis of the trends on the capital markets conclusions can be drawn regarding forecasts about the economic situation, eventual inflationary tendencies, and the modification in investment structure.

Some concrete decisions are also valued on the capital market. Decisions on industrial branch, an industrial sector or on enterprise may change quotations and investment attitudes. However, the mechanism of evaluation of decisions on the capital market has been elaborated since decisions are taken by enterprise and not by the Government. Decisions on the business, the prospects, profits or even on the composition of management, may have a significant influence on the quatotions of the stock. Constant valuations not only carry important information for economic policy but also act with considerable force upon the decision makers. It should be stressed that one stock exchange does not serve as an absolutely exact and reliable yardstick. There might be no such yardstick in the economy. The scope of being evaluated at the Stock Market is limited since the stocks of only a small percentage of enterprises are quoted and, in particular over the long run, the measurement may be manipulated. But not withstanding this, and in consideration of it, we may say that the stock market fulfils an important role in providing information. But it would be a mistake to look to such measurement with expectations that it is possible to create a system capable of regularly and continuously evaluating every decision of every managing unit in the light of the value judgement of the market.

4.3. Conditions For Setting Up a Stock Market

a- Economic and political stability is a prerequisite for the creation of an operative stock market. The purchase of stocks is meant as a long-term investment and people investing their money for the long term expect stability, accountability and safety, in the first place.

Stability does not mean a rigid market or the unchangeability of the regulators. It is the principal tendencies that must be stable and predictable.

b-The most important issue for both stability and safety is the problem of ownership. It is important to arrange the systems of common, state and private ownership in a way that operates rationally in practise.

As regards private ownership it is necessary to fit the concepts of the money holder and the money investor into our system of social values. We must realise that rational management demands that the most favourable investment shall be chosen. And in this the capital market can mediate, and in these circumstances, those on the capital market play important roles in the economy. To build up an efficient and acceptable system we must distinguish between socially and economically useful actions.

The capital market depends on confidence. Investors will only be willing to let their money pass into circulation via this sub-system if they trust that they have no reason to fear misuses, and if the operation of the system is clear and can be checked upon. They have to know also that their acts are useful for society.

c- The monetary base should be expanded. Money holders should be granted freedom of decision. Freedom of decision should increase in every strategy of money holders, including those who manage funds, and private persons alike. For the operation of stock market and money market it is imperative that the organisations handling huge state budgets should enjoy the same freedom of decisions as do the enterprises- naturally within the framework set down by the budget regulations.

d- Special mention is due to the problem of taxation. The crucial problem is whether the budget should redistribute it along its own channels or, by reducing tax rates, leave the better part of incomes with the money holders to let them invest on the capital market.

e- For the engagement of foreign capital investment through the capital market, the convertibility of the foreign capital may also be necessary. Openness, and direct participation in international capital flows, are inconceivable without a convertible currency. Then convertibility must be increased.

f- Higher flexibility would be instrumental in joining the international flow of capital. Capital flow among the countries and liberalisation of trade might have important consequences favourable to the creation of a capital market.

g- For the creation of a capital and stock market, technical, organisational conditions and training of experts have great significance. Obviously, the information basis for the market, the rules of trade and the technical means of operation shall be implemented according to well thought plans, in consideration of their role in the stock market. The same holds true for the training and education of experts at different levels.

5. ECONOMIC POLICIES AND STOCK MARKET BEHAVIOUR

It is not clear that whether the stock markets facilitate or complicate the macroeconomic adjustment process in the economy. The argument is that if these markets were able to channel funds to the most productive sectors of the economy, they would make an important contribution to economic development. This is especially important given that in the most least developed countries' credit markets are characterised by imperfect information and oligopolistic banking structures. A well functioning equity market can be regarded as a precondition for complete financial liberalisation.

Investing in emerging capital markets is a relatively new phenomenon. It is typically characterised by the flow of capital from developed economies to those that are in the process of development. The beginning of Turkey's ambitious liberalisation program marks Turkey's emergence. Liberalisation of foreign trade, dismantling of foreign currency restriction, freeing the flow of capital were hallmarks of Turkey's achievement.[24]

5.1. Asset Pricing Models

5.1.1. The Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) gives us a precise prediction of the relationship that we should observe between the risk of an asset and its expected return. This relationship serves two vital functions. First, it provides a benchmark rate of return for evaluating possible investments. For example, if we are analyzing securities, we might be interested in whether the expected return we forecast for a stock is more or less than its "fair" return given its risk. Second, the model help us to make an educated guess as to the expected return on assets that have not yet been traded in the marketplace. For example, how do we price an initial public offering of stock? How will a major new investment project affect the return investors require on a company's stock?.[25]

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[24] Hakan Ferhatoğlu,Turkish Capital Markets and Its Prospects Among emerging Markets, Dünya Gazetesi Eki,Istanbul, 1994.

[25] Zvi Bodie, Alex Kane, Alan J. Marcus, Investments , Mc Graw-hill Comp. Inc. 1996, p. 237.

The CAPM was developed independently in articles by William Sharpe,[26] John Lintner,[27] and Jan Mossin.[28] So, It is often called the Sharpe-Lintner-Mossin form of the CAPM. Besides this, there are many different derivation form of the CAPM.

The CAPM bases on the assumptions such as;[29]

- There are no transaction costs and personal income taxes.
- Assets are infinitely divisible.
- Investors are price-taker. They are inability to affect asset prices.
- Investors are expected to make decisions solely in terms of expected values and standard deviations of the returns on their portfolios.
- Unlimited short sales are allowed.
- Unlimited lending and borrowing at the riskless rate.
- Homogeneity of expectations.
- All assets are marketable. All assets, including human capital, can be sold and bought on the market.

In general, these assumptions are made so that we can obtain a definitive picture of the relationship between risk and expected return in the market. Many of the assumptions of the capital asset pricing model are admittedly unrealistic. However, it should be stressed that the model can be derived without the need of making many of these assumptions.[30] For example, the model has been derived in the presence of transaction costs, taxes, and differing beliefs regarding probability distribution.[31]

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[26] William Sharpe, " Capital Asset Prices: A Theory of Market Equilibrium," Journal of Finance, September, 1964.

[27] John Lintner, " The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets," Review of Economics and Statistics, February 1965.

[28] Jan Mossin, "Equilibrium in a Capital Asset Market," Econometrica, October 1966.

[29] Edwin J. Elton, Martin J. Gruber, Modern Portfolio Theory and Investment Analysis, 3rd.Edt. John Wiley & Sons, Inc. Newyork, 1987. P.262.

[30] Robert A. Haugen, Modern Investment Theory, 2nd. Edt. Printice-Hall International Edt.,London, 1990, p.203.

[31] See Chen, Kim, and Kon (1975) for a derivations of the CAPM under transaction costs, Brennan (1973) for a derivation under personal income taxes, and Lintner (1970) for a derivation under heterogeneous expectations.

Although these assumptions do not hold in the real world, under these assumptions of the CAPM, the only portfolio of risky assets that any investor will own is the market portfolio. We know that the market portfolio is a portfolio in which the fraction invested in any asset is equal to the market value of that asset divided by the market value of all risky assets. All investor will adjust the risk of the market portfolio to his or her preferred risk-return combination by combining the market portfolio with lending or borrowing at the riskless rate. This leads directly to the two mutual fund theorem. The two mutual fund theorem states that all investors can construct an optimum portfolio by combining a market fund with the riskless assets.[32]

The CAPM is classified as a positive theory since it is concerned with the determination of the prices of capital assets in a competitive market.[33] The traditional formula of CAPM is the following.

$$E_i = R_f + \beta_i (E_m - R_f) \qquad (5.1)$$

E_i : Equilibrium return on i th asset

R_f : Risk free rate

β_i : Systematic risk of i th asset

E_m : Equilibrium return in the market.

The systematic risk is the only factor that determines returns in the CAPM model. If investors are able to eliminate unsystematic risk through diversification, there is no need to compensate for bearing it. The stocks (or assets) that have higher β are expected to give higher returns or higher losses, because they are riskier than lower β stocks. However, because of their higher risks they are expected to give higher returns in the long run.[34]

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[32] Elton-Gruber, p. 275.

[33] Oral Erdoğan, Comparable Approach to "The Theory of Efficient Markets" A Modified Capital Asset Pricing Model For Maritime Firms, Capital Market Boards Pub. No 53, Ankara, 1996, p.28.

[34] Mustafa Özçam, Macroeconomic Factors That Determine Stock Returns in Turkey, Capital Market Board Publication,Ankara,1997. page 4.

5.1.2. The Arbitrage Pricing Theory (APT)

The Arbitrage Pricing Theory is a different approach to determining asset prices. The Arbitrage Pricing Theory was developed by Stephen Ross in 1976.[35] The APT is an extremely appealing model. It depends on the assumption that a rational equlibrium in capital market precludes arbitrage opportunities. A violation of the APT's pricing relationship will cause extremely strong pressure to restore them even if only a limited number of investors become aware of the disequilibrium. Furthermore, the APT yields on expected return- beta relationship using a well-diversified portfolio that practically can be constructed from a large number of securities.[36]

It is based on the law of one price: two items which are the same can't sell at different prices. The strong assumptions made about utility theory in deriving the CAPM are not necessary. In fact, the APT description of equilibrium is more general than that provided by a CAPM-type model in that pricing can be affected by influences beyond simply means and variances. The assumption of homogeneous expectations is necessary. The assumption of investors utilising a mean variance framework is replaced by an assumption of the process generating security returns.[37]

Ross starts by examining a single-factor model. In the model uncertainty in asset returns has two sources; a common or macroeconomic factor; and a firm specific or microeconomic cause. In the factor model the macroeconomic factor is assumed to have zero expected value, and it is meant to measure new information concerning the macroeconomy. New information has, by definition, zero expected value.

According to the APT, the asset return is given as follows. APT requires that the returns on any stock be linearly related to a set of indices as shown in the following equation.

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[35] Stephen Ross, " Return, Risk and Arbitrage," in I. Friend and J. Bicksler, eds., Risk and Return in Finance, Cambridge, Mass, Ballinger,1976.

[36] Bodie-Kane-Marcus, p. 300.

[37] Elton-Gruber, p. 337.

$$R_i = a_i + b_{i1} f_1 + b_{i2} f_2 \cdots\cdots + b_{ij} f_j + e_i \qquad (5.2)$$

a_i : the expected level of return for stock *i* if all indices have a value of zero

f_j : the value of the *j*th index that impacts the return on stock *i.*

b_{ij} : the sensitivity of stock *i*'s return to the *j*th index.

e_i : firm-specific disturbance on the return of stock *i*

It is assumed that the common factor, f, have mean zero, variance one, and to be linearly independent. The common factor, f, and e are also independent.

For the model to fully describe the process-generating security returns:

$E(e_i e_j) = 0$ for all *i* and *j* where *i* not equal *j*

$E[e_i (f_j - E(f_j)] = 0$ for all stocks and indices

To make the factor model more concrete, consider an example.[38] Suppose that the macro factor, f, is taken to be the unexpected percentage change in Gross National Product (GNP), and that the consensus is that GNP will increase by 4 % this year. Suppose also that a stock's *b* value is 1.2. If GNP increases by only 3%, then the value of f would be -1%, representing a 1% disappointment in actual growth versus expected growth. Given the stock's *b* value, this disappointment would translate into a return on the stock that is 1.2% lower than previously expected. This macro surprise together with the firm-specific disturbance, *e*, determine the total departure of the stock's return from its originally expected value.

This pricing relationship is the central conclusion of the APT which means that assets' expected returns are jointly based on the assets' sensitivity coefficients and the common risk premia.

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38 Bodie-Kane-Marcus, p, 293.

Chen, Roll, and Ross have hypothesized and tested a set of economic variables. They reason that return on stocks should be affected by any influences that effects either future cash flows from holding a security or the value of these cash flows to the investor (e .g. changes in the appropriate discount rate on future cash flows).[39]

As an alternative to using factor analysis to test the APT, you can hypothesize that a given set of specified factors explains the covariance matrix between securities. Chen, Roll, and Ross construct sets of alternative measures of unanticipated changes in the following influences.

1. Inflation. Inflation impacts both the level of the discount rate and the size of the future cash lows.

2. The term structure of interest rates. Differences between the rate on bonds with a long maturity and a short maturity affect the value of payments far in the future relative to near-term payments.

3. Risk premia. Differences between the return on safe bonds (Aaa) and more risky bonds (Baa) is used to measure the market's reaction.

4. Industrial production. Changes in industrial production affect the opportunities facing investors and the real value of cash flows.

Chen, Roll, and Ross then examined these measures or indices:

1. To see if they were correlated with the set of indices extracted by the factor analysis used by Roll and Ross.

2. To see if they explained equilibrium returns.

When they examine the relationship between the macroeconomic variables and the factors (indices) over the period to which the factors were formed, they find a strong relationship. Furthermore, when the relationship is tested over a hold-out period (a period following the fit period) the relationship continues to be strong. These appears to be a significant relationship between the hypothesized macroeconomic variables and the statistically identified systematic factors in stock market return.[40]

Shanken (1982) has raised another serious issue relating to the testability of the APT. He argues that the shares of stock traded in the market place

[39] Elton-Gruber, p. 351.

[40] Ibid, p. 352

are actually portfolios of the individual units of production in the economy. These portfolios were created through merger and by the adaptation of multiple capital budgeting projects by individual firms. Consequently, given a factor structure that relates to the return on the individual units of production, we may not be able to recognise it on the basis of the portfolios (the stock traded in marketplace).[41]

Although the APT defines the equilibrium relation for all assets, it gives no explanation about the number and the contents of the factor. It also gives no information about the size and signs of the sensitivity and the expected returns.

5.2. Monetary Policy and Stock Market Behaviour

The literature on the relationship between money and stock prices identifies two competing hypotheses. First, the monetary portfolio hypothesis suggests that changes in the money supply result in changes in the equilibrium of money with respect to other assets in the portfolio of investors. Investors, then, adjust the proportion of the asset portfolios represented by money balances. However, because all money balances must be held, the system does not adjust until changes in the prices of various assets lead to a new equilibrium. The hypothesis was first proposed by Brunner.

To understand the economic nature of portfolio hypothesis we can say, "the portfolio effects of the Fed's monetary policy actions stem from the kind of balancing portfolio selection process that is presumed to characterise wealthholders' behaviour. A Fed policy action changes the supply of securities held in the private sector, the quantity of money, security prices, and interest rates, and thus it disturbs the balanced position of wealthholders. Wealthholders respond by taking action to restore their risk-return equilibrium. These actions include the sale or purchase of securities and spending on real (as well as financial) assets. [42]

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[41] Haugen p. 269.

[42] S. Henry Cooper and Donald. R. Froser, The Financial Marketplace, Fourth edition, USA,1993, p. 649-650.

There are some studies to develop and estimate a relationship between the supply of money and stock prices, and then to evaluate the usefulness of this relationship as a forecasting tool in implementing investment strategies. First they regress stock prices on the level of the money supply, the growth rate of money supply and they find a positive relation between stock prices and money supply variables. This relationship between stock prices and money supply is largely indirectly working through the effects on interest rates and expected corporate earnings. These indirect relations do not appear to be consistent with the evidence, and there should be also and important short run impact on the stock market which is independent of the influence money has on interest rates and expected corporate earnings.

In his article Boyle[43] uses a paragraph saying that Friedman (1998) suggested that portfolio substitution effect cause the positive relation between velocity and deflated stock prices that he observed: a fall in stock prices reflects substitution from stocks to safe assets (such as money). The analysis above suggests that substitution factors are indeed the primary determinant of his relationship but general equilibrium effects cause the adjustment to be more complex than indicated by Friedman's partial equilibrium argument.

In general, all studies find strong relationship between stock prices and money supply, and some conclude that stock prices actually anticipate future monetary growth and market efficiency.

Boyle also adds that output shocks affect both money velocity and stock prices. But, monetary shocks have no real effects on asset prices, however by altering investor expectations, changes in the money growth can alter equilibrium prices in a nonneutral fashion. That is, anticipated changes in future monetary conditions do have real effect. In practise, expectations about future monetary conditions undoubtedly vary over time.

Boyle concludes his thought that money demand depends on the nominal interest rates, changes in money demand via the impact on the nominal interest rate. This permits identification of (i) the mechanism that cause money velocity

[43] See for more details, Gleen W. Boyle, Money Demand and the Stock Market in a General Equilibrium Model with Variable Velocity, Journal of Political Economy, 1990, vol,98 no 5

to be positively (negatively) correlated with deflated (nominal) stock prices and (ii) the channels by which expectations about future monetary conditions affect asset returns.

It is also examined whether stock prices are a leading, lagging or concurrent variable with respect to economic variables.

The second hypothesis is the efficient market hypothesis (EMH).[44] Efficient market hypothesis has won widespread recognition in explanation of stock price in the economic and finance fields. Financial markets. Financial markets are said to be efficient if the prices of the securities traded fully reflect available information. This is a rather weak, vacuous statement unless it is better specified. What is "available information and how does one know when prices "fully reflect" it? The finance literature has developed rigorous and sophisticated testable hypotheses to put meat on the bones of this definition of efficient markets.[45] The same authors in their books also say that only new information can affect the price of a company stock, since old information is instantaneously reflected in (discounted into) the price. The sequence of past changes in the price of a stock contains no information about future price changes. Future price changes are random, or not predictable. A series of numbers random changes, or differences between the numbers, is called a random walk. The requirement that stocks behave as a random walk was found to be an unnecessarily stringent requirement for the existence of efficient markets. Furthermore, stocks do not precisely follow a random walk, although day-to-day fluctuations are close to being a random walk. Instead, the stock market could be described as a fair game. The fair-game explanation of efficient markets allows general trends in prices, but it holds that no one can benefit from knowing more about a stock than its price. Given only the present public knowledge, no trading system or any public information can increase the expectation of profits above that conferred on market participants who only know the current prices of the stock.[46] The rapid growth of stock markets naturally raises the curiosity to investigate how efficiently the markets allocate scarce resources. The argument is that if these markets were able to channel funds to the most productive

[44] İlker Parasız, Pay Senetlerinin Değerlemesinde Rassal Seçim Kuramı ya da Etkin Piyasa Hipotezi: Para Banka ve Finansal Piyasalar, 4. Baskı, Bursa 1992, p. 221.

[45] Robert D. Auerbach, Money Banking, and Financial Markets, USA,1982 p. 162.

[46] Auerbach, p.162-163.

sectors of the economy, they would make an important contribution to economic development.

In all, existing literature on developed markets and emerging stock markets is conclusive on how efficiently stock market participants incorporate the information contained in money supply changes into stock prices and that investors are not able to develop profitable trading rules with this information. In an efficiently informational market, stock prices immediately reflect changes in monetary policy and accurately anticipate future monetary growth. In particular, there is some controversy over the effect that anticipated as well as unanticipated changes in money supply has on stock returns. The controversy centers on the timing of the relationship that exists. If informational efficiency is rejected, it would mean that in some markets profitable trading rules can be developed to earn consistently higher-than-normal rates of return. This would also question the ability of the ESMs to channel funds to the most productive sectors of the economy.

5.2.1 Stock Market Efficiency

The literature distinguishes among strong, semi-strong and weak form informational efficiency.

(i) The Weak Form

The level of efficiency is derived from the random walk theory and argues that current prices fully reflect all that is known about historical sequences of share prices and that an investor cannot profit from his knowledge of those sequences. Following the papers written in 1959 by Robert and Osborne[47] which implied that share prices were the result of a random process, there was a series of papers during the 1960s demonstrating that successive price changes are predominantly independent and that such independency as does exist cannot be acted upon to show a profit sufficiently great to cover the transaction costs involved. Several tests, for instance, were based upon the technical systems referred to above which stipulated the purchase or sale of a share once it reached a level, a given percentage beyond the previous low or high price. The application of this rule to stock market

[47] H.V. Roberts, Stock Market Patterns and Financial Analysis, Journal of Finance, 14(March 1959) M.F.M. Osborne, Brownian Motion in the Stock Market, 7(March-April 1959)

data over a period of years and for given percentage factors, known as filters, did not produce a significant profit for any of the filters tested. Other mechanical trading rules have been tested and none have been shown to be consistently profitable.

Most of the early exponents of the random walk theory were statisticians and it was not until 1965 that the phenomena was explained in terms of stock market behaviour, first by Paul Samuelson[48] and then, with important amendments by Eugene Fama[49], who in 1970 showed that prices would move in a random fashion in a market that the main condition for efficiency was that a sufficient number of investors should have access to available information. Disagreements between investors regarding the implications of such information will not induce inefficiency unless it can be shown that some investors have a consistently superior record of analysis of information.

Once the relationship between the random walk theory and stock market efficiency had been demonstrated further research was undertaken into the various levels of stock market efficiency that might be identifiable. It was argued that the weak form of market efficiency merely asserted that share prices at any point of time fully reflected all information relating to past movements in share prices so that the existence of the weak form was proven by the work of the random walk theorists. The effect of this conclusion is to destroy completely the logical basis for technical analysis of past share prices is pointless if it is shown that an investor is unable to profit from such analysis. Although technical analysists have disputed the findings of the random walk theory they have been unable to provide evidence that any technique of chart analysis or any mechanical trading role can be relied upon consistently to show a point. The next stage was to define and identify the two further levels of efficiency.

(ii) The Semi-Strong Form

Investigations into the semi-strong form of the stock market efficiency hypothesis were designed to test the extent to which share prices fully reflect public knowledge. Tests were carried out into changes in share prices resulting from stock

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[48] Paul Samuelson, Proof that Properly Anticipated Prices Fluctuate Randomly, Industrial Management Review (spring 1965)

[49] Eugene F.Fama, Efficient Capital Markets, review of Theory and Empirical Work, Journal of Finance, (May 1970)

splits, from further issues of already quoted stocks and from earnings announcements by companies. Research into the effect of stock split was undertaken by Fama[50], who concluded that they had no impact upon rates of return except to the extent that it was felt that they implied a future increase in dividends and thus return earnings and that even where this implication was drawn by investors its effect was fully reflected in the share price by the end of the month in which the split took place.

The test of the semi-strong form conclude that publicly available information is either already anticipated in the share price or the share price reacts so quickly that investors cannot achieve superior investment performance from their knowledge of that information.

(iii) The Strong Form

The final level of market efficiency requires that share prices should incorporate not only all information which is publicly available but also information which is not generally available. Certain groups such as company officers, stockbrokers and institutional investors might be expected to have superior information regarding company trading and this should enable them to achieve superior performance in their investment portfolios. Substantial research has been carried out upon the investment performance of institutional investors and no material evidence has been produced to show that their portfolios consistently outperform randomly selected unmanaged portfolios. A study of trading by corporate insiders show evidence of superior trading on the basis of monopolistic information. The strong form of the market hypothesis is thus not proven with regard to the monopolistic information available to the market traders and to corporate insiders though it appears to hold with regard to the information obtainable by institutional investors and suggests that institutions do not make use of their shareholding strength to obtain superior information. This further suggests that the investment analysis undertaken by such investors and by stockbrokers, whether it is fundamental or technical analysis, does not produce superior performance, and that the expenditure of time and money upon the analysis of information which is either generally available or predictable is unjustified.

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[50] Eugene F. Fama, Adjustment of Stock Prices to New Information, International Economic Review, vol.10 (February 1969)

The overall result of research into stock market efficiency is to demonstrate that the stock market provides a highly efficient pricing mechanism, though it must be remembered that the tests have concentrated upon the short-term reaction of the market to information and there is much less evidence of the long-term correctness of the market. Furthermore the research argues that technical analysis is worthless and that the value of fundamental analysis is highly questionable. Certainly there is no evidence that any proponents of fundamental analysis have been able consistently to show superior performance. On the other hand the logical basis for fundamental analysis has not been attacked, but merely its poor results in practise, and these results could be attributable to the extreme uncertainty of the current economic environment and the poor quality of the information which is available. After all, in an uncertain world, in which few companies themselves are able to predict their future earnings with any confidence, it is unlikely that investment analysis operating at one remove will be able to prepare consistently superior estimates of such earnings, let alone of the value which the market is likely to place upon those earnings.

The main areas of likely inefficiency are insider trading and the superior knowledge of market transactions available to stock market members. Most of the stock exchanges have requested the government to act in order to abolish insider trading and it could itself take a major step forward to counteract the advantages obtained by its members by providing more information concerning stock market transactions particularly with regard to the number and size of daily transactions in each stock listed.

5.3. Budgetary and Financial Policy and Stock Market Behaviour

Many LDCs have, with the support of the International Finance Corporation (IFC), embarked on privatisation of their public sector companies while opening up or revitalising their stock markets. These initiatives are accompanied by monetary and fiscal policy reform as part of ongoing policy programs.

It has been shown that the real value of the stock market, determined as the discount value of the real interest rate, plays a crucial role in determining aggregate demand and hence, prices and output. Changes in monetary and fiscal policy, both anticipated and unanticipated, affect the real interest rate and real profits, they also change consumption as well as investment.

Academic literature has witnessed an increased preoccupation with the relationship between monetary policy and stock market. Even though Tobin(1969), Blanchard (1981) and Shaw (1984) have advenced rigorous theoretical models in which both monetray and fiscal policy have important effects on stock prices, very little attention has been devoted to assessing the possible effects of fiscal policy on stock prices.[51]

One possible explanation of the effects of budget deficits on stock prices may be given through the effects of budget deficits on interest rates. It seems that an increase in budget deficit may raise interest rates. Changes in interest rates affect stock prices both through the discounted cash flows model of stock valuation and through the substitution between bonds and stocks. If changes in budget deficit affect interest rates in the market, this will also lead to changes in stock prices. Besides the direct effect of budget deficit on stock prices there may also beother direct effects; it may be through signalling changes about the future real activity or economic prospect.[52]

Empirical studies that directly investigate the relations between budget deficits and stock prices are very scarce. Two of these studies have been done by Darrat (1988,1990b) He finds that the fiscal policy exerts a significant lagged effect on Canadian stock prices even when the paths through interest rates and their volatility, real, income, inflation, monetary policy and exchange rates are all excluded. Darrat (1990a) reaches similar conclusions for the federal debt of the US.[53]

5.4. Exchange Rate Policy and Stock Market Behaviour

Exchange rates have been volatile since the currencies of the major industrial countries were allowed to float in 1973. In a floating exchange regime, the rapid growth of international trade has raised the exposure of firms to exchange rate risk. Unexpected changes in the exchange rate may adversely affect the firm's assets,

[51] Özçam, p. 35.

[52] Ibid, p. 36.

[53] Op. cit.

liabilities, and cash flow. For this matter, the stock price of a firm involved in direct foreign investment, export sales, or using imported goods and services is likely to be influenced by exchange rate fluctuations. If the stock market is efficient, stock prices should reflect only changes in the economic exposure of the firm's foreign operations. In addition, exchange rate fluctuations can influence even the market value of a purely domestic firm if that firm is facing international competition. This means that the stock price of both domestic and multinational firms are affected by changing exchange rates.

This has great implications for the trade and capital account of the domestic country's balance of payments. In fact, it is argued that stock prices may react with a lag to exchange rate fluctuations because of the time it takes for capital flows and especially trade flows to reflect changes in the currency's strength.

In their book Flight and Swan says that exchange rate movements are arguably the single most important factor affecting the value of equities, bonds and cash, wherever the marketplace. The effect of exchange rate movements on equities is subtle but perceivable in a number of different but equally important context. The effects on bonds, in both the long run and short run, is more direct, exchange rates affect not only prevailing bond market values via the impact of exchange rates on interest rate movements but also the bond's international purchasing power on eventual sale or at maturity. The effect on cash holdings is obvious in terms of its international purchasing power.[54] They also add that the era of 24 hour days, high speed communications has encouraged financial investment on a global, rather than national basis. The level of cross-border investment by pension funds and private individuals is steadily increasing. Today's sophisticated investor is as likely to consider buying shares in individual companies listed on an overseas stock exchange, as buying shares in his or her own domestic stock market. Effectively, the world's main stock markets, like the world's foreign exchange markets, now operate on a fully global basis in all but administration.[55]

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[54] Howard Flight and Bonita Lee-Swan, All You Need To know About Exchange Rates, London, 1988, p. 99.

[55] Op. cit.

In this environment, exchange rate movements can mean the difference between profit and loss; or in a stock market crash, the difference between a small loss and a major loss. When stock markets fall by a similar amount on a global basis, the only factor determining the extent to which investment in any one market is better or worse than another, is the extent to which the relevant currencies weaken or strengthen.

The effects of depreciation and appreciation of currencies will vary depending on economic conditions. Broadly speaking, if the economy experiencing currency depreciation is reasonably balanced and not threatened by excessive inflation, depreciation should bring rising corporate profits in local currency terms.

Directly or indirectly, exchange rate movements operate as an invisible but powerful hand governing both general stock market movements and share values.
1-Exchange rates can erase or disguise real gains and losses.

Individual stock markets may rise or fall in local currency terms but the gains or losses can be compounded, or offset for the foreign investor by currency depreciation or appreciation. The prudent investor will take into account the effect of likely movements in the money(such as Turkish Lira And U.S Dollars) on the ultimate share value in international and his home-based currency terms.[56]

The difference between good and average investment portfolio performances can depend solely on currency mix and exchange rate movements. A portfolio heavily weighted in shares in weak currency markets, without currency hedging or currency management, will normally achieve a worse-than-average international performance, a portfolio overweight in strong currencies will normally achieve a better-than-average overall performance.
2-Exchange rate movements drive up or depress specific stock markets by influencing flows of funds.

International investment funds flow into or out of particular equity markets partly on the basis of the perceived and potential strength or weakness of the relevant currency, relating, for example, to the timing of the currency cycle of that

[56] Ibid, p.100.

currency.[57] Foreigners tend to buy shares in a specific overseas market when its currency has turned for the better and is considered likely to strengthen. When the currency is thought to be at, or close to, a peak of appreciation and likely to move downwards and in the due course, with potential for currency losses, foreigners sell their shares and funds flow out of that stockmarket.

The basic forces which shape the international flow of capital funds are those "real" variables governing the expected returns on real capital, domestic capital market imperfections and disequilibria generate a wide range of interest rates and assets yields.

Contrarily, the effects of global stock market movements can also be minimised by flows of funds due to exchange rate factors.

Foreign exchange rate changes distort the profit of multinational companies or the companies with foreign operations. Most major companies in the world, which are fast catching up, are multinational in their operations. The consolidated profit figures of such companies, which represent an amalgam of profits from different international operations translated into the home-based currency, are particularly susceptible to distortion, in terms of the underlying business, by exchange rate movements.

If the stock market is efficient, stock prices should reflect changes in the economic exposure of the firm's foreign operations. Even though most multinationals seek to anticipate and allow for exchange rate movements by the use of forward-exchange contracts and financial futures, an element of profit distortion from exchange-rate movements is endemic to multinationals. In some countries legal accounting requirements have been imposed on companies with regard to assets, and this normally reduces some of the distortions of profit figures. However, these requirements are not met in a consistent manner, as multinationals vary in the accounting methods they use. Thus it can be argued that there is a need for standardised world-wide accounting conventions for the international companies.

[57] Ibid, p. 102.

Exchange rate movements have a direct and immediate effect on the profitability of companies, in particular industrial sectors. For example, when the currency weakens, some industries become more internationally competitive and both their sales volume and profit margins rise. By the same token, when the currency strengthens, foreign buyers get less for their currency than they might elsewhere and profits and sales in some industries fall, while they rise in some other countries.

There is also relation between exchange rates and productivity growth. It is axiomatic that countries with strong currencies are usually internationally competitive and likely to have relatively well-run businesses capable of modernising efficiently, adapting to new technology and resisting wage inflation. If this is not the case, their currencies are likely to weaken. Therefore, profit, as well as productivity growth, are often favourable over the long term in countries with strong currencies. A country with a long term weakening currency is likely to be uncompetitive with badly run businesses suffering from low capital investment and high wage inflation. Profits and productivity growth are therefore generally poor. Changes in the trend of productivity growth figures usually occur well in advance of changes in profitability. If productivity figures show a continuous trend upwards, profits will rise in due course. If the trend is downward, profitability will usually weaken. The long term effects are however, often at odds with the shorter-term situation. At a time when a country is undergoing rapid currency strengthening, the profits of international industries in that country will be "squeeezed" until productivity improvements or global and structural reorganisation within the industry restore margins.

8. STOCK MARKET BEHAVIOUR AND REGRESSION ANALYSIS

8.1. How Macroeconomic Policies Affect Stock Prices

Macroeconomic policies are used to solve economic problems and to affect the economy. As explained in the previous pages there are different channels through which the tools of macroeconomic policies influence the economy. Not only for the financial markets but also for the whole economy, interest rates are the most important variables which are influenced by the macroeconomic policies. We know that capital in a free economy is allocated through the price system. The interest rate is the price paid to borrow capital, whereas in the case of equity capital, investors' returns come in the form of dividends and capital gains.

The four most fundamental factors affecting the cost of money, i.e., interest rates or dividends or capital gains, are;

1-production opportunities,

2-time preferences for consumption,

3-risk,

4-inflation.

In a basic way, interest rate paid to savers depends;

1-on the rate of return producers expect to earn on invested capital,

2-on consumers'/savers' time preferences for current versus future consumption,

3-on the riskiness of the loan,

4-on the expected rate of inflation.

Producers' expected returns on their investment set an upper limit on how much they can pay for savings, while consumers' time preferences for consumption establish how much consumption they are willing to defer and hence how much they will save at different levels of interest offered by producers. Higher risk and higher inflation also lead to higher interest rates.

Capital is allocated among firms by interest rates. Firms with the most profitable investment opportunities are willing and able to pay the most for capital, so they tend to attract it away from inefficient firms or from those whose products are not in demand. Of course, our economy is not completely free in the sense of being influenced only by market forces. Thus, the Central Bank and government intervenes in the economy. This intervention is done by using economic policies. All of these policies affect the interest rates, hence the price of securities.

In accordance with the subject of this study, since it studies the effects of economic policies on Stock Market, firstly, an explanation about the interaction between interest rate level and stock price is necessary.
Interest rates have two effects on corporate profits:
1- Because interest is a cost, the higher the rate of interest, the lower a firm's profits, other things held constant.
2. Interest rates affect the level of economic activity, and, hence, corporate profits.

Interest rates obviously affect stock prices because of their effects on profit, but, perhaps even more importantly, they have an effect due to competition in the marketplace between stocks and bonds. If interest rates rise sharply, investors can get higher return in the bond market, which induces them to sell stocks and to transfer funds from the stock market to the bond market. Such transfers in response to rising interest rates obviously depress the stock prices. Of course the reserve occurs if interest rates decline.

An example can be used to illustrate the effects of interest rates on stock prices. If a company's stock is sold for 12.500 TL per share and the company pays a 10.000 TL dividend, the dividend yield is 10.000 TL /12.500 TL = 80%. Treasury Bills at the same time also yield about 80%. Thus, if someone has 1.000.000.000 TL and invests it in either the stock or the bills, his or her annual income will be about 800.000.000 TL.(The investor may also expect the stock price to grow over time, providing some capital gains, but that points is not relevant for this example.)

If all the interest rates are lower in the following year, and the treasury bills or government bonds are yielding only 70 percent and if the stock still yields 80 percent, investor can switch 1.000.000.000 TL out of the bills or bonds and into the stock and, in the process, increase their annual income from 700.000.000 TL to 800.000.000 TL. Since many people do this, stock price increases and stock must be sold for 14.286 TL. with a dividend yield of about 70 percent which is equal or very close to the new interest rate level (70 %).The reverse is also true.

Since, macroeconomic policies which are used in Turkey are to cause inflation, it is difficult to calculate the real return separately from all financial instruments for the future. For this reason, some concepts such as expectations and inflation risk premium is very important in the financial system of Turkey.

6.1.1. Models For Monetary Policy

What are the indicators of monetary policy? The answer to this question is different from the Keynesian and Friedman and others. For the Keynesian free reserves or interest rates are the perfect measures of monetary policy. But Friedman and others have emphasised that the significance of such measures as the rate of change in the money stock or in the so-called "monetary base" as indicators of monetary policy. No matter what the measures of monetary policy are since tools of monetary policy are used to control the money supply. Since this is the case, money aggregates such as M1, M2, M2Y have been chosen as the explanatory variables. Another fact is that changes in monetary policy affect interest rates indirectly, and with a considerable time lag, by influencing the general level of commodity prices and the public's expectations of future rate of inflation, i.e, the money supply has a major effect on both the level of economic activity and the rate of inflation.

6.1.1.1. MODEL-I

A relation between the Istanbul Stock Exchange Index and money supply, M1, has been thought, and, an econometric model has been built between the Istanbul Stock Exchange Index (EISE) and five months lagged value of money supply, M1, (EM1(-5)). One month lagged value of Istanbul Stock Exchange Index (EISE(-1)) has been added to the model in order to represent the expectations of the investors.

These data have been converted to index value by taking the 1990/1 period as a base.

The results of the model are as follows;

VARIABLES	COEFFICIENT	STD. ERROR	T- STATISTICS
EISE(-1)	0.819	0.068	11.95
EM1(-5)	0.191	0.055	3.43

and,

F-VALUE	44326
D-W VALUE	1.72
R^2	0.9825
R_d^2	0.9822

According to these results;

- The signs of the coefficients have been found positive, as expected.

- In order to determine the probability associated with t- values, obtained t-values and tabled t-values are compared.

The t-values with 77 degrees of freedom at .005 and .001 significant levels from the t-table are the followings;

	% 1 Significant Level	% 5 Significant Level
d.f =77	2.57	1.95

<u>Hypotheses are;</u>

$H_0 : \beta_k=0$

$H_1 : \beta_{k\neq}0$

The null hypothesis (H_0) states that coefficients are equal to zero.

The alternative hypothesis (H_1) states that coefficients are not equal to zero.

The obtained t-values are compared with the tabled t-values.

For, EISE(-1) $t = 11.95 > t_{0.05/2} = 1.95$

For, EM1 $t = 3.43 > t_{0.05/2} = 1.95$

- Since the obtained t-values exceeds the tabled t-values at a desired .005 significance level. Null hypothesis, (H_0), is rejected and the alternative hypothesis is accepted. This means that coefficients of variables are statistically significant and there is a statistical relation between the variables of the model. i.e.independent variables have explanatory power on Istanbul Stock Exchange Index.

- For the F-test, hypothesis are;

$H_0 : \beta_2 = \beta_3 = 0$

$H1 : \beta_2 \neq \beta_3 \neq 0$

The null hypothesis states that there is no significant difference between the coefficients and they are equal to zero.

The alternative hypothesis states that there is significant difference between the coefficients(i.e. variables are not from the same population), and they are not equal to zero.

Since,

$n = 79$

$k = 2$

$n - k = 77$

$k - 1 = 1$

- The tabled $F_{1\ 77}$ ratio is 3.97 at .005 significant level. Since the obtained F-ratio equals to 4326, the null hypothesis (H_0) is rejected and the alternative hypothesis is accepted. This means that there is significant difference between coefficients, it also means that data for the variables has been chosen from the different population.

-The multiple determination coefficients for the model is 0.9825. This states that 98 percent of the changes of the Istanbul Stock Exchange index are explained by the variables taken into the model.

- In order to test the model for autocorrelation, Durbin-Watson statistics have been calculated from the table as follows;

For,

$n = 79$

$k = 2$

	% 5 Significant Level	% 1 Significant Level
d_L	1.61	1.47
d_u	1.66	1.52
$4 - d_L$	2.39	2.53
$4 - d_u$	2.34	2.48

When compared the obtained D-W value (1.72) with tabled D-W values at .005 and .001 significant levels, it is found that there is no autocorrelation in the model. This means that the residuals are independent.

In conclusion, it has been decided that changes in the Istanbul Stock Exchange Composite Index can be explained by the variables in the model.

6.1.1.2. MODEL-II

A relation between the Istanbul Stock Exchange Index and money supply, M1, has been thought, and, an econometric model has been built between the Istanbul Stock Exchange Index (EISE) and seven months lagged value of money supply, M2, (EM2(-7)). One month lagged value of Istanbul Stock Exchange Index (EISE(-1)) has been added to the model in order to represent the expectations of the investors.

These data have been converted to index value by taking the 1990/1 period as a base.

The results of the model are as follows;

VARIABLES	COEFFICIENTS	STD. ERROR	T- STATISTICS
EISE(-1)	0.79	0.063	12.38
EM2(-7)	0.19	0.046	4.15

And,

F Value	4436
D-W Value	1.642
R^2	0.9833
R_d^2	0.9831

According to these results;

- The signs of the coefficients have been found positive, as expected.

- In order to determine the probability associated with t- values, obtained t-values and tabled t-values are compared.

The t-values with 75 degrees of freedom at .005 and .001 significant levels from the t-table are the followings;

	% 1 Significant Level	% 5 Significant Level
d.f =77	2.57	1.95

Hypotheses are;

$H_0 : \beta_k = 0$

$H_1 : \beta_k \neq 0$

The null hypothesis (H_0) states that coefficients are equal to zero.

The alternative hypothesis (H_1) states that coefficients are not equal to zero.

The obtained t-values are compared with the tabled t-values.

For, EISE(-1) $t = 12.38 > t_{0.05} = 1.95$

For, EM2(-7) $t = 4.15 > t_{0.05} = 1.95$

- Since the obtained t-values exceed the tabled t-values at a desired .005 significance level. Null hypothesis, (H_0), is rejected and the alternative hypothesis is accepted. This means that coefficients of variables are statistically significant and there is a statistical relation between the variables of the model. i.e.independent variables have explanatory power on Istanbul Stock Exchange Index.

- For the F-test, hypothesis are;

$H_0 : \beta_2 = \beta_3 = 0$

$H1 : \beta_2 \neq \beta_3 \neq 0$

The null hypothesis states that there is no significant difference between the coefficients and they are equal to zero (i.e. the variables are from the same population).

The alternative hypothesis states that there is significant difference between the coefficients(i.e. variables are not from the same population), and they are not equal to zero.

Since,

$n = 77$

$k = 2$

$n - k = 75$

$k - 1 = 1$

- The tabled $F_{1\ 75}$ ratio is 3.97 at .005 significant level. Since the obtained F-ratio equals to 4436, the null hypothesis (H_0) is rejected and the alternative hypothesis is accepted. This means that there is significant difference between coefficients, it also means that data for the variables has been chosen from the different population.

-The multiple determination coefficients for the model is 0.9833 This states that 98 percent of the changes of the Istanbul Stock Exchange index are explained by the variables taken into the model.

- In order to test the model for autocorrelation, Durbin-Watson statistics have been calculated from the table as follows;

For,

$n = 79$

$k = 2$

	% 5 Significant Level	% 1 Significant Level
d_L	1.61	1.47
d_u	1.66	1.52
$4 - d_L$	2.39	2.53
$4 - d_u$	2.34	2.48

When compared the obtained D-W value (1.72) with tabled D-W values at .005 and .001 significant levels, it is found that there is no autocorrelation in the model. This means that the residuals are independent.

In conclusion, it has been decided that changes in the Istanbul Stock Exchange Composite Index can be explained by the variables used in the model.

6.1.1.3. MODEL-III

A relation between the Istanbul Stock Exchange Index and money supply, M2Y, has been thought, and, an econometric model has been built between the Istanbul Stock Exchange Index (EISE) and eight months lagged value of money supply, M2Y, (EM2Y(-8)). One month lagged value of Istanbul Stock Exchange Index (EISE(-1)) has been added to the model in order to represent the expectations of the investors.

These data have been converted to index value by taking the 1990/1 period as a base.

The results of the model are as follows;

VARIABLES	COEFFICIENTS	STD. ERROR	T- STATISTICS
EISE(-1)	0.79	0.007	11.38
EM2Y(-8)	0.14	0.03	3.76

And,

F Value	4204
D-W Value	1.606
R^2	0.9827
R_d^2	0.9824

According to these results;

- The signs of the coefficients have been found positive, as expected.

- In order to determine the probability associated with t- values, obtained t-values and tabled t-values are compared.

The t-values with 74 degrees of freedom at .005 and .001 significant levels from the t-table are the followings;

	% 1 Significant Level	% 5 Significant Level
d.f =74	2.57	1.95

<u>Hypotheses are;</u>

$H_0 : ß_k=0$

$H_1 : ß_{k\neq}0$

The null hypothesis (H_0) states that coefficients are equal to zero.

The alternative hypothesis (H_1) states that coefficients are not equal to zero.

The obtained t-values are compared with the tabled t-values.

For, EISE(-1) $t = 11.38 > t_{0.05} = 1.95$

For, EM2(-7) $t = 3.76 > t_{0.05} = 1.95$

- Since the obtained t-values exceed the tabled t-values at a desired .005 significance level. Null hypothesis, (H_0), is rejected and the alternative hypothesis is accepted. This means that coefficients of variables are statistically significant and there is a statistical relation between the variables of the model. i.e.independent variables have explanatory power on Istanbul Stock Exchange Index.

- For the F-test,

<u>Hypothesis are;</u>

$H_0 : ß_2 = ß_3 = 0$

$H1 : ß_2 \neq ß_3 \neq 0$

The null hypothesis states that there is no significant difference between the coefficients and they are equal to zero (i.e. the variables are from the same population).

The alternative hypothesis states that there is significant difference between the coefficients(i.e. variables are not from the same population), and they are not equal to zero.

Since,

$n = 76$

$k = 2$

$n - k = 74$

$k - 1 = 1$

- The tabled $F_{1\ 74}$ ratio is 3.97 at .005 significant level. Since the obtained F-ratio equals to 4204, and exceeds the tabled F-ratio, the null hypothesis (H_0) is rejected and the alternative hypothesis is accepted. This means that there is significant difference between coefficients, it also means that data for the variables has been chosen from the different population.

-The multiple determination coefficients for the model is 0.9833 This states that 98 percent of the changes of the Istanbul Stock Exchange index are explained by the variables taken into the model.

- In order to test the model for autocorrelation, Durbin-Watson statistics have been calculated from the table as follows;

For,

$n = 76$

$k = 2$

	% 5 Significant Level	% 1 Significant Level
d_L	1.60	1.45
d_U	1.65	1.50
$4 - d_L$	2.40	2.55
$4 - d_U$	2.35	2.50

When compared the obtained D-W value (1.606) with tabled D-W values at .001 significant level, it is found that there is no autocorrelation in the model. This means that the residuals are independent.

In conclusion, it has been decided that changes in the Istanbul Stock Exchange Composite Index can be explained by the variables used in the model.

COMMENT:

In Turkey, The Central Bank controls the money supply. If the Central Bank wants to stimulate the economy, it increases the growth in the money supply. The initial effect of such an action is to cause interest rate to decline, but the action may also lead to an increase in the expected rate of inflation, which in turn could push interest rates up. The reverse holds if the Central Bank tightens the money supply. The Central Bank deals primarily in the short-term end of the market, so this tightening has the direct effect of pushing short term interest rates up sharply. At the same time, the very fact that the Central Bank has been strong action, which led a drop in long-term bond yields, short term rates have decreased shortly thereafter.

During periods when the Central Bank is actively intervening in the markets, the yield curve of financial instruments will be distorted. Short term rates will be temporarily too high if the Central Bank is tightening credit and too low if it is easing credit. Long-term rates are not affected as much by the Central Bank's intervention, except for the fact that such intervention affects expectations for long-term inflation.

It is said by Friedman that, money supply must grow in accordance with the growth of Gross National Product (GNP).

The response to the growth of GNP is given by using the discount mechanism of monetary policy. Because, demand from the real side of economy causes an increase in notes given to the banks to be discounted. And these commercial banks take these notes to the Central Bank to be rediscounted. In this way, increase in monetary base will not cause an inflation or any distortion in the financial system. Because, this increase will be eliminated by the increase coming from the real side of the economy. In Turkey's practise, discount mechanism has not been used too widely because of the restrictions of the Central Bank on notes which are accepted to be rediscounted.

Other tools, such as reserve requirements and open market operations are not the direct result of the real side of economy. They are decided by the Central Bank to create money supply at a sufficient level. However, this is impossible in Turkey, because the main sources of monetary base are the credits given to the State Economic Enterprises. Open market operations have been used more actively after 1988. Since the government changed its attitude in domestic borrowing from the Central Bank's sources to the government bonds and treasury bills. Increase in government securities has a direct effect on monetary base when they are redempted. So, the Central Bank uses the open market operation tools to absorb this increase in liquidity.

Within the framework of monetary practise in Turkey, the econometric models which have been built show the interaction of money supply and Istanbul Stock Market Composite Index. It is supposed that this interaction occurs like this; increase in monetary base, firstly results in the increase sight deposits then increase in time deposits, at last, as it is accepted increase in foreign exchange deposits. These increases in deposits enable the banks to increase their money supply.

It is found in model I, II, and III that any increase (decrease) of 1 points in M1, M2 and M2Y (since the indexed value of M1, M2 and M2Y have been used.) will cause increase (decrease) of 0.191, 0.19 and 0.14 points in Istanbul Stock Market Composite Index respectively, with the time lags.

We know that money supply depends on the level of demand for monetary base. All types of money supply such as M1, M2, M2Y are the result of monetary base. The Central Bank controls the money supply by controlling the monetary base. In our model we used the money supply of M1, M2, M2Y. As it is expected we found time lags between changes in Istanbul Stock Exchange Index and money supplies; two months lag for M1, seven months lag for M2 and eight months lag for M2Y.

In general, monetary base is not the only concept to control or to make correlation with the money supply. Tacal in his article which is about the money multiplier says that money supply can also be defined by using the Central Bank Money Stock (Merkez Bankası Parası) and Central Bank's Total Domestic Liabilities (Toplam İç Yükümlülükler). He thinks that all items within the concept of Central Bank Money Stock will monetarize any time in the future, and, liabilities for foreign exchange deposits' item within the Central Bank's Total Domestic Liabilities have effect on the money supply. He also says that there is a 3-month lag between Central Bank's Total Domestic Liabilities and Central Bank Money Stock. Central Bank Money Stock follows the Central Bank's Total Domestic Liabilities with a 3-month lag. M2 and M1 follows the Central Bank's Total Domestic Liabilities with a 14-month lag and a 17-month lag respectively.[58]

Changes in reserve requirement regime, in interest rate policy, in the composition of financial assets and financial savings, in inflation rates, etc., all affect the level of demand for base money .That is, an increase in the monetary base will cause an increase in money supply but this increase will be lagged some months. This is also true for money supply. Money supply will cause an effect on Istanbul Stock Exchange Composite Index with some month's lag.

The coefficients of the variables M1, M2 and M2Y, in the models are positive. This means that a change in any of the money supplies will affect Istanbul Stock Exchange Composite Index in the same direction. And, Istanbul Stock Exchange Composite Index's previous month's effect is very significant and considerably high. Of course, in an emerging stock market such as Istanbul Stock Exchange some other factors (political stability, foreign portfolio investment, crisis in international financial market, etc.) are also important in the direction of index.

Normally, when any increase occurs in any type of money supplies, this money will go either to the financial markets or to commodity markets and cause inflation. For this reason, an increase in Istanbul Stock Exchange Index has to be analysed carefully, it can be from the inflationary expansion of money supply or due to good performance of companies listed in Istanbul Stock Exchange.

The monetary policy is expansionary in Turkey. The initial impact of the easy money policy may be a decline in bond yields (in interest rates),so, an increase in

[58] Z. Cemal Tacal, Türkiye Cumhuriyeti Merkez Bankası Bilanço Yapısı ve Para Çoğaltanı Kavramı Üzerine Bir İnceleme. Central Bank Monthly Bulletin, 1992

stock prices. Since the easy money policy persists, and contributes to an acceleration of inflation, after a considerable time lag, bond yields (interest rates) may rise instead of declining and decrease in stock prices can be accepted. At least, stock price will change because of the money expansion.

6.1.2. Model For Fiscal Policy

To achieve a desired impact of economic activity, tools of fiscal policy are government expenditures and tax rates. But, in Turkey, there is not any economic goal which is desired to achieve by changing tax rates. Tax rates are only used to get revenue for the government budget. The Government execute fiscal policy by increasing expenditures. Huge government expenditures are the result of the inevitable role of the Turkish Government playing in the Turkish economy. In Turkey and developing countries, governments need to intervene in the economy and this increases expenditures. The important result of these increasing expenditures is the increasing budget deficit which inevitably pulls up the Public sector Borrowing Requirement (PSBR). Turkey's public financing deficits have been met by resources provided by domestic and foreign borrowing. Domestic borrowing has become the most important resource to provide for public financing especially since the year 1986.

For this study, the important thing is the method of financing the budget deficit. Turkish Government changed the financing strategy after the year 1988 and started to use the Central Bank resources more often. The Government became very active in the domestic financial markets and it also issued securities in the international financial markets. Maturity structure of the domestic borrowing shortened. The Government issued treasury bills more than government bonds and the amount of outstanding government securities also increased.

As secondary market, Istanbul Stock Exchange plays a very important role for Turkish Capital Markets. However, because of the decreasing maturity and increasing domestic borrowing of the government from the financial markets, Istanbul Stock Exchange does not function properly.

Debt management policy is concerned with managing the maturity structure of government debt. One of its objectives is to influence the "short" - "long" rate relationship in the direction consistent with the economic goals. The Government must decrease the "long rate" to encourage long-term domestic investment while keeping the short rate sufficiently high to keep short term capital in the country, thereby easing the balance of payment problems.

The following model has been built in order to show the effects of domestic borrowing of the Government on Istanbul Stock Exchange.

6.1.2.1. MODEL-IV

An econometric model has been built between monthly change of Stock Market Index over the previous month(PISE), domestic borrowing (Government Bond Issued-government bond redemption)(DB), short term borrowing (Treasury Bills and Central Bank Advances) (STB) and monetary expansion with two months' lag (change of currency issued over the previous month) (PCI(-2)).

PISE=((Istanbul Stock Exchange Index -Istanbul Stock Exchange Index(-1))
DB =(Government Bond Issued-Government Bond Redemption)
STB =(Treasury Bills +Central Bank Advance)
PCI =((Currency Issued-Currency Issued(-1))

VARIABLES	COEFFICIENTS	STD. ERROR	T- STATISTICS
DB	0.0535	0.0076	6.972
STB	0.0148	0.0042	3.462
PCI(-2)	0.026	0.0072	3.657

And,

F Value	27.79
D-W Value	2.26
R^2	0.4161
R_d^2	0.4011

According to these results;

- The signs of the coefficients have been found positive, as expected.

- In order to determine the probability associated with t- values, obtained t-values and tabled t-values are compared.

The t-values with 78 degrees of freedom at .005 and .001 significant levels from the t-table are the followings;

	% 1 Significant Level	% 5 Significant Level
d.f=78	2.57	1.95

<u>Hypothesis are:</u>

$H_0 : \beta_k = 0$

$H_1 : \beta_k \neq 0$

The null hypothesis (H_0) states that coefficients are equal to zero.

The alternative hypothesis (H_1) states that coefficients are not equal to zero.

The obtained t-values are compared with the tabled t-values.

For, DB $t = 6.97 > t_{0.05} = 1.95$

For, STP $t = 3.46 > t_{0.05} = 1.95$

For, PCI(-2) $t = 3.65 > t_{0.05} = 1.95$

- Since the obtained t-values exceed the tabled t-values at a desired .005 significance level, null hypothesis, (H_0), is rejected and the alternative hypothesis is accepted. This means that coefficients of variables are statistically significant and there is a statistical relation between the variables of the model. i.e. independent variables have explanatory power on Istanbul Stock Exchange Index.

- For the F-test,

Hypothesis are;

$$H_0 : \beta_1 = \beta_2 = \beta_3 = 0$$
$$H1 : \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$$

The null hypothesis states that there is no significant difference between the coefficients and they are equal to zero(i.e., the variables are from the same population).

The alternative hypothesis states that there is significant difference between the coefficients(i.e. variables are not from the same population), and they are not equal to zero.

Since,

$$n = 81$$
$$k = 3$$
$$n - k = 78$$
$$k - 1 = 2$$

- The tabled $F_{2\ 78}$ ratio is 3.38 at .005 significant level. Since the obtained F-ratio equals to 27.79, and exceeds the tabled F-ratio, the null hypothesis (H_0) is rejected and the alternative hypothesis is accepted. This means that there is significant difference between coefficients, it also means that data for the variables has been chosen from the different population.

-The multiple determination coefficients for the model is 0.9833 This states that 98 percent of the changes of the Istanbul Stock Exchange Composite Index are explained by the variables taken into the model.

- In order to test the model for autocorrelation, Durbin-Watson statistics have been calculated from the table as follows;

For,
n = 81
k = 2

	% 5 Significant Level	% 1 Significant Level
d_L	1.61	1.47
d_U	1.66	1.52
$4 - d_L$	2.39	2.53
$4 - d_U$	2.34	2.48

When compared the obtained D-W value (1.2.26) with tabled D-W values at .005 and .001 significant levels, it is found that there is no autocorrelation in the model. This means that the residuals are independent.

In conclude, it has been decided that changes in the Istanbul Stock Exchange Composite Index can be explained by the variables used in the model.

COMMENT:

If the government spends more than it takes in from tax revenues, it runs a deficit, and that deficit must be covered either by borrowing or by printing money. If the government borrows, this added demand for funds pushes up interest rates. If it prints money, this increases expectations for future inflation, which also drives up interest rates. Thus the larger the Government budget deficit, other things held constant, the higher the level of interest rates. Whether long- or short-term interest rates are more affected depends on how the deficit is financed, so we cannot state, in general, how deficit will affect the slope of the yield curve.

Under the conditions, growing government deficit-financed by creasing volume of short-term government securities-coupled with the inflation, created the most adverse impact on the efforts to promote sound financial markets and to improve the performance of the financial system. My recommendation is that the performance of the financial system and performance of Istanbul stock Exchange should be reinforced by improved macro economic management: lower budget deficit and lower inflation rates.

In Turkey, the government's recourse to the Central Bank for domestic borrowing decreased after 1988. But this time its recourse to financial market as a debtor increased and it became the most innovative and active agent in these markets. Such a strategy reshaped the functioning of the financial system and altered the direction of financial flows for the benefit of the government. However, this created serious problems for the private sector by limiting the sources. In other words, increasing recourses of the government to the financial markets caused the crowding-out effect in the financial markets.

In short, the government still issue more bonds and bills to finance its deficits rather than borrowing directly from the Central Bank.

In our model, variables which represent this changed deficit financing strategy have been used to show the effect of the relative increase in the government activities in securities markets to collect funds and hence to raise its share in total financial saving.

Collecting of funds by the government hinders the private sector borrowing. Now, It can be said easily that crowding out is a major problem for the Turkish capital markets.

In theory, public sector borrowing requirements equal to the government bonds issued and increase in monetary base. But, in Turkey's practise, this equation also includes the Treasury Bills and Central Bank Advance. Since the credits which are given to the State Economic Enterprises result an increase in currency issued (emisyon), monetary base is substituted by currency issued and used as a variable in the model IV.

Coefficients of independent variables are positive and very low as expected. This means that intersifying the issuing of government bonds and treasury bills to finance budget deficit lowers the Istanbul Stock Exchange Composite Index (or at least this practise keeps the increase in the rate of Index low.) Financing the State

Economic Enterprises by giving credits, or giving short term advance to the government has been done by printing money. This causes an increase in currency issued (emisyon) and this variable affects the Index by a 2-month lag.

It is found in model IV that in any period in which the net increase in the amount of government bonds is 1.000 billion and the increase in the amount of Central Bank advances is 1.000 billion, Istanbul Stock Exchange Composite Index will increase by only 5.3 percent and 1.48 percent of these amounts respectively. Also in the case of any increase (decrease) in the amount of Currency Issued, the index will change by 2.6 percent of this changed amount with two months' lag.

It can be thought that the coefficients of variables in model IV could be negative. Within an economic environment without inflation and without foreign portfolio investment, this would be true, but, in Turkey, funds taken from the financial markets have been spent to finance budget deficit, i.e, money goes back to the economy and this money has the same effects on index as explained in models I, II and III. Since models use monthly data, this can be thought as a net effect. If the models have been built with daily data, any decrease in index could be seen (other things held constant.).

An increase in budget deficit may lead to an increase in interest rates through the increased borrowing of the public sector, hence affecting stock returns negatively. On the other hand, an increase in the budget deficit may be interpreted by market participants in different way so that these deficits may lead to a higher economic activity through either increased government spending or monetary expansion to finance the deficit. In this case, budget deficit may cause stock returns to increase.

6.1.3. Model For Foreign Trade Policy

In each economy, businesses and individuals buy and sell to people and firms in other economies. If they buy more than they sell (that is, import more than export), they are said to run a foreign trade deficit. When trade deficit occurs, it must be financed, with debt being the main source of financing. Therefore, the larger the foreign trade deficit , the more need to borrow. The increase in borrowing drives up the interest rates. Also foreigners are willing to lend if and only if the interest rate on the loan is competitive with interest rates in other countries. Therefore, if the Central Bank attempts to lower the interest rate in Turkey, causing our rates to fall below the rates abroad, then foreigners will sell their securities, those sales will depress bond prices and the result will be higher interest rates.

6.1.3.1. MODEL-V

An econometric model has been built between monthly change of Stock Market Composite Index over the previous month(PISE), two months' lagged value of monthly change of American Dollar (PUSD), fourteen months' lagged value of monthly change of Balance of Payment (PBP) in order to indicate the relation among them.

PISE = (Istanbul Stock Exchange Index -Istanbul Stock Exchange Index(-1))
PUSD =(American Dollar- American Dollar(-1))
PBP =(Balance of Payment - Balance of Payment(-1))

VARIABLES	COEFFICIENTS	STD. ERROR	T-STATISTICS
PUSD(-2)	0.08972	0.19266	4.6573
PBP(-14)	2.9645	1.4737	2.011

And,

F Value	14.39
D-W Value	1.655
R^2	0.1768
R_d^2	0.1645

According to these results;

- The signs of the coefficients have been found positive, as expected.

- In order to determine the probability associated with t- values, obtained t-values and tabled t-values are compared.

The t-values with 67 degrees of freedom at .005 and .001 significant levels from the t-table are the followings;

	% 1 Significant Level	% 5 Significant Level
d.f=67	2.57	1.95

<u>Hypothesis are;</u>

$H_0 : ß_k=0$

$H_1 : ß_{k\neq}0$

The null hypothesis (H_0) states that coefficients are equal to zero.

The alternative hypothesis (H_1) states that coefficients are not equal to zero.

The obtained t-values are compared with the tabled t-values.

For, PUSD(-2) $t = 4.65 > t_{0.05} = 1.95$

For, PBP(-14) $t = 2.011 > t_{0.05} = 1.95$

- Since the obtained t-values exceed the tabled t-values at a desired .005 significance level, null hypothesis (H_0), is rejected and the alternative hypothesis is accepted. This means that coefficients of variables are statistically significant and there is a statistical relation between the variables of the model. i.e. independent variables have explanatory power on Istanbul Stock Exchange Index.

- For the F-test,
<u>Hypothesis are;</u>

$H_0 : ß_1 = ß_2 = 0$

$H1 : ß_1 \neq ß_2 \neq 0$

The null hypothesis states that there is no significant difference between the coefficients and they are equal to zero(i.e., the variables are from the same population).

The alternative hypothesis states that there is significant difference between the coefficients(i.e. variables are not from the same population), and they are not equal to zero.

Since,

$n = 69$

$k = 2$

$n - k = 67$

$k - 1 = 1$

- The tabled $\mathbf{F_{1\ 67}}$ ratio is 3.98 at .005 significant level. Since the obtained F-ratio equals to 14.39 and exceeds the tabled F-ratio, the null hypothesis (H_0) is rejected and the alternative hypothesis is accepted. This means that there is significant difference between coefficients, it also means that data for the variables has been chosen from the different population.

-The multiple determination coefficients for the model is 0.1768. This states that 17.7 percent of the changes of the Istanbul Stock Exchange Composite Index are explained by the variables taken into the model.

- In order to test the model for autocorrelation, Durbin-Watson statistics have been calculated from the table as follows;

For,

$n = 69$

$k = 2$

	% 5 Significant Level	% 1 Significant Level
d_L	1.58	1.43
d_u	1.64	1.49
$4 - d_L$	2.42	2.57
$4 - d_u$	2.36	2.51

When compared the obtained D-W value (1.655) with tabled D-W values at .005 and .001 significant levels, it is found that there is no autocorrelation in the model. This means that the residuals are independent.

In conclusion, it has been decided that changes in the Istanbul Stock Exchange Composite Index can be explained by the variables used in the model.

COMMENT:

Turkey has been running annual trade deficit for a long time, and the cumulative result of these deficits is that Turkey is by far the debtor nation. As a result, interest rates are very much influenced by the annual trade deficit situation (larger trade deficit leads to higher interest rates), and also by interest rate trends in other countries around the world (higher rates abroad lead to higher rates in Turkey.)

In model V, coefficient of the variable American Dollar is positive. This means that American dollar and Istanbul Stock Exchange Composite Index change in the same direction but not in the same rate. Since the monthly change data have been used, Istanbul Stock Exchange Composite Index will response to 8.97 percent of any monthly change of American Dollar with two months' lag. Normally, it is thought that there must be a substitution effect between Istanbul Stock Exchange Composite Index and American dollar. If there is a substituton effect, the coefficient of american dollar must be negative. But, in the economic condition of Turkey, with high inflation (which sometimes causes negative real or low return on american dollar) and hot money policy (which keeps the interest rate higher than the evaluation rate of American Dollar, or in short, keeps the Turkish Lira over valued) this coefficient is found positive as expected. In other words, positive coefficient suggests that foreign currencies and stock market instrument do not happen to be alternative investment areas and do not have a very strong substitution effect. In Turkey, increase in the evaluation rate of American dollar is the result of inflation, so this increase does not mean the real economic effect (real trade balance effect).

In model V, coefficient of the Balance of Payment variable is found positive. Balance of payment has an effect on the index with fourteen months' lag. Since the coefficient is 2.9645, it refers to the higher cumulative effects of Balance of Payment. Although, the monthly changes of balance of payment have been used as variable, it has been accepted that, there is a trend in balance of payment and that this balance deficit has been growing for years. This results in a cumulative effect after 14 months. So, any increase in balance of payment will have an effect on the index so that the index will change (2.6 percent of changes in balance of payment deficit) Because, Turkey with a balance of payments deficit often faces conflicts among competing goals. For example, the use of controls, hot money policy, and portfolio investment encouragement to achieve external balance conflict with the goal of efficient resource allocation; the use of flexible exchange rates do the same. If it is assumed that exchange rates will remain relatively fixed and that artificial controls are economically inefficient and undesirable, adjustment brought about by financial policy is all that remains.

Since there is no change in the short time that our economy will finance the balance of payment deficit by export or other external revenue, this deficit is financed by some kind of capital movement such as portfolio investment, direct investment, short term or long term borrowing which cause increase in monetary base, so in money supply.

In our model, there is 14 months' lag between balance of payment and Istanbul Stock Exchange Composite Index. Because policy to finance the balance of payments exerts its influences on aggregate demand and interest rates by increasing money supply. And this influenced aggregate demand and interest rates have effect on Istanbul Stock Exchange Composite Index, with a considerable time lag.

7. CONCLUSION

The purpose of this study was to analyse the role of financial markets, especially stock markets, as a mechanism of the allocation of capital resources which plays a critical role in the determining the growth rate of the nation's output, by investigating the logic in setting up a stock market and policy instruments which affect this role of financial markets, i.e, stock markets.

At the end, to conclude the content of my study I have determined that; We can define the economic system as the institutional and social framework within which economic decisions and activity are carried out. Different societies are organised through alternative systems, and economics is the study of different mechanisms that a society can use to allocate its scarce resource.

In brief, the basic economic problem stems from the scarcity of resources and the alternative usage opportunities of these resources. When giving a war against the basic economic problems, we must solve three main problems which can be divided into three groups.

1. full employment of the resources,
2. efficiency in the employment of resources (resource allocation)
3. maintenance and expansion of production capacity of economy-economic growth.

The goal of economic activity is a level of want satisfaction(level of living) as high as the economy can provide. To achieve this goal the best possible techniques must be used, resources must be fully employed, and resources must be properly allocated or distributed among the alternative wants of customers.

An ideal market economy is the one where all goods and service are voluntarily exchanged for money and market price. Such a system squeezes the maximum benefits out of society's available resources without government intervention. But in the real world, no economy actually conforms totally to the idealised world of smoothly functioning invisible hand. In modern economies, governments play an almost infinite variety of roles in response to the flows in the market mechanism. Despite all the wide range of possible activities, governments have three main economic function, in a market economy to increase efficiency, to promote equity and to speed up macroeconomic stability and growth.

Governments implement economic polices in order to achieve some specific goal or goals. Governments have been responsible for achieving multiple, often conflicting, objectives which include full employment, the maintenance of a high (and rising) living standard, price stability, equilibrium in the balance of payment, a more even regional balance of economic activity, and reduced inequality of incomes and wealth.

Macroeconomic policies for stabilisation and economic growth include fiscal policy and monetary policies and some other related policies. To develop optimal economic policies, first, it is necessary to be clear as to what our basic economic policy goals are, who the important policy makers are, and what instruments they have at their disposal. The development of policies and programs to stabilise national incomes and prices, and the strengthening of institutional capabilities to deal with economic-growth and economic efficiency problems are under the responsibility of the government.

The possible objectives of fiscal, debt management and monetary policies are numerous. In recent years, the goals of a stable level of GNP (at full employment), a high growth rate, a stable price level, and a favourable balance of payments have occupied the forefront of policy discussions. But, it is clearly accepted that these policies primarily have side effects on the financial sector.

The execution of a given fiscal policy involves the manipulation of government expenditures and/or tax rates to achieve a desired impact on the level of economic activity. Debt management is concerned with the determination of the maturity structure of government debt. A change in the average maturity of the supply of government bonds presumably changes the liquidity. Changes in the budgetary and financial policy, both anticipated and unanticipated, affect the real interest rate, real profits and share prices, consumption as well as investment. The most obvious impact of fiscal policy on the financial sector occurs through the change in Gross National Product (GNP) and the subsequent flow of saving into financial intermediaries. The pattern of saving flow into financial institutions depends upon the income elasticity of the various financial assets in the public's portfolio. The second major tool of public policy, the level and structure of tax rates has a more direct impact on the financial sector.

The use of monetary policy (open market operations, reserve requirements, and discount rates) directly affects the reserve positions of commercial banks and interest rates (yields) on securities. These in turn affect spending on goods and services through three channels:

1. Interest rates influence investment in business plant and equipment, housing, construction, and consumer durable goods.
2. Changed rates of return on securities and other assets influence the total wealth position and the portfolio balances of households, and hence their consumption. For example, rising stock market prices increase the perceived wealth of households and hence their spending.
3. Credit rationing by lenders (particularly financial institutions) affects investment.

Over a period of time, the fraction of income devoted to saving and investment, as well as the efficiency with which such saving is allocated among alternative investment opportunities, helps determine a country's rate of economic growth. Thus, the greater the amounts of aggregate saving and investment at each level of national income, other things being equal, the more rapidly will output increase in the future. This is because investment in new plant and equipment helps increase productivity. Furthermore, the more efficient the allocation of saving. That is, the more such savings flow into capital projects with the high rate of return, or net productivity, the higher will be the rate of economic growth and the greater will be the contribution of the saving-investment process to economic well-being.

Importance of saving and investment in terms of their effects on such major economic goals as full employment, levels of income, price stability, and high growth rates have been clear. What kind of institutional mechanism is necessary to bring together savers and investors in order to achieve these objectives.

Since an economy must grow to satisfy the needs of the population, it requires funds to finance its growth. Where do these funds come from? This depends on whether the funds are for a short term or a long term. Short term funds come from banks or finance companies. Long term funds come from investors or profits earned by businesses which are retained back into the firms.

The purpose of financial markets is to allocate savings efficiently in an economy to ultimate users, either for investment in real assets or for consumption. In the study, financial markets are regarded in a broad sense as including all institutions and procedures to bring buyers and sellers of financial instruments together. In capital formation, an economy could prosper without financial markets. Their job is to allocate savings from saving-surplus economic units to saving-deficit units so that the highest level of want satisfaction can be achieved. These parties should be brought together, either directly or indirectly, at the least possible cost and with the least inconvenience.

The primary market is the market for new securities. Of course, through the primary market the financial markets play the essential role of transferring funds from savers to investors. The secondary market in which existing securities are bought and sold, also plays an important role in the funds transfer process. Without an adequate secondary market providing liquidity for the financial instruments investors would be less willing to purchase stocks and bonds in the primary markets. The proper functioning of the secondary markets is essential for the rapid and healthy development of capital markets, thus, for an optimal allocation of resources.

The stock markets, as a secondary market, by trading previously issued securities does not directly affect current savings or spending decisions, because any activity in the stock market constitutes for society a whole portfolio substitution effect. Since secondary markets constitute a venue for the exchange of previously issued securities, they do not provide any new resources for enterprise. It would be an error to conclude, however, that such markets have little effect on the activities and performance of the real sector. Secondary markets may have significant real effect even though they operate indirectly. The existence of secondary markets encourages more risk-taking on the part of savings-surplus economic units. If, in the future, they want to invest more than they save, they know that they will be able to sell financial assets as one means of covering the excess. This flexibility encourages savings-surplus economic units to make their savings available to others rather than to hold them as money balances. In addition, the secondary market gives valuable pricing information to the primary market and for pricing new loans.

Turkey has pursued a policy of gradual financial and economic deregulation since the early 1980s. Capital market development has been one of the key elements of the official policy which has had a favourable impact on stock market growth. Established only 12 years ago, the Istanbul Stock Exchange has demonstrated considerable growth.

It can be said that in the case of Turkey, it was not possible to keep fiscal and monetary policy in harmony. Consequently, the monetary policy has been a derivative of fiscal policies. Economic growth must depend on continued structural reform both in the economic sector and the financial sector.

As in all reform programs, it is not possible to claim that the arrangement has always led to expected results. Unlike original intentions, there would appear some unexpected in consistencies and developments. Since this reform program targeted a structural change in the Turkish financial system, it represents a multi-dimensional process which has not completed its life time. The applications of this program should be reinforced by improved macroeconomic management; lover budget deficit and lower inflation rate.

The logic behind all the legal and institutional arrangements in the Turkish reform program was to improve the performance of the Turkish financial system by rationalising its ability in collecting and allocating funds. In line with this goal, the arrangements were initially directed towards strengthening the existing financial institutions and introducing financial innovations in terms of new instruments and institutions. For this, a competitive environment was targeted at improving the flow of funds process. In order to produce a competitive environment, policies to improve the competition within the banking system and to promote newly established financial institutions of capital and money markets to compete with the banking system have been brought into existence.

In the conditions of Turkish Economy and financial system prior to 1980, as an alternative source of finance, capital markets were necessary. The non-financial intermediaries were not enough to compete with the banks. And banks were discouraging the private sectors to alter their financing pattern and to further the increasing degree of dependency on bank credits

Besides the banking sector, it was the public sector who had benefited from the developments of financial markets. The inability and delayed responses of the private sector to new developments had left the public sector almost dominant in securities market and enabled it to collect savings for its own use. Under the conditions, the growing government deficit which was financed by increasing volume of short term government securities and high inflation, created the most adverse impact on the efforts to promote sound financial markets and to improve the performance of the financial system.

It is clear that the successful application of a financial system reform program is not naturally that of short-term task but rather, requires a long-term perspective.

Now at the end we can say that economic growth needs a harmony between fiscal and monetary policy and depends on continued structural reform both in real sector and financial sector. At the end of the study we know that in the financial sector when the capital markets are functioning, firstly the available savings of society should be allocated, or made available to the most efficient uses. Secondly, this resource transfer should take place at a low cost. These are the conventionally analysed objectives. But in the world of uncertainty where the future is unknown to us, we should require that the capital markets be stable or at least not be a source of instability of the economic system. Since exchange presupposes some specialisation and standardisation, the capital market, in fact, consists of many separate, but interrelated, markets of varying degrees of organisation, such as the Istanbul Stock Exchange and the over-the-counter markets.

Inconsistent economic policies like high interest rates, excessive budget deficit, and appreciation of the Turkish Lira discouraged investments and encouraged financial investment by foreign borrowing.

In the end, the inescapable budget deficit growth should be handled by increasing public borrowing and accepting the domination of foreign currency over Turkish Lira, even by the Central bank. Of course, this would be the more expensive way of coping with economic problems, but the success will rely on limiting the growth of the budget size with the price inflation rate on TL depreciation rate against foreign currencies.

We must accept and thank that foreign institutions and individual investors played a major role in the performance of Istanbul Stock Exchange (also in other financial markets of Turkey.)

From the portfolio management side, it seems that APT can be used in Turkey. It can be also seen in the models of this study that there are relationships between macroeconomic factors and stock returns. If the changes in these macroeconomic factors can be modelled, models for the stock returns and portfolio management can also be established for Turkey.

APPENDIX

ECONOMIC VARIABLES

ISE	:Istanbul Stock Exchange Compound Index
EISE	:Index Value of ISE (January 1990=1)
PISE	:Monthly Change of ISE Over the Previous Month (ISE-ISE(-1))
M1	:Money Supply (M1) (TL Billions)
EM1	:Index Value of M1 (January 1990=1)
M2	:Money Supply (M2) (TL Billions)
EM2	:Index Value of M2 (January 1990=1)
M2Y	:Money Supply (M2Y) (TL Billions)
EM2Y	:Index Value of M2Y (January 1990=1)
DB	:Monthly Domestic Borrowing (Net) (Government Bond Issued - Government Bond Redemption) (TL Billions)
STB	:Monthly Short Term Borrowing (Treasury Bill(Net) - Central Bank Short Term Advances) (TL Billions)
CI	:Currency Issued (Emisyon) (Cumulative)(TL Billions)
PCI	:Change of CI Over the Previous Month (CI - CI(-1))
USD	:MonthlyAverage Exchange Rates of American Dollar (Buying Rates)
PUSD	:Monthly Change of American Dollar Over the Previous Month (USD - USD(-1))
BP	:Monthly Current Account Balance ($ Millions)
PBP	:Monthly Change of Monthly Current Account Balance (BP - BP(-1))

DATA SOURCES

ISE :Main Economic Indicators, The Prime Ministry State Planning Institute
M1 :Weekly And Quarterly Bulletin, The Central Bank of the Republic of Turkey
Main Economic Indicators, The Undersecretariat of Treasury and Foreign Trade
M2 :Weekly And Quarterly Bulletin, The Central Bank of the Republic of Turkey
Main Economic Indicators, The Undersecretariat of Treasury and Foreign Trade
M2Y :Weekly And Quarterly Bulletin, The Central Bank of the Republic of Turkey
Main Economic Indicators, The Undersecretariat of Treasury and Foreign Trade
DB :Monthly Bulletin, Capital Market Board
STB :Monthly Bulletin, Capital Market Board
Treasury Monthly Statistics, Rebuplic of Turkey Prime Ministry the Undersecretariat of Treasury
CI :Weekly And Quarterly Bulletin, The Central Bank of the Republic of Turkey
USD :Weekly And Quarterly Bulletin, The Central Bank of the Republic of Turkey
BP :Weekly And Quarterly Bulletin, The Central Bank of the Republic of Turkey

Table 3 Data Series For Model I

obs	ISE	EISE	M1	EM1
1	3641.300	1.000000	18689.00	1.000000
2	3516.100	0.965617	18584.00	0.994382
3	3294.300	0.904704	19215.00	1.028145
4	3308.200	0.908522	20871.00	1.116753
5	3852.100	1.057891	21558.00	1.153513
6	4133.000	1.135034	22897.00	1.225159
7	5384.500	1.478730	24663.00	1.319653
8	4939.200	1.356439	26328.00	1.408743
9	5085.200	1.396534	26799.00	1.433945
10	4570.400	1.255156	26719.00	1.429664
11	3257.000	0.894461	26369.00	1.410937
12	3255.800	0.894131	29306.00	1.568088
13	4213.500	1.157142	29337.00	1.569747
14	5102.600	1.401313	28977.00	1.550484
15	4520.000	1.241315	27979.00	1.497084
16	3554.300	0.976107	29885.00	1.599069
17	3626.400	0.995908	29553.00	1.581305
18	3587.400	0.985198	32992.00	1.765316
19	3041.400	0.835251	33405.00	1.787415
20	3301.300	0.906627	35783.00	1.914656
21	2937.600	0.806745	39253.00	2.100326
22	2746.800	0.754346	40324.00	2.157633
23	4058.500	1.114574	38949.00	2.084060
24	4369.200	1.199901	42033.00	2.249077
25	4926.200	1.352869	41377.00	2.213976
26	3664.400	1.006344	41983.20	2.246412
27	4076.600	1.119545	44437.00	2.377709
28	3686.400	1.012386	46090.10	2.466162
29	3297.400	0.905556	46890.40	2.508984
30	4407.200	1.210337	52996.20	2.835689
31	4264.100	1.171038	52584.70	2.813671
32	4157.200	1.141680	57495.70	3.076446
33	3976.400	1.092028	59578.70	3.187902
34	3642.700	1.000384	62806.50	3.360613
35	3786.200	1.039793	64727.30	3.463390
36	4004.200	1.099662	67677.10	3.621227
37	4383.000	1.203691	69748.00	3.732035
38	5923.600	1.626782	74809.00	4.002836
39	5864.200	1.610469	79289.00	4.242549
40	7807.600	2.144179	80797.00	4.323238
41	8375.800	2.300222	95306.00	5.099577
42	10778.70	2.960124	91043.00	4.871475
43	10077.60	2.767583	97363.00	5.209642
44	12357.00	3.393568	103839.0	5.556156
45	15079.90	4.141351	106679.0	5.708117
46	14500.70	3.982287	112025.0	5.994168
47	18977.20	5.211655	109906.0	5.880785
48	20682.90	5.680087	129087.0	6.907111
49	20104.80	5.521325	107658.0	5.760501
50	15003.60	4.120397	113512.0	6.073733

obs	ISE	EISE	M1	EM1
51	14087.20	3.868728	103247.0	5.524480
52	15096.70	4.145965	127822.0	6.839424
53	14749.10	4.050504	147421.0	7.888116
54	19766.40	5.428391	151372.0	8.099524
55	21752.20	5.973745	175356.0	9.382846
56	25825.40	7.092357	196020.0	10.48852
57	26825.50	7.367012	200688.0	10.73830
58	24889.50	6.835333	209286.0	11.19835
59	24181.00	6.640760	203208.0	10.87313
60	27257.10	7.485541	230847.0	12.35203
61	25228.80	6.928515	200589.0	10.73300
62	29122.90	7.997941	245686.0	13.14602
63	39837.30	10.94041	231485.0	12.38616
64	46615.20	12.80180	278265.0	14.88924
65	47370.90	13.00934	285068.0	15.25325
66	48233.00	13.24609	310769.0	16.62844
67	51943.80	14.26518	341682.0	18.28252
68	45139.60	12.39656	352834.0	18.87923
69	41707.60	11.45404	366935.0	19.63374
70	46324.60	12.72200	374999.0	20.06523
71	39113.60	10.74166	363558.0	19.45305
72	40024.60	10.99184	388184.0	20.77072
73	49489.50	13.59116	357180.0	19.11178
74	60546.50	16.62772	425081.0	22.74498
75	67045.20	18.41244	418167.0	22.37503
76	64722.70	17.77461	520341.0	27.84210
77	61150.40	16.79356	487151.0	26.06619
78	70489.20	19.35825	505658.0	27.05645
79	63365.60	17.40192	537096.0	28.73862
80	64533.40	17.99725	593710.0	31.76789
81	72452.90	19.89754	532187.0	28.47595
82	82006.10	22.52110	639566.0	34.22152
83	93058.50	25.55639	708526.0	37.91139
84	97588.80	26.80054	929130.0	49.71534

Figure I Istanbul Stock Exchange Compound Index

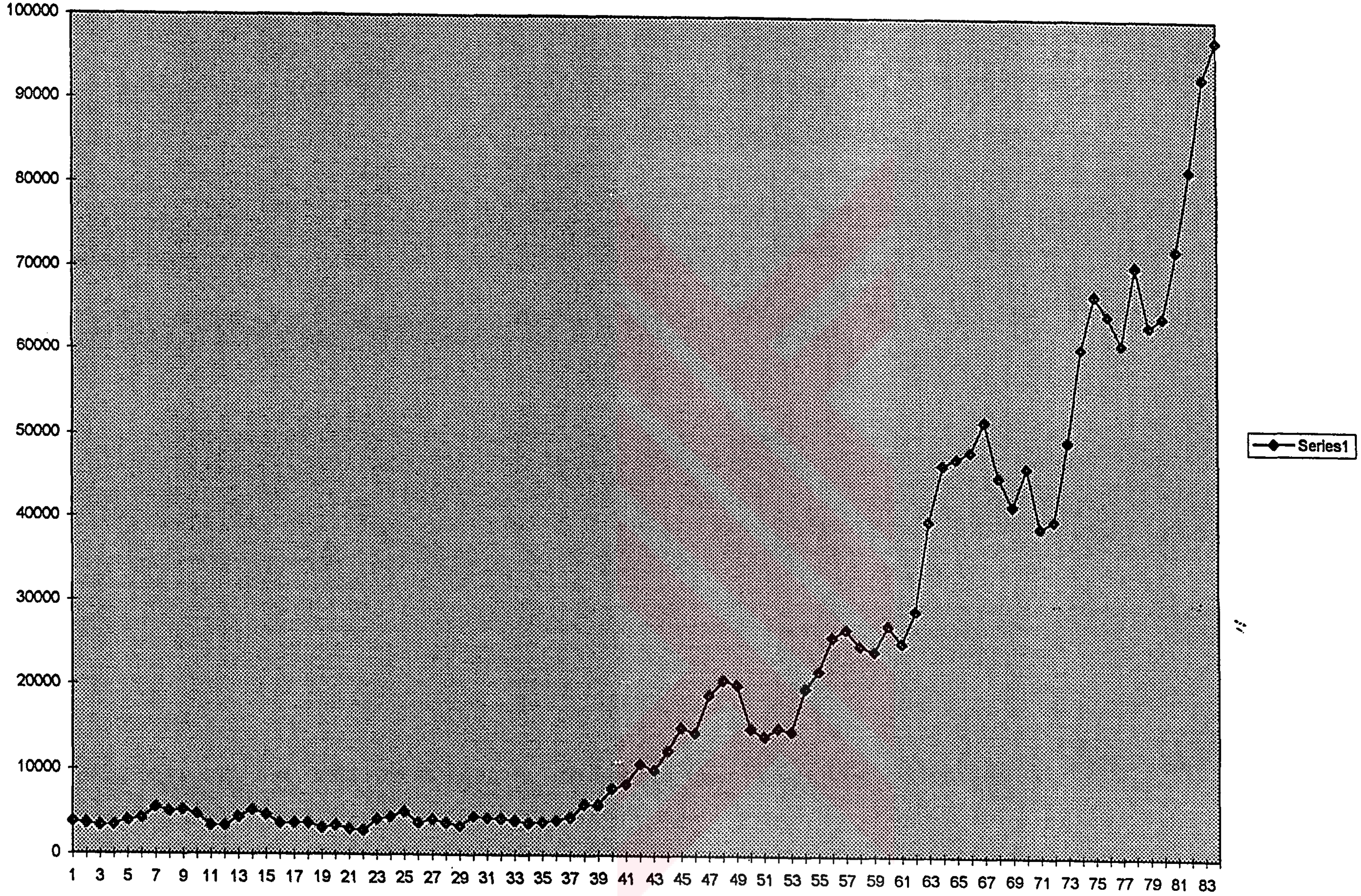
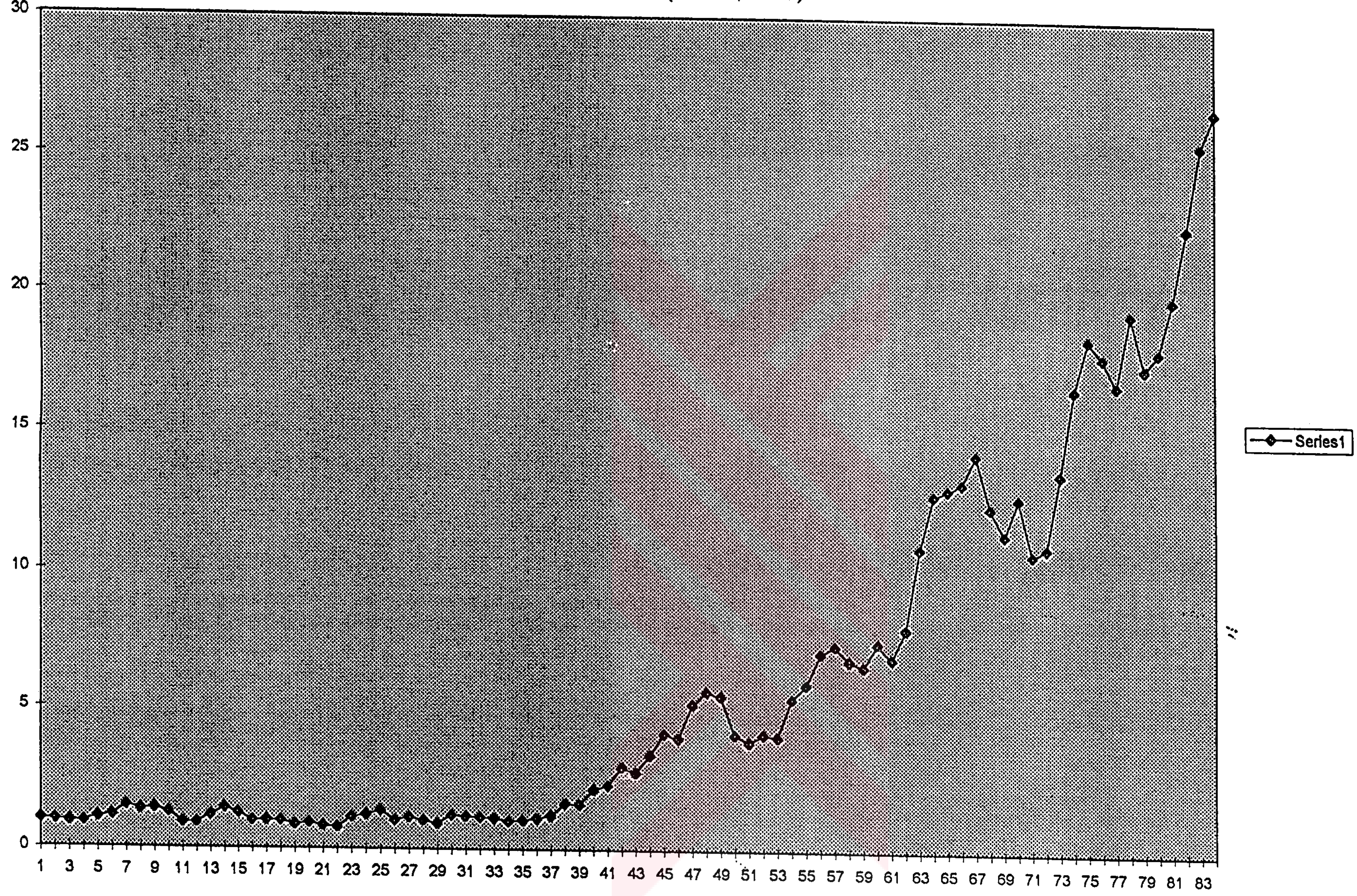
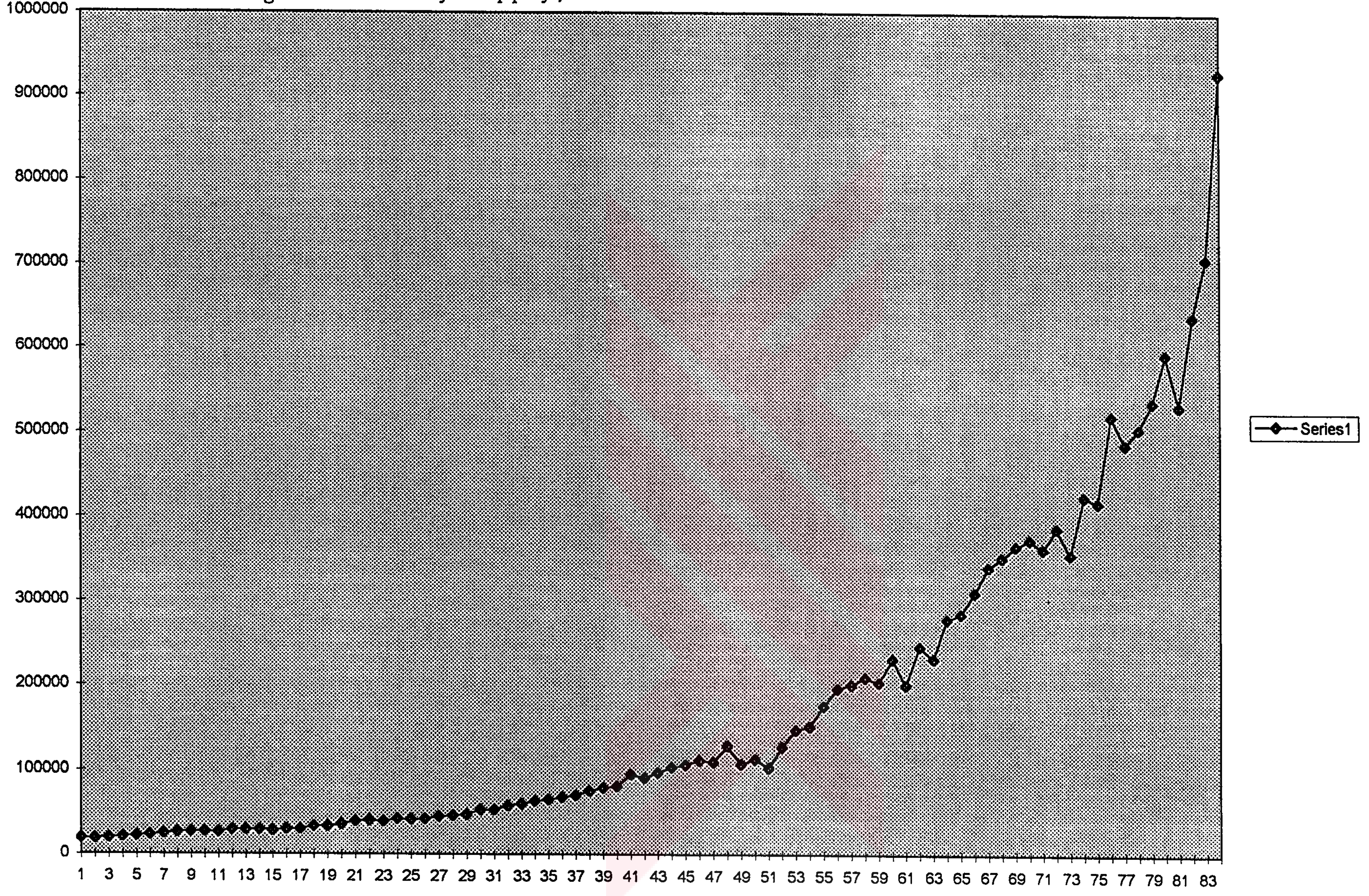


Figure 2. Index Value of ISE (I990/I=I)



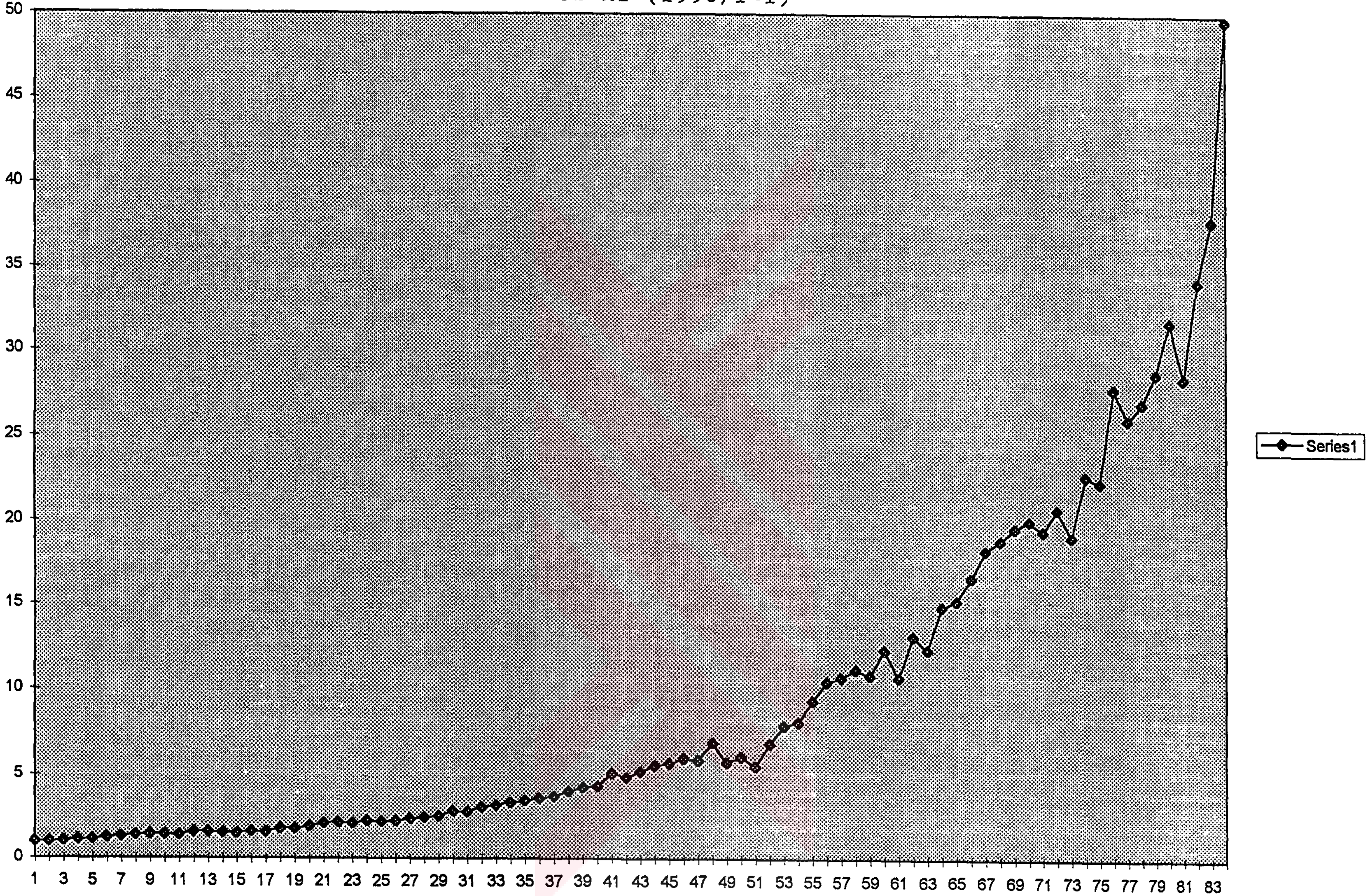
m1 ✗

Figure 3. Money Supply, MI



Page 1

Figure 4. Index Value of MI (I990/I=I)



Page 1

Table 4. Data Series For Model II

obs	ISE	EISE	M2	EM2
1	3641.300	1.000000	48550.00	1.000000
2	3516.100	0.965617	49430.00	1.018126
3	3294.300	0.904704	50899.00	1.048383
4	3308.200	0.908522	53301.00	1.097858
5	3852.100	1.057891	54736.00	1.127415
6	4133.000	1.135034	57082.00	1.175736
7	5384.500	1.478730	59927.00	1.234336
8	4939.200	1.356439	62641.00	1.290237
9	5085.200	1.396534	64128.00	1.320865
10	4570.400	1.255156	65871.00	1.356766
11	3257.000	0.894461	67419.00	1.388651
12	3255.800	0.894131	70689.00	1.456004
13	4213.500	1.157142	69652.00	1.434645
14	5102.600	1.401313	71594.00	1.474645
15	4520.000	1.241315	72809.00	1.499670
16	3554.300	0.976107	75923.00	1.563810
17	3626.400	0.995908	78207.00	1.610855
18	3587.400	0.985198	83879.00	1.727683
19	3041.400	0.835251	87544.00	1.803172
20	3301.300	0.906627	93555.00	1.926983
21	2937.600	0.806745	99702.00	2.053594
22	2746.800	0.754346	104161.0	2.145438
23	4058.500	1.114574	107134.0	2.206674
24	4369.200	1.199901	113483.0	2.337446
25	4926.200	1.352869	116966.0	2.409186
26	3664.400	1.006344	121955.0	2.511946
27	4076.600	1.119545	127644.0	2.629125
28	3686.400	1.012386	132183.0	2.722616
29	3297.400	0.905556	136599.0	2.813574
30	4407.200	1.210337	145003.0	2.986674
31	4264.100	1.171038	147182.0	3.031555
32	4157.200	1.141680	155713.0	3.207271
33	3976.400	1.092028	160635.0	3.308651
34	3642.700	1.000384	166417.0	3.427745
35	3786.200	1.039793	172513.0	3.553306
36	4004.200	1.099662	179160.0	3.690216
37	4383.000	1.203691	187890.0	3.870031
38	5923.600	1.626782	200491.0	4.129578
39	5864.200	1.610469	207783.0	4.279773
40	7807.600	2.144179	210577.0	4.337322
41	8375.800	2.300222	223925.0	4.612256
42	10778.70	2.960124	220476.0	4.541215
43	10077.60	2.767583	229620.0	4.729557
44	12357.00	3.393568	238763.0	4.917879
45	15079.90	4.141351	242380.0	4.992379
46	14500.70	3.982287	251798.0	5.186365
47	18977.20	5.211655	253615.0	5.223790
48	20682.90	5.680087	282442.0	5.817549
49	20104.80	5.521325	276063.0	5.686159
50	15003.60	4.120397	288541.0	5.943172

obs	ISE	EISE	M2	EM2
51	14087.20	3.868728	284905.0	5.868280
52	15096.70	4.145965	329703.0	6.790999
53	14749.10	4.050504	390962.0	8.052771
54	19766.40	5.428391	469332.0	9.666983
55	21752.20	5.973745	556050.0	11.45314
56	25825.40	7.092357	550459.0	11.33798
57	26825.50	7.367012	563013.0	11.59656
58	24889.50	6.835333	558539.0	11.50441
59	24181.00	6.640760	584142.0	12.03176
60	27257.10	7.485541	642490.0	13.23357
61	25228.80	6.928515	624872.0	12.87069
62	29122.90	7.997941	716798.0	14.76412
63	39837.30	10.94041	759544.0	15.64457
64	46615.20	12.80180	850549.0	17.51903
65	47370.90	13.00934	893612.0	18.40601
66	48233.00	13.24609	972387.0	20.02857
67	51943.80	14.26518	1047600.	21.57775
68	45139.60	12.39656	1097032.	22.59592
69	41707.60	11.45404	1113787.	22.94103
70	46324.60	12.72200	1112833.	22.92138
71	39113.60	10.74166	1180854.	24.32243
72	40024.60	10.99184	1256631.	25.88323
73	49489.50	13.59116	1284033.	26.44764
74	60546.50	16.62772	1407026.	28.98097
75	67045.20	18.41244	1425968.	29.37112
76	64722.70	17.77461	1634451.	33.66531
77	61150.40	16.79356	1878741.	38.69703
78	70489.20	19.35825	1814552.	37.37491
79	63365.60	17.40192	1902163.	39.17947
80	64533.40	17.99725	2093264.	43.11563
81	72452.90	19.89754	2263220.	46.61627
82	82006.10	22.52110	2409232.	49.62373
83	93058.50	25.55639	2508533.	51.66906
84	97588.80	26.80054	2896504.	59.66022

m2 x

Figure 5. Money Suppyly, M2

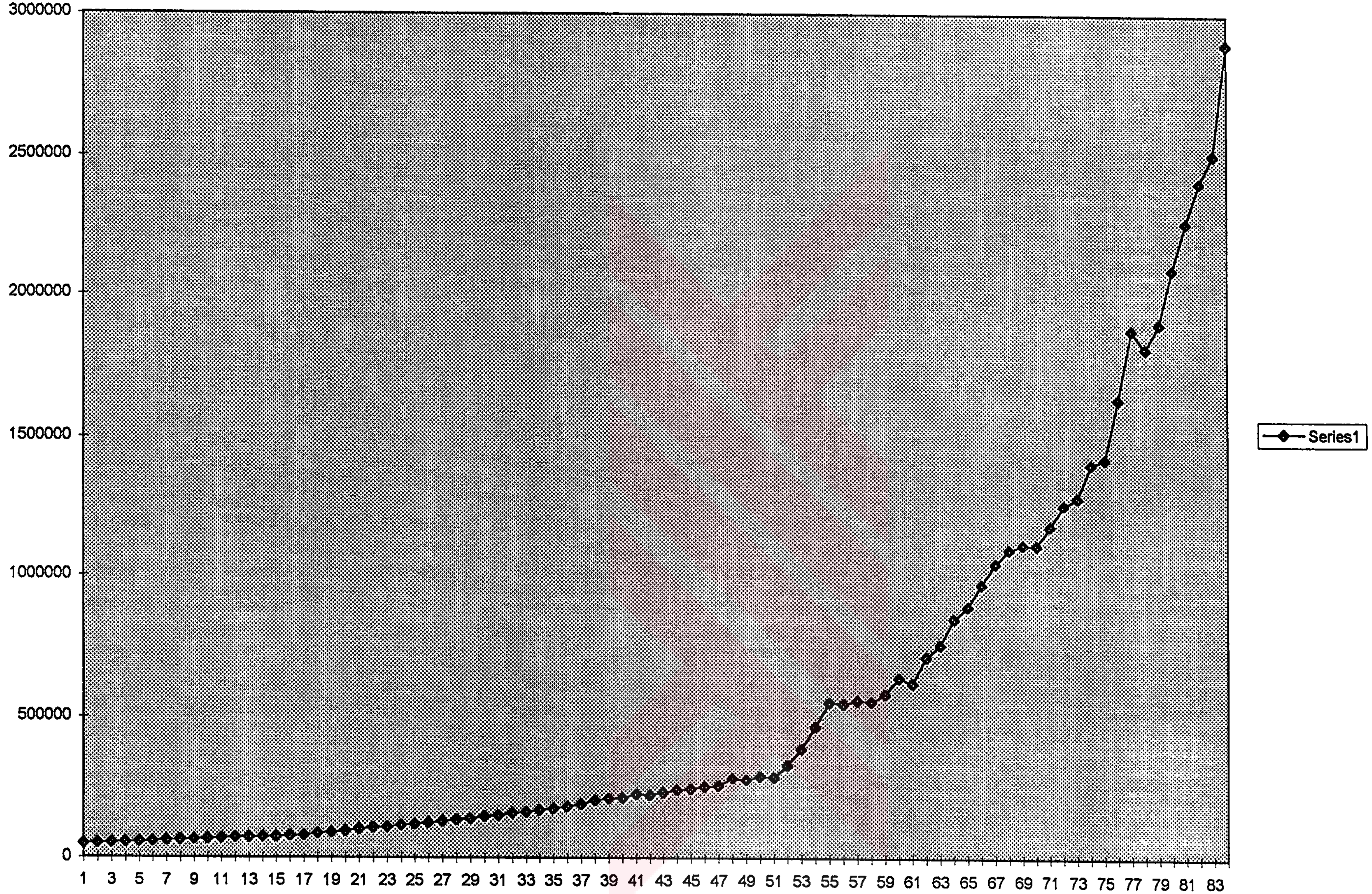


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Figure 6. Index Value of M2 (I990/I=I)

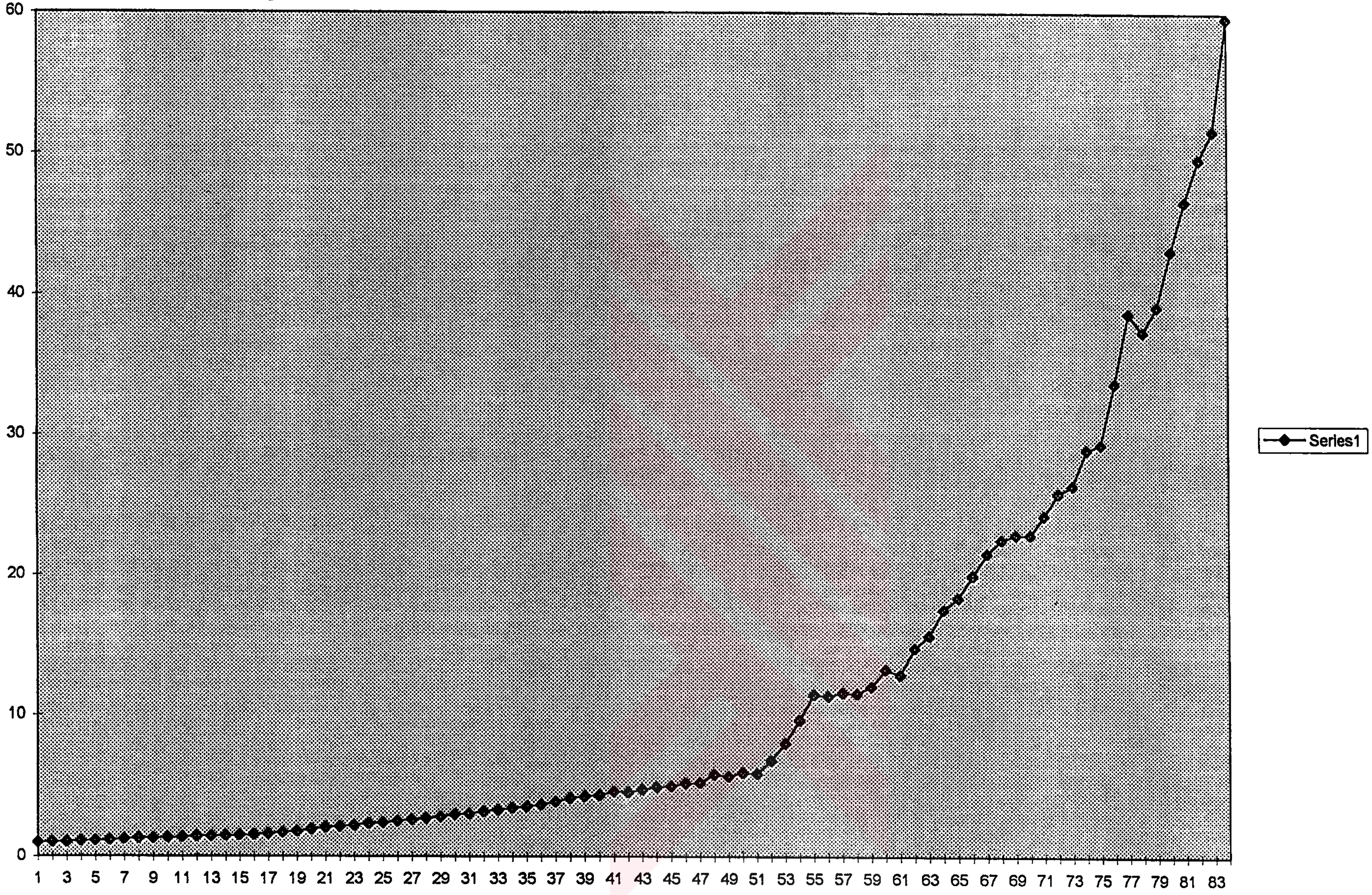

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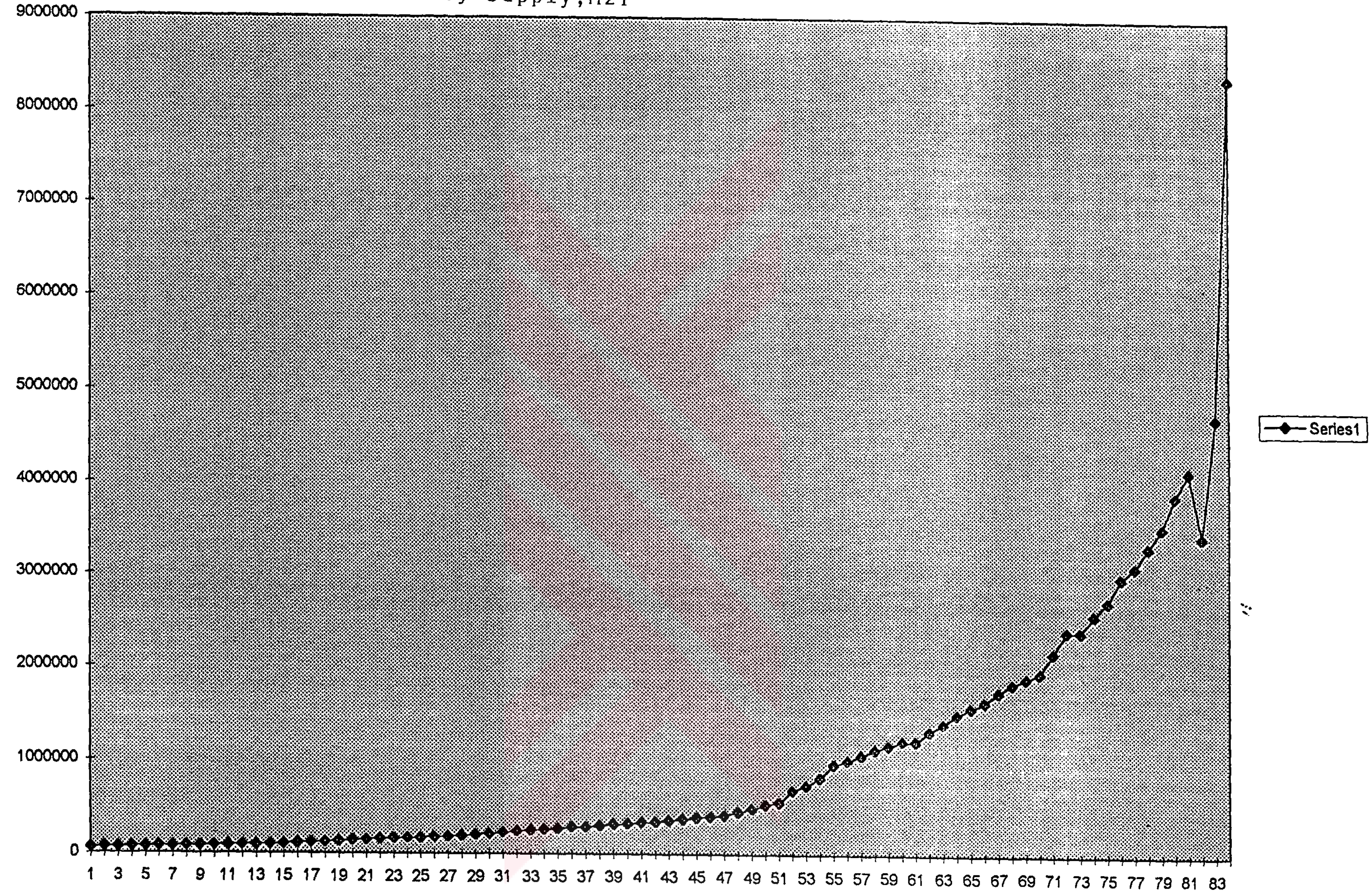
Table 5. Data Series For Model III

obs	ISE	EISE	M2Y	EM2Y
1	3641.300	1.000000	61880.00	1.000000
2	3516.100	0.965617	65198.00	1.053620
3	3294.300	0.904704	66461.00	1.074030
4	3308.200	0.908522	70371.00	1.137217
5	3852.100	1.057891	72389.00	1.169829
6	4133.000	1.135034	75332.00	1.217389
7	5384.500	1.478730	77239.00	1.248206
8	4939.200	1.356439	80449.00	1.300081
9	5085.200	1.396534	82464.00	1.332644
10	4570.400	1.255156	89195.00	1.441419
11	3257.000	0.894461	86587.00	1.399273
12	3255.800	0.894131	91050.00	1.471396
13	4213.500	1.157142	94569.00	1.528264
14	5102.600	1.401313	98833.00	1.597172
15	4520.000	1.241315	104522.0	1.689108
16	3554.300	0.976107	111277.0	1.798271
17	3626.400	0.995908	117051.0	1.891580
18	3587.400	0.985198	126070.0	2.037330
19	3041.400	0.835251	135265.0	2.185924
20	3301.300	0.906627	142456.0	2.302133
21	2937.600	0.806745	150114.0	2.425889
22	2746.800	0.754346	159453.0	2.576810
23	4058.500	1.114574	167533.0	2.707385
24	4369.200	1.199901	167650.0	2.709276
25	4926.200	1.352869	167762.0	2.711086
26	3664.400	1.006344	177981.0	2.876228
27	4076.600	1.119545	187481.0	3.029751
28	3686.400	1.012386	196739.0	3.179363
29	3297.400	0.905556	206559.0	3.338058
30	4407.200	1.210337	218835.0	3.536442
31	4264.100	1.171038	231895.0	3.747495
32	4157.200	1.141680	245824.0	3.972592
33	3976.400	1.092028	258932.0	4.184422
34	3642.700	1.000384	267084.0	4.316160
35	3786.200	1.039793	271453.0	4.386765
36	4004.200	1.099662	293969.0	4.750630
37	4383.000	1.203691	294033.0	4.751665
38	5923.600	1.626782	310119.0	5.011619
39	5864.200	1.610469	322681.0	5.214625
40	7807.600	2.144179	329003.0	5.316791
41	8375.800	2.300222	345883.0	5.589577
42	10778.70	2.960124	348792.0	5.636587
43	10077.60	2.767583	364312.0	5.887395
44	12357.00	3.393568	383849.0	6.203119
45	15079.90	4.141351	397477.0	6.423352
46	14500.70	3.982287	407268.0	6.581577
47	18977.20	5.211655	420623.0	6.797398
48	20682.90	5.680087	459684.0	7.428636
49	20104.80	5.521325	494371.0	7.989189
50	15003.60	4.120397	538289.0	8.698917

obs	ISE	EISE	M2Y	EM2Y
51	14087.20	3.868728	561735.0	9.077812
52	15096.70	4.145965	689390.0	11.14076
53	14749.10	4.050504	740562.0	11.96771
54	19766.40	5.428391	823525.0	13.30842
55	21752.20	5.973745	971449.0	15.69892
56	25825.40	7.092357	1012975.	16.36999
57	26825.50	7.367012	1068118.	17.26112
58	24889.50	6.835333	1130202.	18.26442
59	24181.00	6.640760	1169257.	18.89556
60	27257.10	7.485541	1217201.	19.67035
61	25228.80	6.928515	1216889.	19.66530
62	29122.90	7.997941	1324595.	21.40587
63	39837.30	10.94041	1407375.	22.74362
64	46615.20	12.80180	1510801.	24.41501
65	47370.90	13.00934	1582473.	25.57326
66	48233.00	13.24609	1645662.	26.59441
67	51943.80	14.26518	1753249.	28.33305
68	45139.60	12.39656	1840441.	29.74210
69	41707.60	11.45404	1900179.	30.70748
70	46324.60	12.72200	1953698.	31.57237
71	39113.60	10.74166	2178683.	35.20819
72	40024.60	10.99184	2414597.	39.02064
73	49489.50	13.59116	2413640.	39.00517
74	60546.50	16.62772	2595343.	41.94155
75	67045.20	18.41244	2744470.	44.35149
76	64722.70	17.77461	3007037.	48.59465
77	61150.40	16.79356	3126410.	50.52375
78	70489.20	19.35825	3335119.	53.89656
79	63365.60	17.40192	3546626.	57.31458
80	64533.40	17.99725	3893319.	62.91724
81	72452.90	19.89754	4157605.	67.18819
82	82006.10	22.52110	3448382.	55.72692
83	93058.50	25.55639	4727505.	76.39795
84	97588.80	26.80054	8382961.	135.4713

m2y4

Figure 7. Money Supply,M2Y



Sheet1 Chart 1

Figure 8. Index Value of M2Y (I990/I=I)

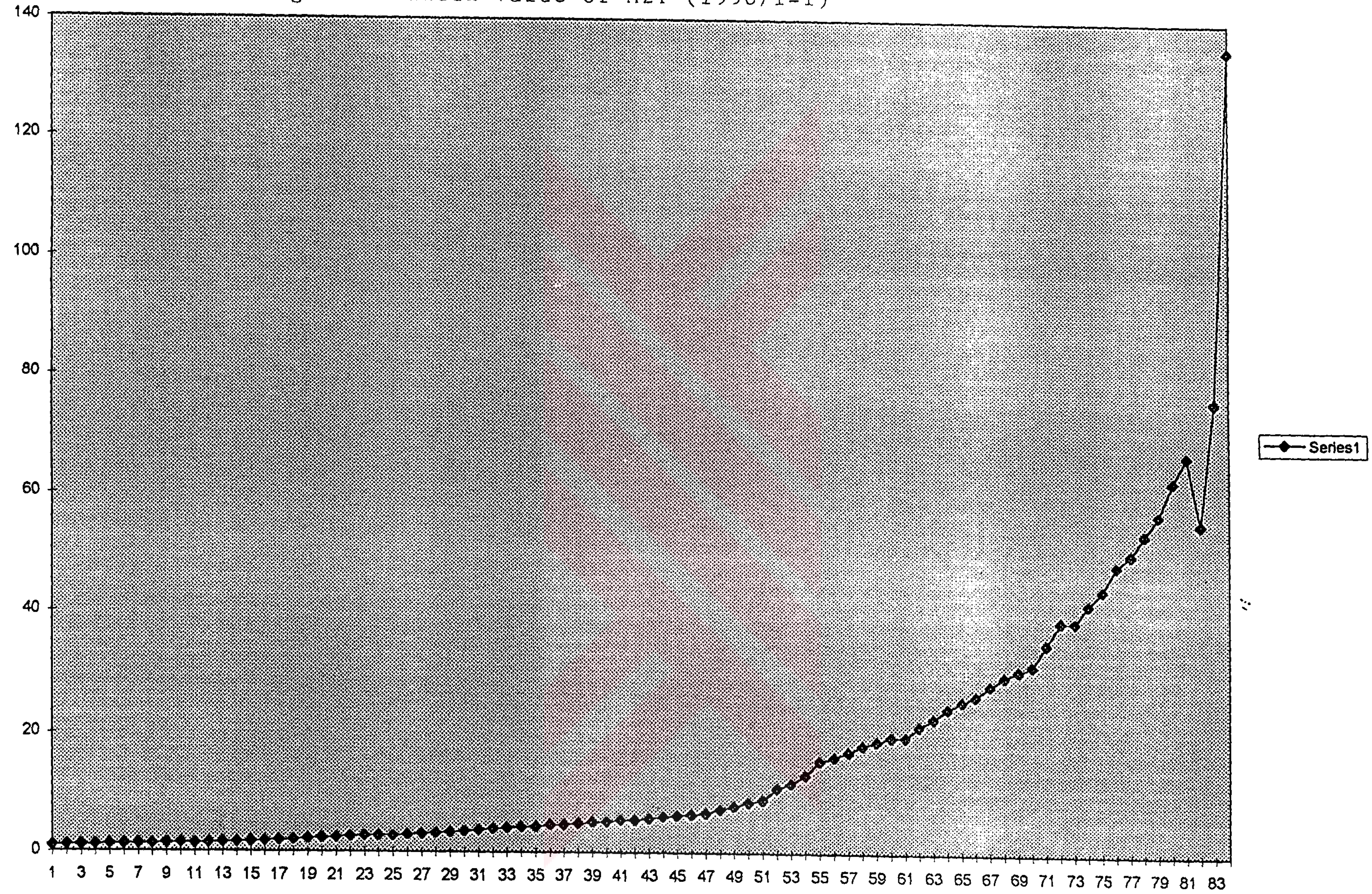


Table 6. Data Series For Model IV.

obs	ISE	PISE	DB	STB	Cŷ	PCI
1	3641.300	NA	2328.200	835.6000	17607.00	NA
2	3516.100	-125.2000	874.8000	494.0000	16331.00	-1276.000
3	3294.300	-221.8000	1350.900	-1016.900	15067.00	-1264.000
4	3308.200	13.89990	522.5000	-1259.700	15551.00	484.0000
5	3852.100	543.9001	448.8000	120.7000	15758.00	207.0000
6	4133.000	280.8999	1096.800	-275.3000	18736.00	2978.000
7	5384.500	1251.500	680.4000	-55.89996	17817.00	-919.0000
8	4939.200	-445.2998	-93.10001	432.4000	19508.00	1691.000
9	5085.200	146.0000	-264.9000	767.2000	20909.00	1401.000
10	4570.400	-514.8003	-339.2000	127.7000	21283.00	374.0000
11	3257.000	-1313.400	98.39999	1126.900	20325.00	-958.0000
12	3255.800	-1.199951	1234.800	285.4000	20707.00	382.0000
13	4213.500	957.7000	-46.50003	-157.1000	20836.00	129.0000
14	5102.600	889.1001	120.7000	504.2001	22680.00	1844.000
15	4520.000	-582.6001	713.2001	-980.5000	22761.00	81.00000
16	3554.300	-965.7000	2315.600	499.9000	24118.00	1357.000
17	3626.400	72.09985	-53.50000	2576.300	25351.00	1233.000
18	3587.400	-39.00000	434.3000	-1507.700	26883.00	1532.000
19	3041.400	-546.0000	480.5000	2879.900	29448.00	2565.000
20	3301.300	259.9001	-1337.700	3711.700	20592.00	-8856.000
21	2937.600	-363.7000	283.1000	-790.1001	31653.00	11061.00
22	2746.800	-190.8000	876.7999	-4985.800	33887.00	2234.000
23	4058.500	1311.700	816.3000	1425.400	34780.00	893.0000
24	4369.200	310.7002	1274.200	-1105.700	35032.00	252.0000
25	4926.200	557.0000	1139.700	3098.500	36580.00	1548.000
26	3664.400	-1261.800	2723.400	-6021.900	39719.00	3139.000
27	4076.600	412.2002	5508.200	-7566.400	48442.00	8723.000
28	3686.400	-390.2002	3566.000	-3053.800	42381.00	-6061.000
29	3297.400	-389.0000	2242.200	781.8000	56207.00	13826.00
30	4407.200	1109.800	696.3000	525.2999	48789.00	-7418.000
31	4264.100	-143.1001	1629.300	6496.600	53717.00	4928.000
32	4157.200	-106.8999	3783.700	4724.700	56778.00	3061.000
33	3976.400	-180.8003	4826.100	1079.500	59152.00	2374.000
34	3642.700	-333.7000	6150.100	901.3003	62098.00	2946.000
35	3786.200	143.5000	-664.4001	968.1001	60559.00	-1539.000
36	4004.200	218.0000	10702.30	4643.101	63103.00	2544.000
37	4383.000	378.8000	4777.000	4070.100	58697.00	-4406.000
38	5923.600	1540.600	1732.900	10008.40	64315.00	5618.000
39	5864.200	-59.39990	1032.200	12860.40	66088.00	1773.000
40	7807.600	1943.400	1358.400	-7069.101	79371.00	13283.00
41	8375.800	568.1997	1281.400	114.1992	88419.00	9048.000
42	10778.70	2402.900	5860.100	8282.900	91474.00	3055.000
43	10077.60	-701.1006	-790.0000	16659.90	102178.0	10704.00
44	12357.00	2279.400	25185.90	8443.199	112340.0	10162.00
45	15079.90	2722.900	14122.10	-19368.00	118135.0	5795.000
46	14500.70	-579.2002	15604.40	-14603.00	116839.0	-1296.000
47	18977.20	4476.499	11841.60	-17502.00	115934.0	-905.0000
48	20682.90	1705.701	19619.50	-21274.70	120212.0	4278.000
49	20104.80	-578.0996	16635.50	-42602.00	58697.00	-61515.00
50	15003.60	-5101.201	2228.300	-17066.40	64315.00	5618.000

obs	ISE	PISE	DB	STB	Cÿ	PCI
51	14087.20	-916.3994	1548.000	5660.000	66088.00	1773.000
52	15096.70	1009.500	2651.500	10002.40	79731.00	13643.00
53	14749.10	-347.6006	3835.100	15977.90	88419.00	8688.000
54	19766.40	5017.301	6266.700	62368.10	91474.00	3055.000
55	21752.20	1985.799	20566.60	10071.90	102178.0	10704.00
56	25825.40	4073.201	-6724.801	36266.80	112340.0	10162.00
57	26825.50	1000.100	-6331.600	32995.10	118135.0	5795.000
58	24889.50	-1936.000	-17364.30	34763.40	116839.0	-1296.000
59	24181.00	-708.5000	4098.500	-4969.898	115934.0	-905.0000
60	27257.10	3076.100	4472.301	27593.00	120212.0	4278.000
61	25228.80	-2028.299	3002.900	117595.4	114566.0	-5646.000
62	29122.90	3894.100	897.7002	117516.5	140812.0	26246.00
63	39837.30	10714.40	49648.50	-3877.898	139186.0	-1626.000
64	46615.20	6777.898	64645.60	-72266.30	159827.0	20641.00
65	47370.90	755.6992	49904.50	93391.30	170032.0	10205.00
66	48233.00	862.1016	11903.90	18734.10	185084.0	15052.00
67	51943.80	3710.801	39806.90	-7825.000	195494.0	10410.00
68	45139.60	-6804.199	56531.40	6191.594	203886.0	8392.000
69	41707.60	-3432.000	6392.000	-66785.20	210228.0	6342.000
70	46324.60	4617.000	-3770.200	29385.20	209673.0	-555.0000
71	39113.60	-7211.000	4027.600	1598.000	217265.0	7592.000
72	40024.60	911.0000	9000.000	52371.00	223935.0	6670.000
73	49489.50	9464.898	81851.00	206541.0	507852.0	283917.0
74	60546.50	11057.00	38310.00	35270.00	274346.0	-233506.0
75	67045.20	6498.703	-27410.00	73108.00	242219.0	-32127.00
76	64722.70	-2322.504	-48979.00	286262.0	332019.0	89800.00
77	61150.40	-3572.301	35627.00	107352.0	269566.0	-62453.00
78	70489.20	9338.805	43631.00	69455.00	289341.0	19775.00
79	63365.60	-7123.602	-9108.000	3019.000	312678.0	23337.00
80	64533.40	1167.797	-64594.00	175426.0	363429.0	50751.00
81	72452.90	7919.500	110171.0	279760.0	362839.0	-590.0000
82	82006.10	9553.203	173422.0	-14163.00	368967.0	6128.000
83	93058.50	11052.40	142042.0	-182076.0	356589.0	-12378.00
84	97588.80	4530.297	236115.0	-372229.0	395018.0	38429.00

Sheet1 Chart 1

Figure 9. Monthly Change of ISE Over The Previous Month

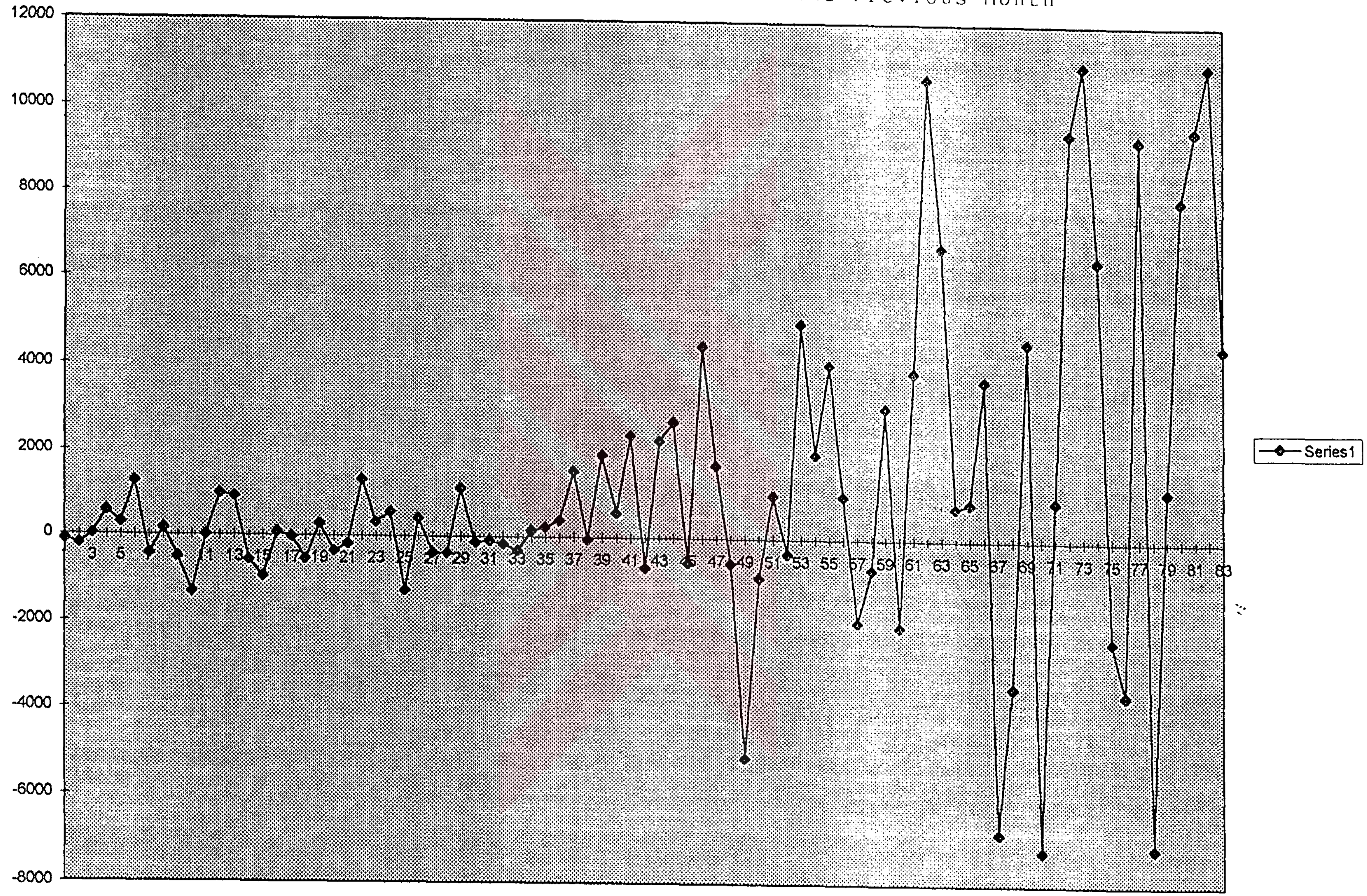


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Figure IO. Monthly Domestic Borrowing

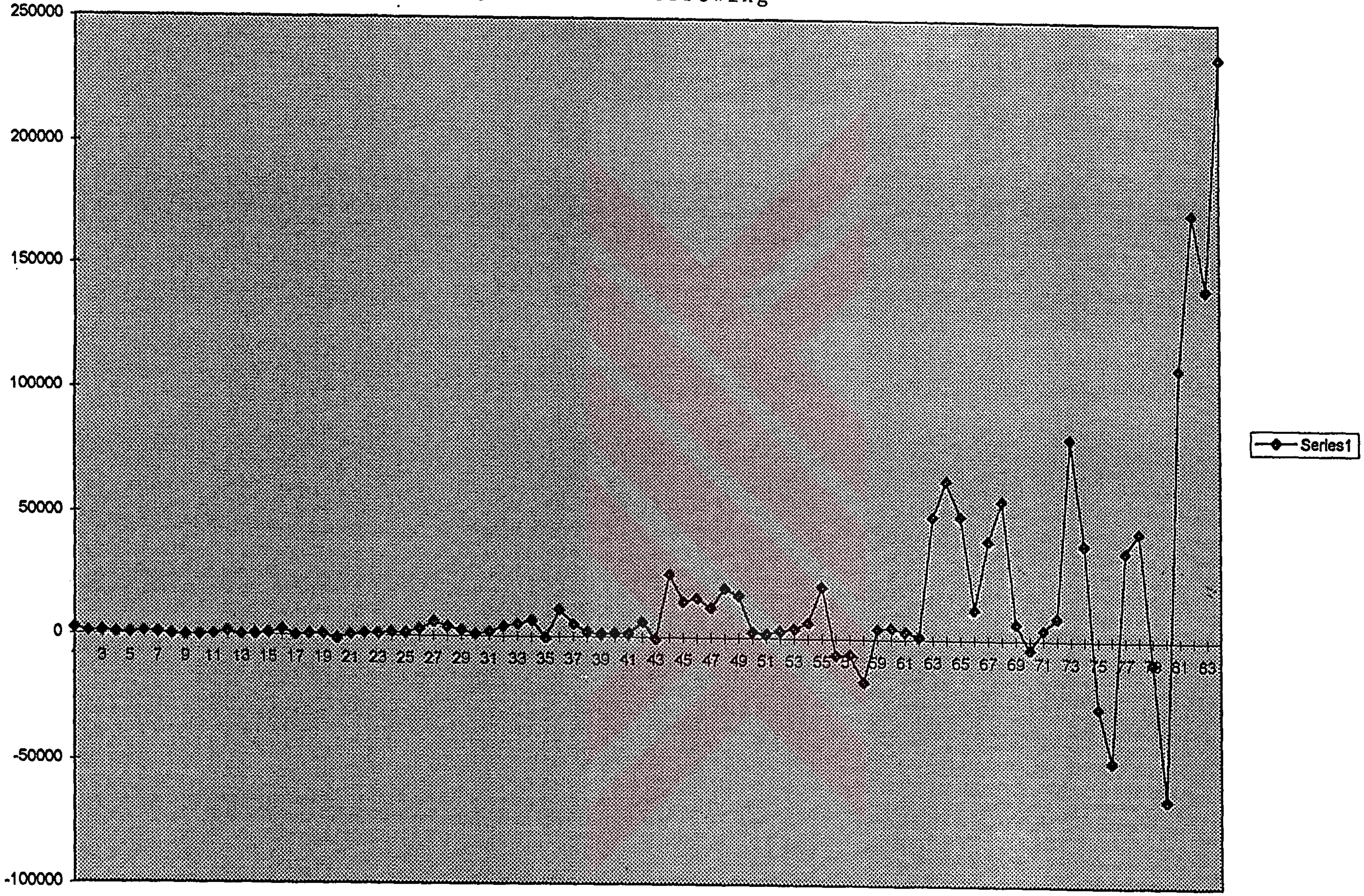

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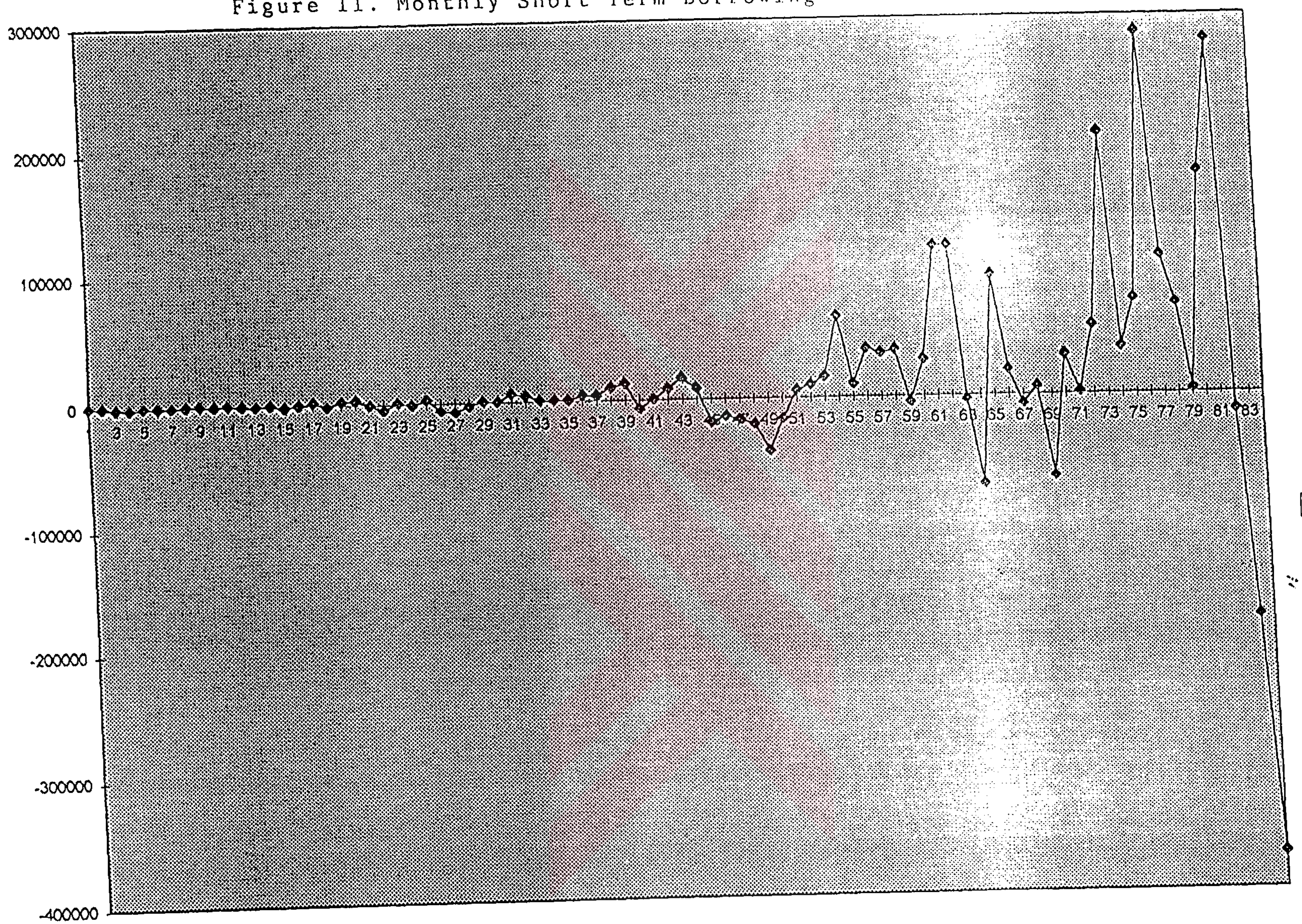
Figure II. Monthly Short Term Borrowing



Sheet1 Chart 1

Figure I2. Currency Issued (Cumulative)

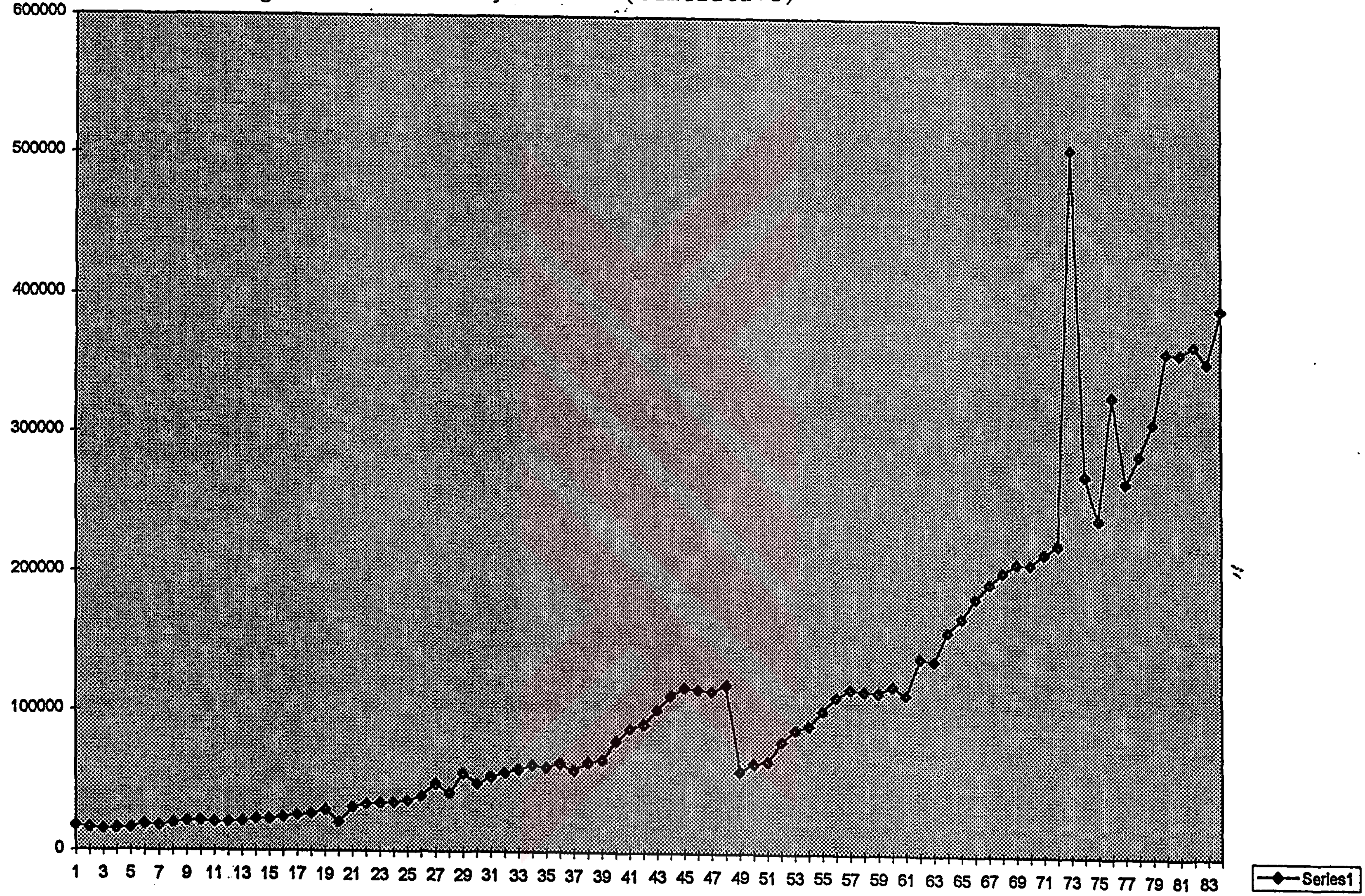


Figure I3. Change of Currency Issued Over The Previous Month

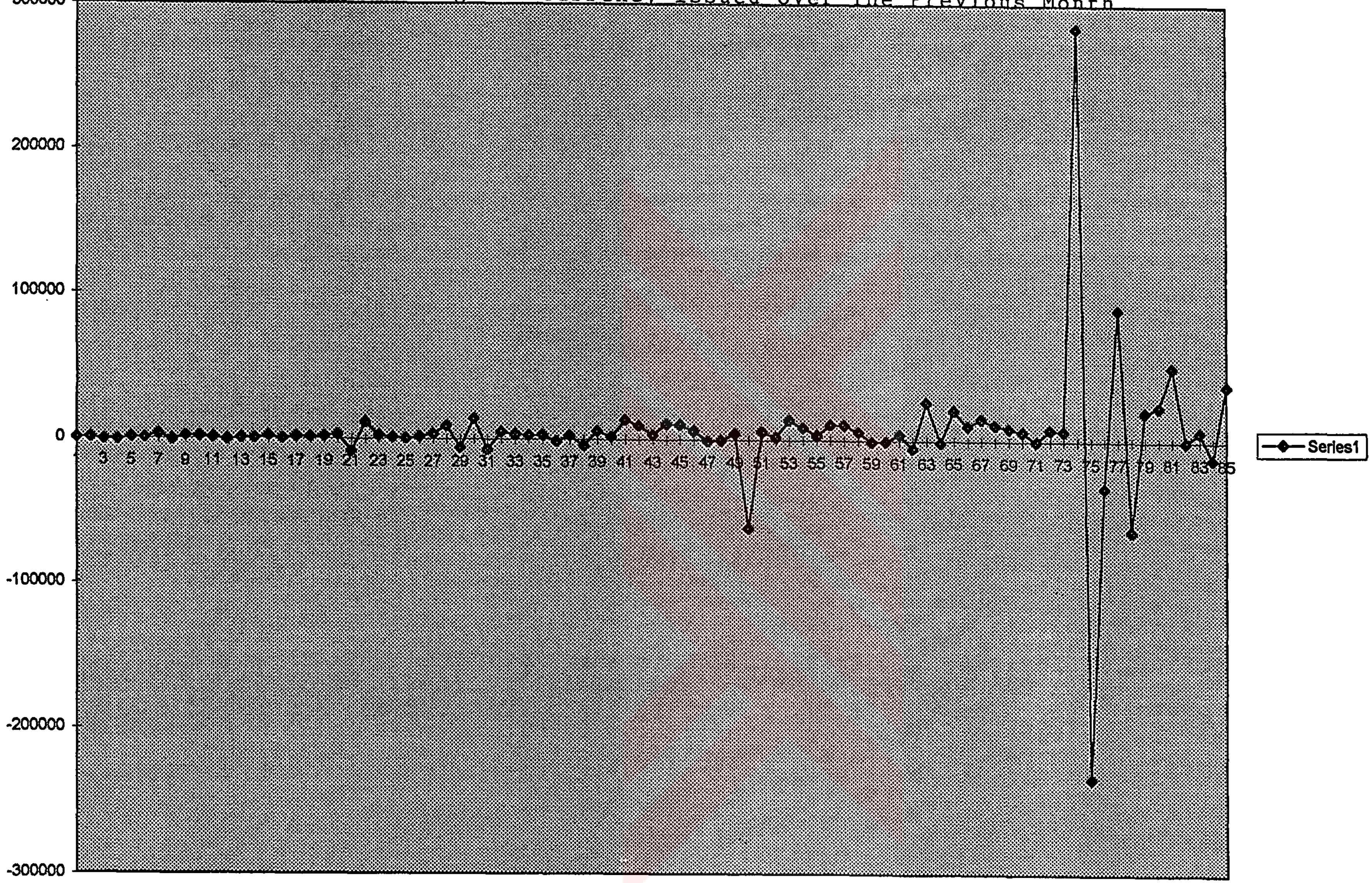


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Table 7. Data Series For Model V.

obs	ISE	PISE	USD	PUSD	BP	PBP
1	3641.300	NA	2318.530	NA	-116.0000	NA
2	3516.100	-125.2000	2377.590	59.06006	-247.0000	-131.0000
3	3294.300	-221.8000	2452.730	75.13989	-542.0000	-295.0000
4	3308.200	13.89990	2502.680	49.94995	-71.00000	471.0000
5	3852.100	543.9001	2547.480	44.80005	-390.0000	-319.0000
6	4133.000	280.8999	2626.440	78.95996	-129.0000	261.0000
7	5384.500	1251.500	2662.180	35.73999	-245.0000	-116.0000
8	4939.200	-445.2998	2677.340	15.16016	-298.0000	-53.00000
9	5085.200	146.0000	2715.790	38.44995	23.00000	321.0000
10	4570.400	-514.8003	2739.670	23.87988	-311.0000	-334.0000
11	3257.000	-1313.400	2773.780	34.11011	-199.0000	112.0000
12	3255.800	-1.199951	2871.050	97.27002	-86.00000	113.0000
13	4213.500	957.7000	2987.720	116.6699	-115.0000	-29.00000
14	5102.600	889.1001	3131.440	143.7200	-30.00000	85.00000
15	4520.000	-582.6001	3526.960	395.5200	-70.00000	-40.00000
16	3554.300	-965.7000	3794.490	267.5300	146.0000	216.0000
17	3626.400	72.09985	3933.290	138.8000	2.000000	-144.0000
18	3587.400	-39.00000	4227.030	293.7397	61.00000	59.00000
19	3041.400	-546.0000	4373.140	146.1104	129.0000	68.00000
20	3301.300	259.9001	4507.770	134.6299	301.0000	172.0000
21	2937.600	-363.7000	4647.390	139.6201	191.0000	-110.0000
22	2746.800	-190.8000	4842.910	195.5200	38.00000	-153.0000
23	4058.500	1311.700	4946.390	103.4800	28.00000	-10.00000
24	4369.200	310.7002	5049.330	102.9399	-409.0000	-437.0000
25	4926.200	557.0000	5306.750	257.4199	94.00000	503.0000
26	3664.400	-1261.800	5659.550	352.7998	-76.00000	-170.0000
27	4076.600	412.2002	6097.960	438.4102	-173.0000	-97.00000
28	3686.400	-390.2002	6410.690	312.7300	-233.0000	-60.00000
29	3297.400	-389.0000	6702.420	291.7300	-34.00000	199.0000
30	4407.200	1109.800	6876.010	173.5898	-323.0000	-289.0000
31	4264.100	-143.1001	6938.440	62.43018	-215.0000	108.0000
32	4157.200	-106.8999	7087.460	149.0200	23.00000	238.0000
33	3976.400	-180.8003	7265.980	178.5200	160.0000	137.0000
34	3642.700	-333.7000	7552.340	286.3599	272.0000	112.0000
35	3786.200	143.5000	8106.990	554.6504	-51.00000	-323.0000
36	4004.200	218.0000	8343.240	236.2500	-387.0000	-336.0000
37	4383.000	378.8000	8694.380	351.1396	-96.00000	291.0000
38	5923.600	1540.600	9031.600	337.2197	-350.0000	-254.0000
39	5864.200	-59.39990	9376.250	344.6504	-479.0000	-129.0000
40	7807.600	1943.400	9544.010	167.7598	-954.0000	-475.0000
41	8375.800	568.1997	9960.690	416.6807	-486.0000	468.0000
42	10778.70	2402.900	10463.14	502.4492	-892.0000	-406.0000
43	10077.60	-701.1006	11858.55	1395.410	-492.0000	400.0000
44	12357.00	2279.400	12483.48	624.9307	-622.0000	-130.0000
45	15079.90	2722.900	13350.70	867.2197	-455.0000	167.0000
46	14500.70	-579.2002	14034.01	683.3096	3.000000	458.0000
47	18977.20	4476.499	14890.50	856.4902	-710.0000	-713.0000
48	20682.90	1705.701	15011.50	121.0000	-847.0000	-137.0000
49	20104.80	-578.0996	15196.10	184.5996	-422.0000	425.0000
50	15003.60	-5101.201	17724.60	2528.500	-240.0000	182.0000

obs	ISE	PISE	USD	PUSD	BP	PBP
51	14087.20	-916.3994	20584.43	2859.830	-462.0000	-222.0000
52	15096.70	1009.500	31786.82	11202.39	338.0000	800.0000
53	14749.10	-347.6006	33629.54	1842.719	583.0000	245.0000
54	19766.40	5017.301	31725.19	-1904.350	487.0000	-96.00000
55	21752.20	1985.799	30999.59	-725.5996	306.0000	-181.0000
56	25825.40	4073.201	31680.99	681.4004	495.0000	189.0000
57	26825.50	1000.100	33894.64	2213.650	719.0000	224.0000
58	24889.50	-1936.000	34866.93	972.2891	339.0000	-380.0000
59	24181.00	-708.5000	36276.80	1409.871	-128.0000	-467.0000
60	27257.10	3076.100	37406.58	1129.777	129.0000	257.0000
61	25228.80	-2028.299	40115.58	2709.000	608.0000	479.0000
62	29122.90	3894.100	40980.68	865.1016	-21.00000	-629.0000
63	39837.30	10714.40	41646.03	665.3516	-159.0000	-138.0000
64	46615.20	6777.898	42182.30	536.2695	-194.0000	-35.00000
65	47370.90	755.6992	42835.65	653.3477	-259.0000	-65.00000
66	48233.00	862.1016	43055.30	219.6523	10.00000	269.0000
67	51943.80	3710.801	44329.58	1274.277	-4.000000	-14.00000
68	45139.60	-6804.199	46581.00	2251.422	-183.0000	-179.0000
69	41707.60	-3432.000	47632.43	1051.430	212.0000	395.0000
70	46324.60	4617.000	49878.45	2246.020	-19.00000	-231.0000
71	39113.60	-7211.000	52229.77	2351.320	-877.0000	-858.0000
72	40024.60	911.0000	56614.65	4384.879	-1453.000	-576.0000
73	49489.50	9464.898	60253.61	3638.961	287.0000	1740.000
74	60546.50	11057.00	63943.93	3690.320	-50.00000	-337.0000
75	67045.20	6498.703	68150.16	4206.227	-921.0000	-871.0000
76	64722.70	-2322.504	72670.90	4520.742	-604.0000	317.0000
77	61150.40	-3572.301	76400.45	3729.555	-931.0000	-327.0000
78	70489.20	9338.805	79496.53	3096.078	-280.0000	651.0000
79	63365.60	-7123.602	82527.10	3030.570	-552.0000	-272.0000
80	64533.40	1167.797	84754.42	2227.320	54.00000	606.0000
81	72452.90	7919.500	88670.67	3916.250	303.0000	249.0000
82	82006.10	9553.203	93567.45	4896.781	129.0000	-174.0000
83	93058.50	11052.40	98176.27	4608.820	-788.0000	-917.0000
84	97588.80	4530.297	104391.7	6215.469	-1040.000	-252.0000

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Figure I4. Average Exchange Rates of American Dollar

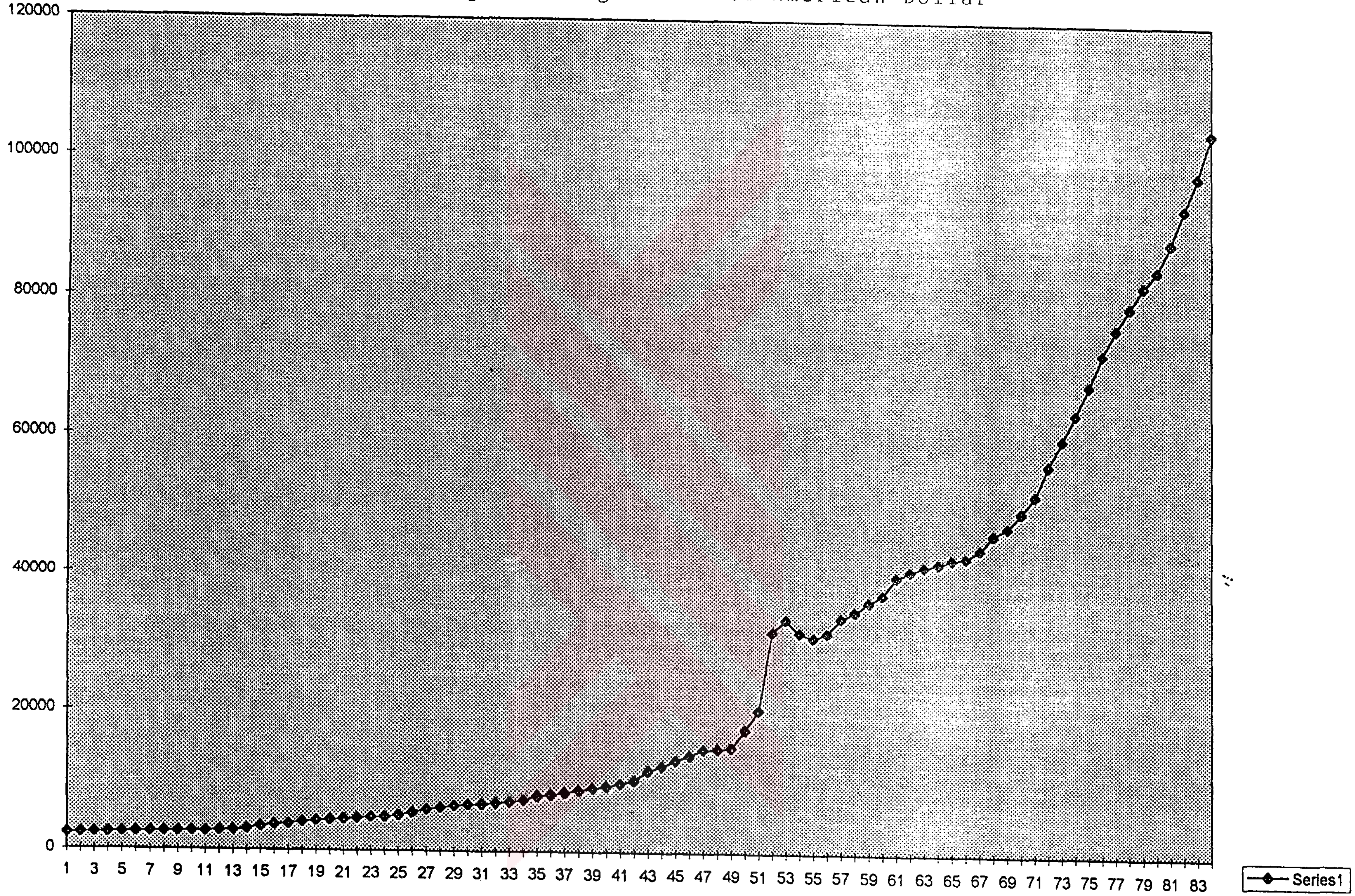

Figure I5. Monthly Change of American dollar

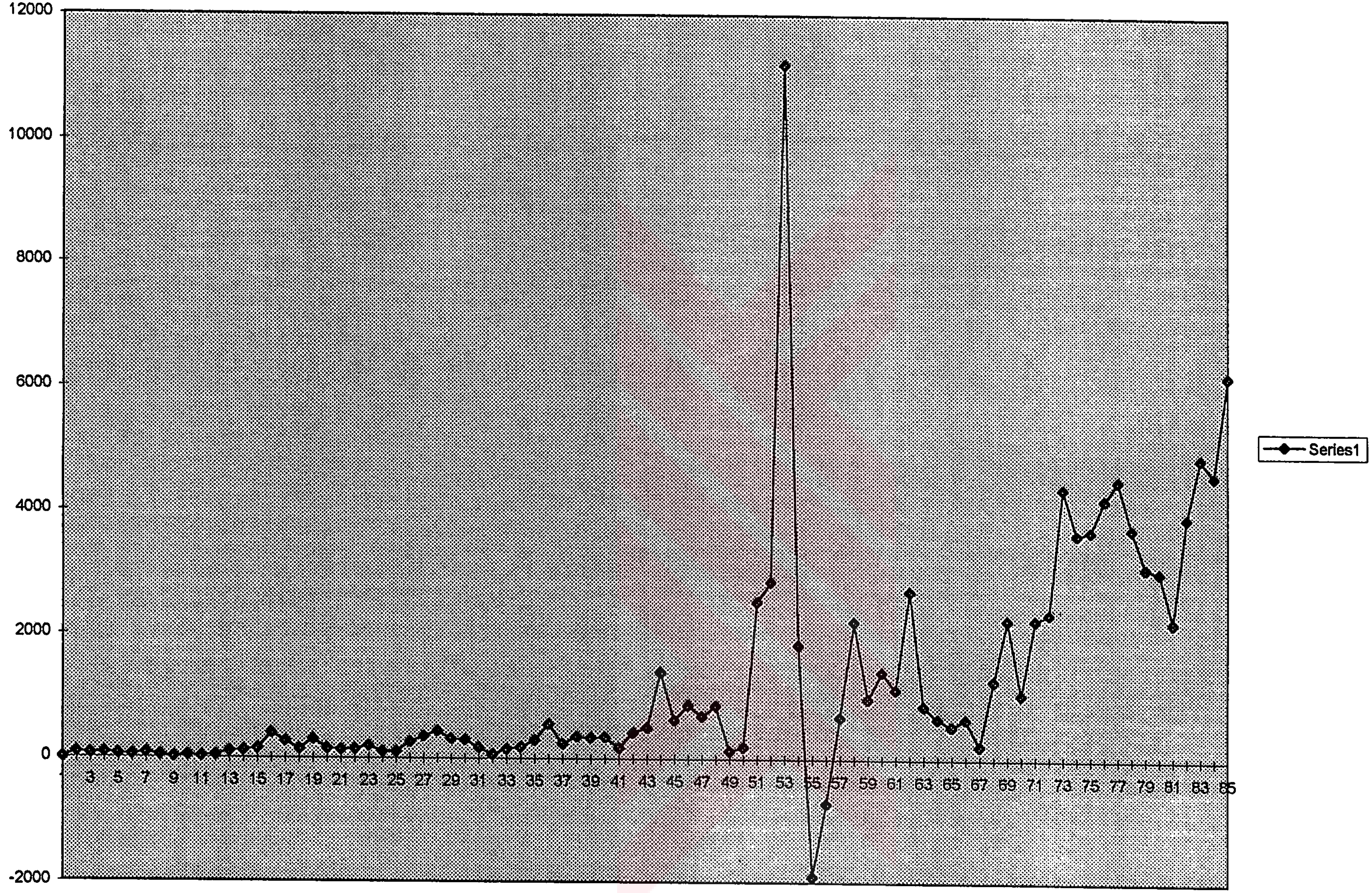

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Figure I6. Monthly Current Account Balance ($ millon)

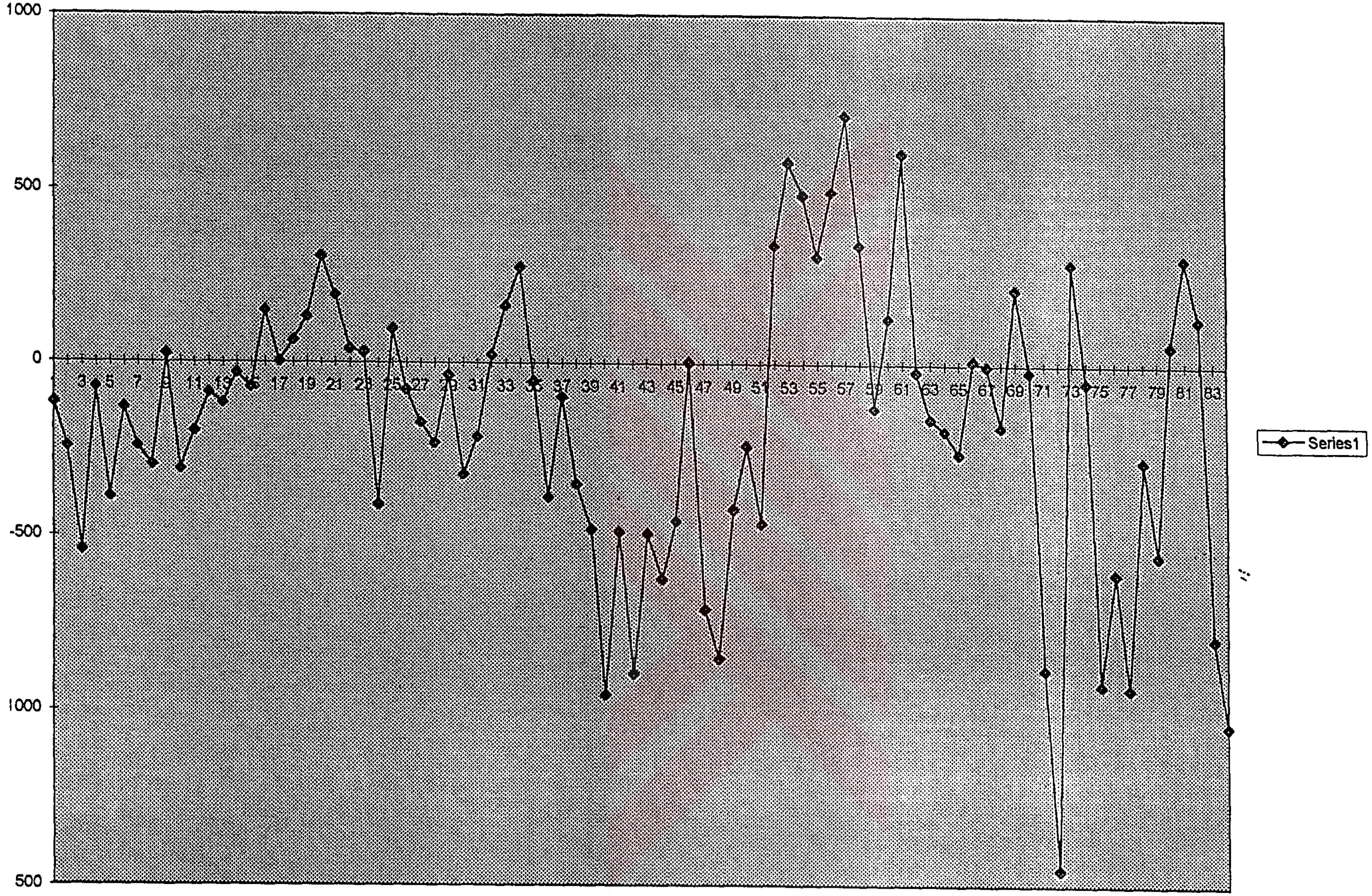
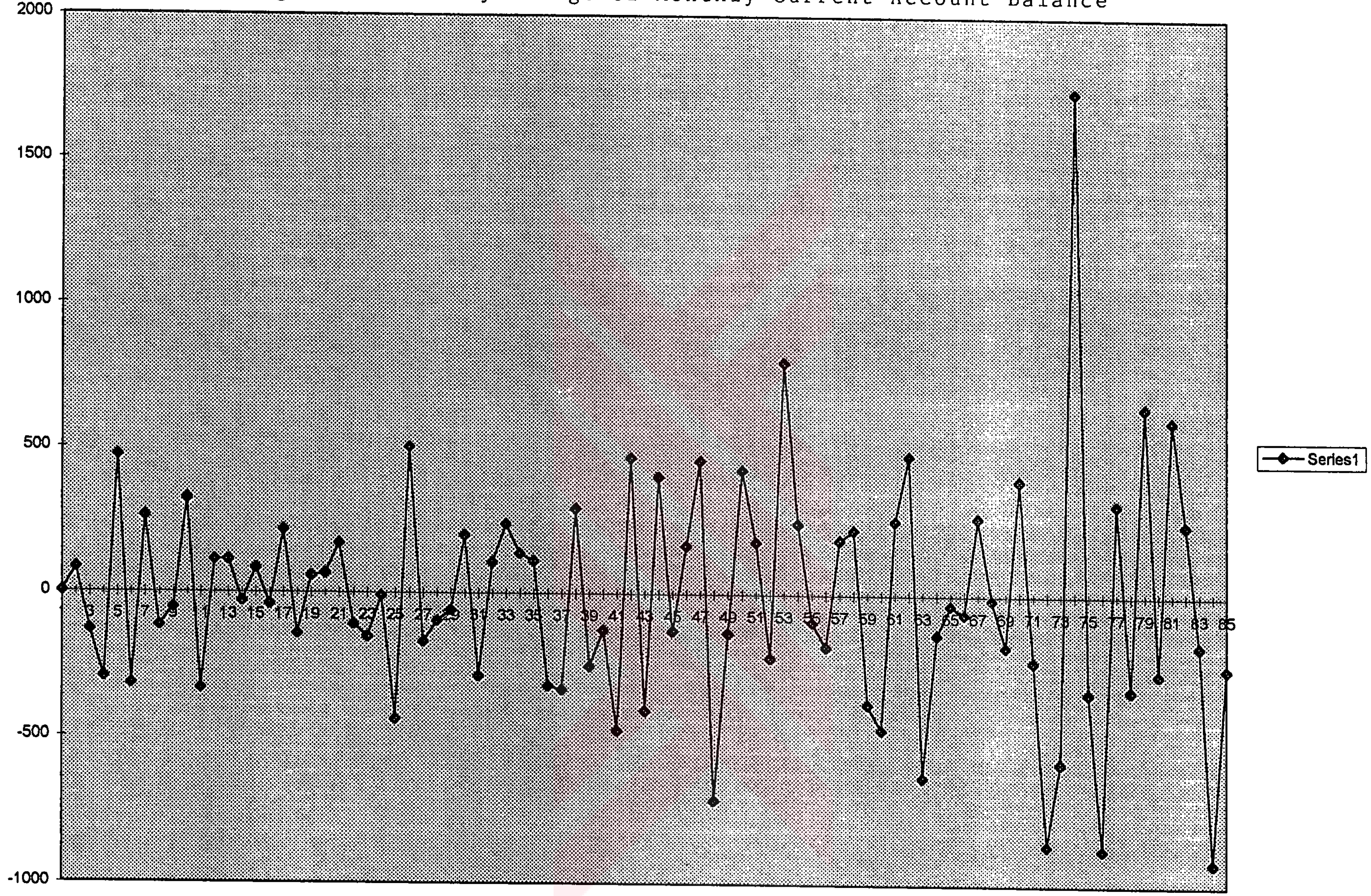


Figure I7. Montly Change of Monthly Current Account Balance



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ÖZGEÇMİŞ

Servet BÖRTÜCENE 1965 yılında Bandırma'da doğdu. Yatılı olarak okuduğu Bursa Ziraat Meslek Lisesini bitirerek ziraat teknisyeni oldu. 1988 yılında üniversite eğitimine Marmara Üniversitesi, İktisadi ve İdari Bilimler Fakültesi İktisat Bölümünde başladı. 1992 yılında üniversite eğitimini başarı ile tamamladı aynı yıl ingilizce muhasebe finansman programında master eğitimine başladı.

Meslek hayatına, uluslararası bir denetim firmasında denetçi olarak başladı. Daha sonra vergi danışmanı olarak yeminli mali müşavirlik firmasında çalıştı. Ülkemizde yeni yeni gelişmekte olan SAP isimli yazılım programının finans, mali muhasebe ve maliyet muhasebesi modüllerinin uygulama danışmanı olarak çokuluslu firmalarda projelerde çalıştı. Serbest Muhasebeci Mali Müşavir ünvanına sahip olup danışman olarak çalışmaktadır.

ABOUT THE STUDENT

Servet BÖRTÜCENE was born in Bandırma in 1965. He finished the Agricultural High Scholl in Bursa and became agricultural technician. In 1988, he started his university education in the Economics Department of the Faculty of Economics and Administrative Sciences of the Marmara University. He graduated from that department in 1992 succesfully. At the same year, he started the master program in accounting and finance in the Marmara University.

He firstly started working at a multi-national auditing company. Then he contiuned his professional life as a tax consultant at a certified public accountancy company. He worked also as a SAP-finance, financial accounting and cost accounting module implementation consultant for multi-national companies. He is a certified public accountant and currently working as a business consultant.