THE EFFECTS OF FINANCIAL CONDITIONS ON TIME AND SAVING DEPOSITS

A CASE STUDY OF TURKEY

by

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Submitted for the Institute for Graduate Studies in Social Sciences in fullfillment of the requirements for the degree of Master of Arts in Economics

Bogazici University

1990

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June 7, 1990

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ABSTRACT

The purpose of this paper is to indicate, in the light of the past and recent trends, the areas and scope for domestic policy action for improving the process of domestic resource mobilization.

This paper focuses on the quantifiable determinants of saving and analyses the effects of financial conditions on the volume of time and saving deposits and presents an emprical test of models of finance in economic development, developed by McKinnon-Shaw (1973) and Maxwell Fry (1978).

The first chapter of the book provides an introduction to the problem and explains my aim briefly.

The second part of the book is the review of the literature and it consists of the Keynesian type saving function, the life-cycle hypothesis of saving, the McKinnon-Shaw model, Van Wijnbergen and Taylor models.

In the third chapter of the book Fry's saving function specified for econometric estimations is described in more detail and the result of these estimations for seven and fourteen Asian developing countries are given.

In the fourth chapter, the economic performance of Turkey is summarized over the period 1963-1988.

The fifth chapter represents my own model which is based on Fry's saving function; this chapter presents the result of the time series analysis, using quarterly observations over the period 1963-88.

The sixth chapter covers empirical tests for interest rate liberalization for the subperiods 1970.1-1988.4 and 1980.1-1988.4.

Chapter seven is the last chapter and it provides a conclusion and gives suggestions for further research.

ACKNOWLEDGEMENTS

I would like to thank Professor Deniz Gökçe for his valuable guidance and encouragement throughout the preparation of this thesis. I am grateful to Miss. Çiğdem Akdağ for her help with computing and Mr. Rıfat Esen for his library. I am also indebted to Miss. Beste Karagöz for her help in checking the English. In addition, my deep thanks are also due to my family for providing psychological support and encouragement.

ACRONYMS

ADB : Asian Development Banks

CD : Certificate of Deposit

GNP : Gross Domestic Product

GNP : Gross National Product

IMF : International Monetary Fund

ISI : Import Substituting Strategy

LDC : Less Developed Countries

OECD: Organisation for Economic Co-operation and Development

OLS : Ordinary Least Squares

SAL : Structural Adjustment Lending

SDR : Special Drawing Rights

SEE : State Economic Enterprises

TSLS: Two Stage Least Squares

INTRODUCTION TO THE PROBLEM

One of the major aims of the development policy in developing economies is to raise the rate of growth of output in order to raise the current consumption level and to provide resources for investment and future consumption. The proportion of GNP allocated to capital formation (the investment rate) has been considered one of the key determinants of sustained economic growth since the early days of economic planning.

Domestic investment can be financed from both national and foreign savings, but everywhere maintenance of high investment level is largely a function of domestic saving performance, capital inflow from abroad serves more as a catalyst. Therefore, saving behavior is an essential element of the economic growth process.

In most developing countries, the propensity to save (warranted growth rate*) set a limit to the actual growth rate that can be achieved at any point in time. If capital is fully

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*) The warranted rate of growth (Gw) is that rate of growth which keeps entrepreneurs content in the sense that it keeps their capital capacity fully utilized and makes them willing to maintain the same rate of capital accumulation in the future. See Harrolds, " Towards a Dynamic Economics" and Thirlwall, "Inflation, Saving and Growth in Developing Countries" for further discussions.

utilized because it is scarce, there is no scope for reducing capital requirements per unit of output, which given the saving ratio, is the only way in which the actual growth rate could exceed the warranted rate determined by plans to save. If inflation makes actual (expost) saving greater than planned (exante) saving, tha actual growth rate can exceed the warranted rate in a definition sense, but real saving remains as the effective constraint on growth. This fact does not change whether the Keynesian view is taken, that investment spending can generate its own saving or whether the Classical view is taken, that prior saving is necessary for investment. (Thirlwall 1974, pp 1-3)

Leff and Sato (1980) claim that inflation per se has no significant effect on saving or investment rates in their 61 country study. Indirectly through real interest rate ($d-e^*$) in the saving function and the ratio of actual to anticipated price in the investment function, inflation is actually destabilising. From an initial disequilibrium situation in which planned national saving is less than planned investment, ensuing inflation will reduce (d-i), lowering the saving rate further. (Fry 1980, p 323)

A country's growth is limited to the willingness of the community to accumulate real capital. Whether the actual growth rate is thought of as constraining the propensity to save or

vice versa is not so important. National saving, willingness of the community to save, is routed to domestic investment through government appropriation, self finance, and financial intermediation (both formal and informal). The relative importance of each channel depends, on the level of economic development and the roles ascribed to public and private sectors of the economy. (Fry 1989, p. 131)

In the context of capital scarce economies, like most developing countries, to accelerate the rate of sustained economic growth, the financial sector plays a major role in mobilizing domestic resources effectively, allocating them efficiently to finance new productive economic activities and at the same time maintaining economic stability. In the face of contracting net inflow of external resources, national saving rates must be raised and more emphasis placed on economic efficiency in resource allocation. (Fry 1989, p.419)

It has therefore become increasingly important to assess the potential role of improved financial intermediation in the process of economic developments. An increase in financial intermediation, as denoted by the ratio of financial assets of all kinds to gross national product (GNP), necessarily accompanies growth, although causel relationship has not always been explicitly postulated.

On the other hand, countries that rely more heavily on government appropriation place less emphasis on financial intermediation.

Over the past three decades, developing countries governments have tried to improve the mobilization and allocation of domestic resources through their financial sectors. Internal and external macroeconomic developments and the desire to improve the efficiency and stability of the financial system made it increasingly difficult to maintain a tight regulated financial system.

To this end, they have made various changes in the structure and operations of their financial system under the direction of financial development, liberalization or reform. (Fry 1989, pp 419-420)

In the majority of developing countries, the ideas of McKinnon and Shaw have had more impact. A common feature of all the models in the McKinnon-Shaw framework is that growth maximizing deposit rate of interest is the competitive free market equilibrium rate.

Three quantitative measures of financial conditions in developing countries - the real deposit rate of interest, population per bank branch and a financial intermediation ratio -

have received some attention in the literature. Raising the real deposit rates of interest and openning bank branches in rural areas do not themselves constitute a general program of financial development. Hence, it may well require more comprehensive financial reform and development to produce the effect on saving behaviour.

The purpose of this paper is to indicate in the light of the past and recent trends, the areas and scope for domestic policy action for improving the process of domestic resource mobilization. Although cultural and social factors play an important role, as do many other nonquantifiable economic variables, this paper focuses on the quantifiable determinants of saving.

When we search the literature it is seen that, in general, the domestic saving rate is positively related to the level of income and its growth rate and wealth, but its connection with the interest rate is not clearly proven. However, authors agreed that if the effect existed at all, its magnitute is not large enough to warrant great policy significance. If the growth rate, the level of per capita income and real interest rate, can be raised by goverment policies, which induce capital formation and lower the capital-output ratio, the domestic savings ratio may raise independently of the inflation rate, because of the dependence of the savings ratio on the level of per capita income and the growth of income itself.

The paper presents an empirical test of saving function, developed by Maxwell J. Fry to reach a conclusion whether financial conditions influence saving in Turkey or not. The essential common element of the Fry's Model, which is based on McKinnon-Shaw (1973) model, is saving $S(Y_o)$ at an income level (Y_o) is a function of the real interest rate.

The econometric analysis is based on International Monetary Fund Financial Statistic's quarterly time and saving data for Turkey over the period 1963.1 - 1988.4

REVIEW OF LITERATURE

When we search the literature we come across two types of financial development models. One of them is the McKinnon-Shaw financial development model, the other is the neo-structuralist model.

Since their initial assumptions are different from each other, they reach opposite conclusions about the effects of financial conditions on financial development and hence on saving behavior.

Since 1973, there have been numerous theoretical extentions to and empirical tests of the McKinnon-Shaw model on a sizable number of developing countries, on the other hand there have been few empirical tests of the neo-structuralist model, with the notable exception of Wijnbergen's work on Korea.

In this part of the study, I would like to review the basic saving functions in the literature such as the Keynesian type, life cycle hypothesis of saving and the McKinnon-Shaw saving function. Afterwards, two neo-structuralist saving functions which are produced by Taylor and Wijnbergen will be introduced.

Since my study is based on Fry's saving function specified for econometric estimation, this model will be illustrated in detail in the third part of the study.

KEYNESIAN TYPE SAVING FUNCTION

Keynes seemed to be hypothesising a saving fuction of the form $S=f(Y)$ where $f'>0$, and $f''>0$, such that the saving ratio would rise with the level of income. In its simplest form Keynesian saving fuction takes the form where Y/N is per capita income.

$$S/Y=\beta_1-\alpha_1(Y/N)^{-1} \qquad (1)$$

The Keynesian absolute income hypothesis predicts, therefore, that the saving ratio will rise with the level of development as measured by per capita income, but by a decreasing rate. As $Y/N\longrightarrow\infty$, $S/Y\longrightarrow\beta_1$. β_1 is the asymptote to which the saving ratio will tend as illustrated in the figure below.

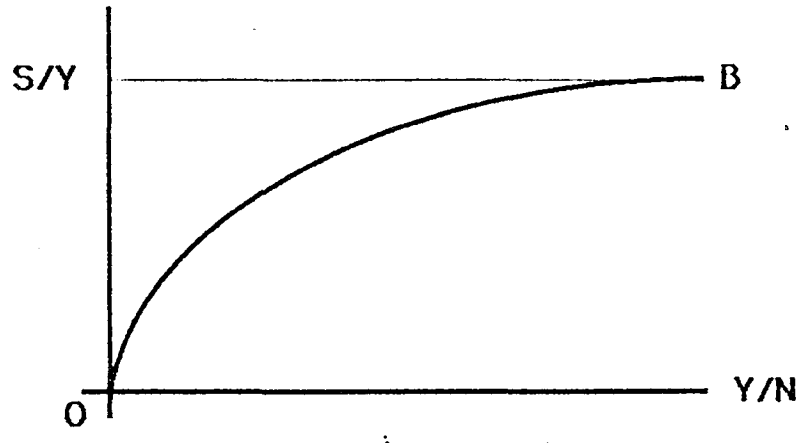

Figure 1

The saving ratio does level off when countries reach a certain stage of development. Work on the developing economies shows that there is a strong tendency for the savings ratio to rise in response to a rise in the level of per capita income.

The Keynesian type of saving behavior comes to a conclusion that the growth of the money economy and the growing concentration of income, at least in the early stages of development, are probably the two main reasons why the savings ratio is observed to rise in relation to per capita income, both over time within countries, and across countries with radically different histories and institutional backgrounds.

THE LIFE-CYCLE HYPOTHESIS OF SAVING

The dependence of the saving ratio on the growth of income is known as the life-cycle hypothesis of saving. The basis of the hypothesis is that individuals and households attempt to spread out consumption evenly over their life-time so that decisions to save are assumed to be a function not of current income but of total lifetime earnings and the stage reached in the earnings cycle. A typical pattern envisaged by the life-cycle hypothesis is dissaving in youth, positive saving in middle age and dissaving in retirement, breaking even on death. With this saving pattern, consumption is more evenly spread than it would otherwise be if consumption was related to current income. This is illustrated in Fig II which for simplicity divides households into active and retired only.

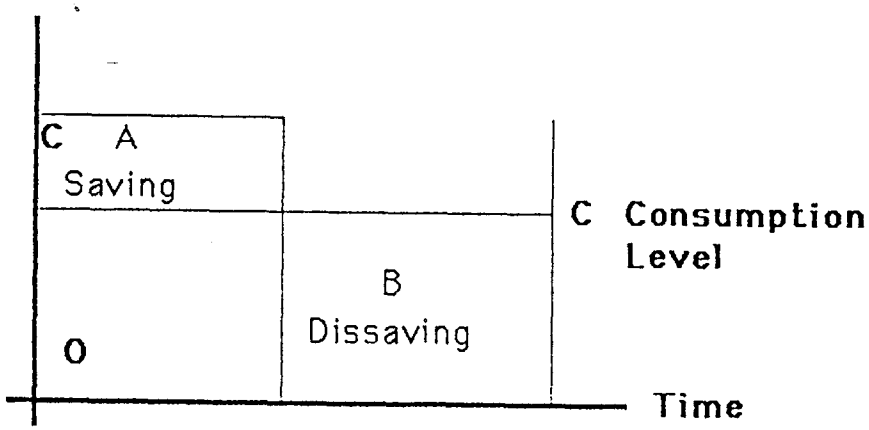

Figure 2

If aggregate income rises over time as a result of productivity growth, the saving ratio will tend to rise with the rate of growth of income. Income growth is also influenced by population growth. Income growth due to population growth will affect the savings ratio according to how population growth affects the ratio of active to non-active households.

The test of the life-cycle hypothesis requires either that productivity growth and population growth should be entered into the analysis as separate variables, or that the savings ratio should be related simply to the rate of growth of per capita income as a crude measure of productivity growth.

According to the hypothesis, countries with high rates of income and/or productivity growth should have higher ratios of saving to income than countries with low rates of income and/or productivity growth.

Modigliani, finds strong support for the hypothesis without distinguishing income growth due to productivity growth on the one hand and population growth on the other.

The life-cycle hypothesis of saving takes the form

$$S/Y=\alpha_o+\beta_o(dY/Y) \qquad (2)$$

$$dY/Y=\alpha_1+B_1(S/Y)+C_1(F/Y) \qquad (3)$$

where dY/Y is rate of growth of income and F/Y is the deficit on the balance of payments.

The results of the studies show that the level of per capita income as a determinant of saving ratio is not a proxy for the rate of growth of income, and exerts independent influence on the saving ratio. This conclusion contrasts with that of Modigliani whose work dismisses the level of per capita income as an explanatory variable.

The effect on the equilibrium growth rate of dependence of the saving ratio on growth is shown in Figure III below.

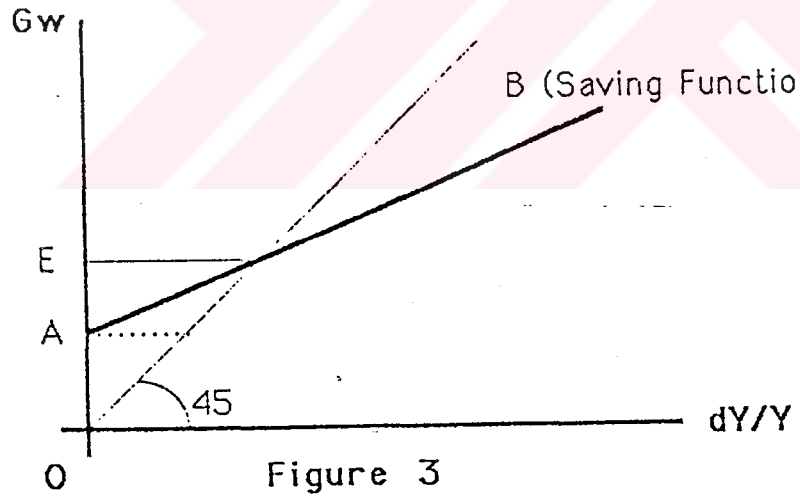

Figure 3

The actual rate of growth (dY/Y) is measured on the horizontal axis, and the warranted rate is measured on the vertical axis. The steeper the curve, the greater the dependence

of the savings ratio on the growth rate,the higher will be the warranted rate of growth. This dependence underlines the importance of encouraging monetisation of the economy and raising per capita income by all available means in order to increase the saving ratio. The rise in money holdings and per capita income is capable not only of stimulating saving directly, but can induce more saving once growth begins. (Thirwall 1974, pp. 170-77)

THE McKINNON-SHAW MODEL

A large proportion of financial saving in developing countries is embodied in money holding. Ceteris paribus, a fall in real money demand (where money is defined to include savings and time deposits as well as currency in circulation and demand/sight deposits) must itself cause a decline in the real supply of credit.

McKinnon's formal analysis of how the real deposit rate of interest affects saving, investment, and growth, is based implicitly on an outside money* model. It rests on two assumptions;

a) all economic units are confined to self- finance

b) indivisibilites in investment are of considerable importance.

Potential investors must accumulate money balances prior to their investment. A rise in the deposit rate stimulates demand for capital by making saving accumulation more rewarding and by increasing the amount of internally financed investment. (Molho 1986a, pp.102-111)

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*Outside money is issued as loans to the government which is not available to finance private sector investment. (Fry 1989, p.7)

McKinnon formalizes his complementarity hypothesis "the basic complimentarity between money and physical capital" (McKinnon 1973, p.59) which he applies to "semi-industrial less developed countries " (McKinnon 1973, p.2). Complementarity is reflected in the demand for money function.

$$M/P=f(Y,\ I/Y,\ d-\pi^{e}), \qquad (4)$$

M: Broadly defined money stock (saving/time deposit + demand/sight deposits + currency in circulation- M2)

P: Price level

Y: Real Gross National Product

I/Y: the ratio of Gross Investment to GNP

$d-\pi^{e}$: the real deposit rate of interest.

Complementarity works both ways: "The conditions of money supply have a first order impact on the decision to save and invest". (McKinnon 1973, p.60) Hence, McKinnon's complementarity can also be expressed in an investment function of the form:

$$I/Y=f(r^{t},\ d-\pi^{e}) \qquad (5)$$

where r^t is the average return to physical capital. (McKinnon 1973, pp. 60-61). Complementarity appears in the partial derivatives

$$\frac{\partial (M/P)}{\partial (I/Y)} > 0 \quad ; \quad \frac{\partial (I/Y)}{\partial (d - e)} > 0 \qquad (6)$$

Shaw maintains that expanded financial intermediation between savers and investors resulting from financial liberalization and financial development increases the incentives to save and invest and raises the average efficiency of investment. Recently McKinnon (1982. p.160; 1984 pp.1-2) has stressed control over public finances as a prerequisite for successful financial liberalization, because government deficits are invariably financed by taxing the domestic monetary system in one way or another. Yoon Je Cho (1984, p.7) states that without substantial development of security markets, full scale financial liberalization would not be sustainable since there would be strong incentives for the government to intervene in the credit market. When interest rates are employed as rationing devices financial intermediaries can use their expertise to allocate efficiently the larger volume of investible funds which is then forthcoming. Recent extentions of the debt intermediation view, stress the importance of free entry into and competition within the banking system as a prerequisite for successful financial liberalization along the lines spelt out by Shaw.

The debt- intermediation view is based firmly on an inside money* model and it focuses on the role of deposit accumulation in expanding the lending potential of financial intermediaries.

It produces a demand for money function that can be characterized as follows. (Shaw 1973, p.62, Molho 1986, pp.102-111)

$$M/P=f(Y, v, d-\pi^{e}), \qquad (7)$$

where v is a vector of opportunity cost in real terms of holding money. Shaw expects real yields on all forms of wealth, including money, to have positive effect on saving rates. Higher deposit rates encourage the inflow of deposits to banks, which in turn can increase lending, thereby stimulating externally financed investment.

McKinnon and Shaw models need not to be considered as incompatible with one another, even though McKinnon's formal analysis uses outside money. These two approaches compliment each other because most projects are financed in part with their own funds and in part with borrowing. (Molho 1986, pp. 102-111) (Fry 1989, pp. 20-22)

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* Money issued as loans to the private sector. (Fry 1989, p.7)

The Neo-structualist model differs from the McKinnon-Shaw models with the basic assumption that,

-- Saving takes place only out of profit, not wages

-- the price level is determined by a fixed markup over cost of labor, imports, and working capital finance.

The importance of noninstitutional finance or the curb market is the most important feature of the neo-structuralist modelling.

A restrictive monetary policy which cause a rise in the interest rates can produce stagflation in the neo-structuralist model.

All neo-structuralist models use Tobin's portfolio framework for the household sector asset allocation. These are gold or currency, bank deposits and curb market loans. The neo-structuralists assume that funds flow freely between the banking system and the curb market.

VAN WIJNBERGEN

This model uses Tobin's type portfolio allocation for the household sector. Households allocate their real wealth W between currencey CC, time deposits TD, and direct loans to the business sector through the curb market or unorganized money market

$$TD = f^{td}(\pi, i, r_{td}, y)\, W \qquad (8)$$

where π is the inflation rate, i is the nominal curb market rate of interest, r_{td} is the real time deposit rate of interest, and y is the income. (All expressed in real terms)

TAYLOR

Taylor also uses Tobin's household portfolio allocation model. As well as Wijnbergen, Taylor concludes that unless banks largely draw hoarded assets (gold) into deposits when i_d (nominal deposit rate of interest) goes up, the overall effect of the reform can be stagflationary. (Taylor 1983, p.100)

In Taylor's model, saving is a fixed fraction of total profit. In the medium run, the saving rate may respond positively to an increase in the time deposit rate. In which case, real wealth could increase and the total supply of the business sector might increase, even if there were more substitution from curb market loans, than from currency in circulation into time deposits. However, if the total supply of funds to the business sector falls, inflation will emerge because aggregate supply falls more than demand, bringing down profits and investment. The resulting fall in the rate of economic growth may reduce a smaller amount of wealth despite an increase in the saving rate, that would have existed had there been no increase in the time deposit rate. (Van Wijnbergen 1983, pp.441-51)

Taylor comes to a conclusion that, a tight monetary policy, result in an increase in the curb market interest rate, a decline in investment and a fall in the rate of growth. (Taylor

1983, p.97) In the short run monetary contraction drives up prices, reduces output, and increases unemployment.

In the medium run unless coupled with expansionary monetary policy from some other source, financial liberalization will do little to benefit economic performance. (Taylor 1983, p.122)

The main conclusion to be drawn from this survey of literature is that the effect of financial liberalization depends entirely on the initial assumption. If one assumes that the official banking system is more effective at allocating investible funds than the curb market and that households substitute mainly out of unproductive tangible assets, when the real deposit rate of interest increases, financial liberalization raises the total supply of credit, the quantity and quality of investment, and the rate of economic growth.

At the simplest level, the McKinnon Shaw model indicates that an increase in the real deposit rate of interest, towards its competitive free market equilibrium level, will be accompanied by a reduction in the inflation rate and an increase in the total rate of economic growth. The neo-structuralist model produce exactly the opposite results.

After reviewing the basic saving functions, belonging to Keynes, McKinnon-Shaw, Taylor and Wijnbergen, and the life cycle hypothesis of saving, the following chapter will be devoted to Fry's saving function specified for econometric estimation and the results of his study for the 7 and 14 Asian developing countries will be introduced.

FRY'S SAVING FUNCTION

As stated earlier, my study is based on Fry's saving function therefore in this part of the study, Fry's function specified for econometric estimation will be described in more detail.

Fry's study presents an empirical test of models of finance in economic development developed by McKinnon (1973) and Shaw (1973). The results of pooled time series analysis using annual observations for seven Asian less developed countries (LDC's) - Burma (1962-69), India (1962-72), Korea (1962-72), Malaysia (1963-72), Philippines (1962-72), Singapore (1965-72), and Taiwan (1962-72) - support the view that financial conditions do influence saving and growth.* (Please See Table 1)

Saving and investment are both determined by the rate of economic growth. Saving S_{g_o} at a rate of economic growth g_o is a positive function of the real rate of interest as shown in figure 4 below.

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* However, preliminary pooled time series test for Latin American LDC's suggest that this may not hold for that region.

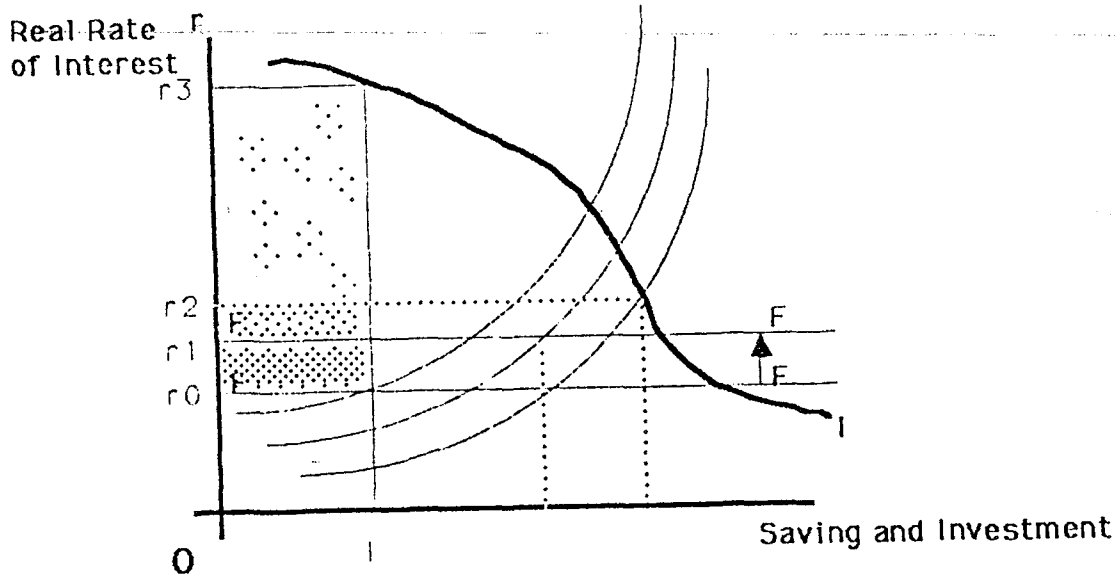


Figure 4

FF represents financial repression which is interpreted as the technique of holding institutional interest rates (particularly deposit interest rate) below their market equilibrium levels. (McKinnon 1973, pp.71-77 - Shaw 1973, pp.81-87)

For a sample of developing countries, saving is found to be effected positively by the real deposit rate of interest as in-real money demand, where money is defined broadly to include saving and time deposits.

Under disequilibrium interest rate conditions, higher saving which raises real money demand increases pari passu the real supply of credit. Credit availability is an important determinant not only of new investment but also of capacity utilization of the entire capital stock. Hence, the growth rate is itself affected positively by the real deposit rate of interest through two channels. First, the volume of saving and investment and second, capacity utilization of the entire capital

stock, i.e. the measured incremental capital/output ratio. (Fry 1980, p.317)

Actual investment is limited to I_0, the amount of saving forthcoming at the real interest rate r_0. Non price rationing of investible funds must occur. This typically takes place on the basis of quality of collateral, political pressures, "name", loan size, and covert benefits to the responsible loan officers. These criteria can be counted on, to discriminate inefficiently between investment opportunities. There will be a preference for traditional, low yielding investments because these appear safest and simplest to finance interest rate ceilings discourage risk taking by the financial institutions, risk premia can not be charged when ceilings are binding. This itself rations out a large proportion of potential investors. If the ceiling applied only to saver's interest rates, the investor/ borrower would face an interest rate of r_3, the rate that clears the market with the constrained supply of saving I_o. The spread $r_3 - r_0$ would be spent by a regulated but competitive banking system on non-price competition. Certainly, real money demand invariably declines with a decrease in the explicit real deposit rate of interest.

One effect on saving of declining real interest rates when inflation accelerates induces a decline in saving out of current income. (Fry 1988, p.17)

Interest rate ceilings distort the economy in three ways. First low interest rates produce a bias in favor of current consumption and against future consumption. Therefore, they may reduce saving below the socially optimum level. Second, potential lenders may engage in relatively low-yielding direct investment, instead of lending by way of depositing money in a bank. Third, bank borrowers able to obtain all the funds they want at low loan rates will choose relatively capital intensive projects.

Cho (1984, pp.34-41) also shows that deposit and loan rate ceilings are likely to worsen the distribution of income. Most of the economic rent goes to large borrowers rather than small saver/lenders when deposit and loan rates are held well below their market equilibrium levels. Income distribution is likely to worsen most, where the borrowing firms are predominantly family owned companies.

Raising the interest rate ceiling from FF to F'F' (from r_0 to r_1) in Figure 4 increases saving and investment. It also rations out all those low yielding investments, illustrated by the dots in the shaded area, that were financed before. The average return to or efficiency of aggregate investment increases and the rate of economic growth rise in this process and shifts the saving function to Sg_1. The increased quantity and quality of investment interact in their positive effects on the rate of economic growth.

If investment is depressed, growth falls, so does the saving rate. On the other hand, a buoyant investment climate ensures that higher saving rates will be absorbed by higher investment.

The policy prescription for the financially repressed economy examined by McKinnon and Shaw is to raise institutional interest rates or reduce the rate of inflation. Abolishing interest rate ceilings altogether produces the optimal result of maximizing investment and raising still further investment average efficiency. This is shown in Figure 4 by the equilibrium I_2, r_2, S_2 and the higher rate of economic growth, g_2. (Fry 1989, pp.18-19)

It is, therefore, evident that any study of saving rates must, if only implicitly, recognize the close interdependence of saving, investment and the rate of economic growth.

The domestic saving functions actually estimated take the form;

$$Sd/Y = f\ (\ g,\ y,\ r,\ Sf/Y,\ (Sd/Y)_{-1}\ ) \qquad (9)$$

Whether one chooses the relative income, permanent income, stock adjustment, or life-cycle theories of saving, the function derived for estimation purposes includes the rate of

growth in real GNP g, GNP Y, assuming initial disequilibrium, the lagged saving ratio Sd/Y_{-1}, the level of real per capita income y and foreign saving Sf/Y. The relevant real interest rates are the real yield on money and real rate on all financial claims relatively for McKinnon and Shaw. The level of real per capita income y has been included as an independent variable in numerous studies of savings behavior (e.g. Chaudry (1973), Leff (1969), Papanek (1973), sk Singh (1972)).

Foreign savings, Sf/Y, is included because it constitutes a substitute for national saving. While an inflow of foreign saving Sf would tend to reduce the domestic interest rate, hence the national saving rate, there may also be an additional wealth effect produced by such an inflow.

The national income data is taken from the World Bank's World Tables (1982 computer tape) for the period 1960-69 and from the Asian Development Bank's (ADB) Key Indicators of Developing Member Countries of ABD (April 1985) for 1970-83. Government saving statistics come from the IMF's Government Finance Statistics Yearbook (1983). Financial variables are taken from International Financial Statistics (June 1985 computer tape) and from central bank bulletins. Demographic data for sample years come from various isues of the United Nations's Demographic Yearbook and are interpolated to provide annual observations.

TABLE I

Saving functions (Sd/Y) for seven Asian LDCs

	Constant	g	y	1/y2	1/y4	d-i	b-i	Sf/Y	(Sd/Y)-1	R2	F
1	-0.580	0.209	0.130			0.160		-0.456	0.153	0.836	33
	(-4.981)	(1.917)	(5.766)			(2.093)		(-3.837)	(1.445)		
2	-0.665	0.247	0.149			0.188		-0.505		0.827	34
	(-6.436)	(2.264)	(8.054)			(2.462)		(-4.309)			
3	1.125	0.563		-52.937	668.264	0.185		-0.498	0.149	0.755	19
	(5.956)	(3.448)		(-5.179)	(4.496)	(1.958)		(-3.415)	(1.133)		
4	1.240	0.604		-56.838	700.960	0.210		-0.544		0.733	18
	(7.432)	(3.632)		(-5.659)	(4.606)	(2.191)		(-3.723)			
5	-0.598	0.207	0.130				0.140	-0.476	1.162	0.833	32
	(-5.056)	(1.880)	(5.727)				(1.766)	(-3.818)	(1.521)		
6	-0.692	0.246	0.151				0.169	-0.534		0.823	33
		(2.235)	(8.077)				(2.136)	(-4.361)			
7	1.117	0.572		-53.879	683.789		0.180	-0.534	0.156	0.749	18
	(5.848)	(3.449)		(-5.176)	(4.150)		(1.832)	(-3.462)	(1.171)		
8	1.236	0.616		-58.103	720.268		0.206	-0.587		0.724	17
	(7.287)	(3.641)		(-5.681)	(4.634)		(2.048)	(-3.806)			

An estimate of function 9 for the seven Asian LDC's over the period stated in page 24, by using two stage least square (TSLS) is given in table I above.

A reestimate of this function for the 14 Asian Developing Countries (Please See, Page 53) over the 1961-83 periods, but using the different data definitions, by TSLS with dummy variables whose coefficients are not reported here gives (t values in parentheses):

$$\underset{}{Sn/Y=} \underset{(3.781)}{1.134\ (\hat{\gamma})} - \underset{(-8.086)}{9.188\ (DEP)} - \underset{(-7.996)}{0.459\ (Sf/Y)}$$

$$- \underset{(-1.940)}{25.967\ (DEP)\hat{\gamma}} + \underset{(4.449)}{1.609\ (d-\hat{\pi}^{e})\hat{\gamma}} \qquad (10)$$

$$R^{2}\hat{}=0.842$$

where d is the nominal 12-month time deposit rate of interest expressed as a continuously compounded proportional rather than percentage rate of change, $\hat{\pi}^{e}$ is the expected inflation rate estimated by applying polynomial distributed lags to current and past inflation rates, and $\hat{\gamma}$ is the endogenous rate of growth in real GNP.

The variable used for the population dependecy ratio DEP is a linear transformation of DR, the population under the age of 15 divided by the population aged 15 to 64.

All the coefficients in equation 10 are numerically slightly different than those in the original Fry estimate. The explanation for this is that the data sources differ, as do the expected inflation estimates and the instrumental variables used. (Fry 1989, pp.131-140)

One prediction of these models is that a rise in the deposit rate towards its free market equilibrium level will increase the saving rate, and hence, the availability of private sector domestic credit in real terms. This will stimulate investment and raise the average efficiency of the greater volume of investment that can be undertaken. Increasing the deposit rate of interest will also reduce the inflation rate, thus, raising the real deposit rate even further. In conclusion, the greater the extent of financial repression making the national saving ratio lower. (Fry 1989, pp. 46-63)

As it is stated in the introduction part, one of the major aims of the development policy in developing economies is to raise the growth of output in order to raise the current consumption level and to provide resources for investment and future consumption. The proportion of GNP allocated to capital formation has been considered as one of the key determinants of sustained economic growth since the early days of economic planning. It is therefore, evident that any study of saving rates must implicitly recognize the close interdependence of saving, investment and rate of economic growth.

To adequately understand the areas and scope for domestic policy actions to improve the process of resource mobilization, investment and the rate of economic growth in light of past and recent trends, it is important to understand the outline of Turkish development strategy in earlier decades.

Therefore, the economic performance of Turkey over the period 1963-1988 is summarized very briefly in the following chapter.

ECONOMIC PERFORMANCE OF TURKEY

For half a century, from the advent of the great depression through to the end of the 1970's except for a short lived liberalization in 1950-1953, Turkey had pursued an inward oriented development strategy with heavy reliance on government intervention. The government assumed a leading role in the economy by creating public enterprises and erecting protective barriers to restrict the inflow of imports and foster domestic, often, state-owned import substituting industries. The Government's targets were to lessen the problems created by the world crisis and to accelerate Western style industrialization.

The growth rate of industrial production and overall output in the first three five-year plan (1963-1977) period was impressive. The average growth rate of GNP was 7.8%, and the average growth rate of industrial production was 9%. (Please See Graph I)

These ambitious results in the first two-five year plans were achieved, through stepped-up capital formation and import substitution. The primary commodity export boom, significant inflows of workers' remittances and short-term capital inflows from the Euro-currency market also performed a key role.

Nonfinancial public enterprises, which accounted for a large share of productive capacity, were primarily responsible for realizing these targets and had virtually unlimited access to financial resources and protection from foreign competition. Trade regime had become a major element of industrial development and rebates were granted on selected exports. The exchange rate was fixed and multiple rates were provided for certain basic imported inputs.

These forces, however, helped to disguise the principal weakness of the Turkish economy, namely an excessive dependence on imports of intermediate and capital goods, with no corresponding ability to increase export earnings to finance the necessary import bill. A pattern observed in many developing countries was repeated in the Turkish context. The ISI strategy had rendered the economy more vulnerable to external shocks as a result of increased dependence on imported inputs. In contrast, the share of exports in GDP remained constant at around 4-5 % throughout the decade. (Kirkpatrick and Onis 1989, pp 2-3)

During 1963 and 1970, interest rate ceilings protected banking from outside competition. (Please See Table II) A competitive threat came from private bonds in the early 1970's. The emergence of a balance of payment crisis in 1968-70 much like the preceding one in 1954-58 was met with a tightening of quantitative import restrictions, followed by a devaluation of

the Turkish lira. The subsequent easing of the foreign exchange shortage led to some relaxation of restrictions. (Kopits 1987, p.2)

A period of rapid economic growth, a low rate of inflation and external current account surplus was interrupted by the first oil shock of 1973-74, as Turkey persevered with its growth strategy during the third five year plan (1973-77). (Please See Table II) The reaction of the policy makers to the first oil shock had been to press ahead with the import substitution strategy. Public investment was conceived of as the principal mechanism for this purpose. During 1973-77 real GDP growth rate averaged 7.1 percent and total investment increased 14 percent yearly. (Please See Graph I) Public sector deficits which were magnified by the operating losses of the SEE's, were financed by a recourse to mainly short term foreign borrowing. Turkey's external debt increased from US$ 3.0 billion in 1973 to US$ 11.3 billion in 1977. The economic crisis which manifested itself in 1977 was accompanied by a political crisis. (Kirkpatrick and Onis 1989,p.3)

The current account of the balance of payment deteriorated from US$ 0.7 billion in 1973 to US$ -3.1 billion in 1977. (Please See Table II)

This sustained rapid growth, despite the first oil shock and its aftermath, was partly attributable to government policies

that insulated the Turkish economy and postponed adjustment to changing world conditions. While dramatic increases in production, in the industrial and services sector did occur, evidence of increased strains in the economy could be found in the declining efficiency of investment.

In the Third Plan Period the transport and communications sector received a larger share of investment. Although gross domestic savings grew significantly, at 8.8 % annually in the 1973-77, period it was not enough to finance gross investment, which was increasing at an even higher rate. Consequently, the investment-saving gap increased to 9.4 % of GDP in 1977 from -2.5 % in 1972. (Lewis 1986, pp 7-8) This potentially disasterous resource gap, an excessive dependence on imports of intermediate and capital goods, with no corresponding ability to increase export earnings to finance the necessary import bill, led to severe internal and external imbalances over the rest of the decade.

The more rapid growth rate of real GDP in the 1973-77 period was accompanied by a higher domestic inflation rate, which accelerated steadily during the Third Plan period to reach an average of 20 % annually, in contrast to the relative stability of the price level in the 1960's. (Please See Graph I and VII)

In 1973, Turkish exports consisted largely of food and livestock and light consumer goods, whereas its imports were mostly capital and intermediate goods. The export structure shows some movement towards export of intermediate goods between 1973 and 1977.

At the end of 1977, the signals from the Turkish economy were mixed. Despite the first oil shock and stagflation in industrial countries, the Turkish economy was growing rapidly. Some worsening of the balance of trade was thus inevitable because of sluggish export demand abroad, the increased cost of imports due to higher oil prices and higher import demand arising from sustained economic expansion. (Please See Graph VIII and IX) In addition, workers' remittances declined, a trend attributable in part to the recession in European countries. (Please See Graph III) However, the real exchange rate had become increasingly overvalued and export performance had suffered, reflecting the habitual drift in incentives against exports after each major devaluation crisis. (Lewis 1986, pp9-11)

From early 1978 onwards the authorities made several attempts to arrest the deterioration in economic conditions, relying mostly on stricter demand management. Also, devaluations (of 23 % in March 1978 and 44 % in June 1979) and increased export tax rebates were intended to improve the country's export competitiveness. These policies were supported by two consecutive

stand-by arrangements with the Fund, under which purchases totalled SDR 310 million in 1978-79. OECD countries pledged US$ 1.0 billion in economic assitance. Short-term obligations to foreign banks and official debt in various maturities were restructured under OECD's help.

These efforts met with little success owing to inadequate restraint on domestic demand and severe limitations on supply. While the current account deficit improved markedly from US$ 3.1 billion in 1977 to US$ 1.4 billion in 1979, domestic inflation accelerated to 64 % in 1979. (Please See Table II)

The devaluations and small adjustments in selected interest rate ceilings were insufficient to compensate for the rapid acceleration in the rate of inflation. As deposit rates became highly negative in real terms, financial disintermediation proceeded quickly. The competitiveness of exports was quickly eroded. At the same time, the inflow of external capital, especially commercial borrowing, dried up. Imports were reduced substantially. The sharp curtailment of imports contributed to low capacity utilization in industry and real GNP fell for the first time in more than a decade. (Lewis 1986, pp 11-12)

1980 and afterwards:

In 1980, with the oil price increases of 50% in 1979 and 75% in 1980, Turkey suffered a considerable deterioration in its terms of trade.

Early in 1980, a new government introduced further extensive measures. The main objectives of the stabilization programme were a reduction in government involvement in productive activities and an increased emphasis on market forces; the replacement of an inward looking strategy with an export oriented strategy of import substitution, and the attraction of foreign investment. (Kirkpatrick and Onis 1989, pp 6-7)

The measures announced in January 1980 included a restrictive monetary and fiscal policy, new tax measures and continuous exchange rate adjustments. A devaluation of almost 50%, simplification of the procedures involved in obtaining export incentives and import licences, and stream lining of administrative regulations on investment incentives, with the reorientation of investment priorities and creation of special incentives for export oriented activities. In addition, price controls on most SEE products were removed to improve SEEs' profitability and reduce deficits. The Central Bank funding of the public enterprise sector was restricted. The subsidies on

fertilzers and petroleum products were reduced.

Following these steps, several additional measures were undertaken. In July 1980, the rediscount rate of the Central Bank on short-term notes was raised considerably and interest rate ceilings on saving and loans were eliminated, allowing a rapid rise in nominal rates and resulting positive real interest rates. (Please See graph II) A three year stand-by agreement for SDR 1.25 billion was signed by IMF.

The economic situation continued to deteriorate during 1980. Real GDP declined by 0.5%, and consumer prices rose by 110%. Labour unrest and violence continued, and on 12th September 1980 the military dissolved parliament and suspended all civilian political institutions.

During 1981, the situation improved considerably. Inflation came down to an annual rate of around 37%. The Middle East became an important market not only for exports but also for Turkish contractors with around US$ 9.0 billion in outstanding contracts by the end of 1981. This contributed to a marked improvement in the current account deficit which declined to US$ 1.9 billion. The rate of real GNP growth exceeded 4% and the external debt situation improved markedly.

Domestic economic recovery was associated with a marked strengthening in the balance of payments, made possible above all by the flexible exchange rate policy. In 1982, despite continued deterioration in the terms of trade, world recession, and some rise in interest payment on foreign debt, the current account deficit fall to US$ 0.8 billion. (Please See Table II) Workers' remittances and income from services increased significantly (by 44%) in response to positive real interest rates and a more realistic exchange rate. On the other hand, high interest rates also contributed to the fragility of the financial system, and the accumulation of non-performing loans led to the banking sector crisis of mid 1982. The crisis, which emerged as an increasing part of the excess demand for credit, was met by brokerage firms trading in CD's and corporate bonds in the unorganized market, culminated the collapse of Turkey's largest brokerage firm and strained the liquidity position of the entire banking system. This development was met with some relaxation in the monetary stance, as well as changes in monetary control and in banking and capital market regulations.

In 1983, there was a considerable setback in overall performance. Real GNP growth fell to 3.3% and the external current account deficit rose by US$ 1.8 billion. In part, this stemmed from a decline in agricultural production and a weakening of export prices. More fundamentally, a relaxation of financial policies and an increase in real wages contributed to the

acceleration in the growth of domestic demand in excess of the rise in aggregate production. The saving ratio dropped by more than 2 percentage points, as well as a slowdown in GNP growth. Although inflationary pressure was not fully reflected in prices because of incomplete SEE price adjustments prior to the November elections, by the end of 1983 wholesale prices had risen 30.6 percent.

Delayed price adjustments, in combination with stepped-up depreciation of the lira in the first quarter of 1984, removal of export restrictions, and sustained domestic demand due to a continued expansionary fiscal and monetary stance - resulted in an inflation rate in excess of 52 percent during 1984. Real GNP growth increased to nearly 6 percent reflecting in part a renewed export - led expansion of industrial output. The external current account deficit fell to US$ 1.4 billion. Capital inflow increased and the gross foreign exchange reserves of the banking system reached an unprecedented level of US$ 3.1 billion, equivalent to almost four months of imports at the end of 1984. (Kopits 1987, pp 12-22)

Between 1980 and 1984 Turkey was in receipt of five successive SAL programmes totalling US$ 1556.3 million and three IMF stand-by arrangements.

In 1985 Turkey made further progress towards adjustment. While real growth in consumption fell to 3.2 percent and the national saving ratio bounced back to 18.1 percent, fixed investment increased by 10.9 percent (7.8% for private investment). The slowdown in consumption growth was based on a combination of some fiscal restraint and a tightening in monetary policy, including the re-emergence of positive real interest rates on longer maturing time deposits. The inflation rate fell to 40% in 1985 while the current account deficit was reduced to US$ 1.0 billion (1.9 percent of GNP). At the end of the year, Turkey's external debt outstanding, stood at US$ 25.4 billion, of which US$ 6.6 billion constituted short-term obligations, including emigrants' deposits totalling US$ 3.4 billion.

Perhaps the single most successful element of the Turkish recovery has been the dramatic growth of goods and certain services. The tripling of merchandise export volume between 1980-1985 was accompanied by considerable diversification in industrial products. The share of manufactures in total exports increased from 36% in 1980 to 75% in 1985. Moreover, the share of Turkish exports in total exports of non-oil developing countries to industrial countries from 0.9% to 1.6% and to Middle East partner countries from 4.0% to 20.3 percent between 1980 and 1985 . (Kopits 1987, pp 22-23)

The 8% rate of growth in GNP recorded twelve years ago in 1975 was repeated in 1986. In terms of constant prices, the highest rate of growth among sectors, was 11.1% in industry, while trade came second at 9.8%. (Please See Graph IVa - IVb) On the other hand, per capita GNP at 1968 prices rose 5.4%. The deficit has increased substantially to 2.6% of the GNP in current prices.

In conformity with the SAL conditions, public sector investment was diverted away from manufacturing into areas regarded as complementary to private investment, namely transport, communications and energy. Aggregate investment increased from 21.9% of GNP in 1980 to 24.8% in 1986. (Kirkpatrick and Onis 1989, pp 14-19)

At the end of 1986, the government's foreign debts exceeded US$ 31.2 billion, while its domestic debt burden reached TL 7 trillion.

In order to cover payments of existing principal or interest or for deferments, the need has arisen for new borrowings. The financing of the trade balance involved further accumulation of external debt, and the total external debt to GNP ratio rose to 56.4 percent in 1986. A growing share of debt was in the form of short term liabilities, which reached 29% by 1986.

In 1986 the ratio of saving deposit to the GNP in terms of current prices was 0.173 which was clearly below 1985 levels. The ratio of note issue to saving deposits was 0.281. Reductions in bank deposit interest rates have been unable either to reduce the budget deficit or to lower inflationary expectations. On the other hand, it led to a drop in the rate of increase of saving deposits.

Broad definition money supply expansion was 38.8%, and with the exception of 1983, this represented the lowest annual rate of increase since 1978.

The potential contribution of the growth in exports to a reduction in the trade balance was offset by an expansion in imports, and the trade balance remained in deficit. The openness of the economy increased, as shown in the rise in the share of foreign trade in GDP, from 19 percent in 1980 to 32 percent in 1986. The deficit in current transactions reached US$ 1528 million. (Kirkpatrick and Onis 1989, pp 14-19)

At 1968 prices, Turkish economy showed 7.4% GNP growth in 1987. A slowdown in growth is observed in the construction sector and agricultural sector which expanded by 6.7% and 19.3% respectively. The big increases in public expenditure and in the consequent budget deficit and expansion of the money supply,

along with the increase in the overall public sector borrowing requirement to 8.7 percent of GNP were the principal causes of the high rate of inflation in 1987. The wholesale price index reached 38.4 percent.

Besides the public sector's excessive expansion on the basis of deficit financing, the rapid expansion of exports also added to the pressures on aggregate demand. Higher imported oil prices and daily adjustments of the foreign exchange rate, and of domestic prices at rates which exceeded the true overall rate of inflation, had shock effects on aggregate supply.

The foreign balance decreased to 1.5 percent of GNP in 1987 which was instrumental in reducing the rate of growth of total domestic demand to 5.0 percent, in contrast to a higher rate of growth of GNP of 7.4 percent.

Total investment decreased by 1.1 percent reducing its share in GNP to 25 percent. Fixed capital investment increased by 3.6 percent whilst the public sector's share decreased to 13.5 percent of GNP.

The gradual decline in interest with reacceleration of inflation led to strongly negative real interest rates. The interest rate on annual time deposits is liberalized. However, interest rates did not rise as much as expected, owing largely to the oligopolistic structure of the Turkish banking sector.

The increase in trade volume was stemmed from the rapid increases in both exports and imports. As a percentage of GDP, exports amounted to 21.3 percent and imports 29.4 percent. Therefore, exports were able to finance 71.9 percent of total imports in 1987. The foreign trade deficit increased by 5.2 percent to US$ 3.2 billion.

In 1987, short term external debt rose by 25.7 percent, and medium and long term debt by 21.8 percent. Total debt servicing payments reached US$ 6.1 billion, of which US$ 3.5 billion was principal repayments and US$ 2.6 billion interest payments.

Turkey's GNP for 1988 materialized at TL 310 billion in constant 1968 prices, the annual growth rate of GNP and per capita income thus realized as 3.4% at constant 1968 prices.

The growth rates of all sectors except for agriculture, financial institutions, government services and business-personel services realized below the 1987 rates.

The share of investments to GNP, decreased from 26.1% to 25.6% in 1988, mainly a result of decrease in public sector investments. On the other hand, the share of consumption to GNP increased from 74.4% to 75.1% in 1988.

The private and public sectors respective shares in total fixed capital investments were 51.7% and 48.3 per cent. On the consumption side of the economy, the private sector's consumption incresed by 8%, whereas, the public sector's increased by 3.7%. The sectoral distribution of fixed capital investments during 1988 indicates that the highest increase was realized in the housing sector with 25.5%.

Domestic savings of the private sector increased by 13% at constant prices, whereas the public sector's domestic savings decreased by 14.6% in 1988.

In 1988, foreign capital licences issued increased considerably and reached a total value of $ 824.5 million. The number of foreign firms operating in Turkey reached 109 as of the end of 1988 and these firms concentrated mainly in the banking, finance and electronics sectors.

While the budget deficit reached TL 3.4 trillion in 1988, its share in GNP was 3.4%. In 1988, most of the budget expenditures resulted from transfer payments which accounted for 50% of total expenditures. During the year, transfers including interest payments on domestic and foreign loans, increased by 76%, current expenditures by 63% and investment expenditures by 29 percent.

The use of foreign debt increased dramatically by 120% and its share in total borrowing increased from 22% in 1987, to 30% in 1988. In order to finance debt repayments and 1988's deficit, TL 11.9 trillion was borrowed, 34% of which was from abroad while 66% was domestic borrowing.

During 1988 ,the highest monetary expansion of recent years was observed. The 64.6% increase in M2 resulted mainly from the growth in saving time deposits, which in turn resulted from the interest rate policy favouring long-term deposits. The growth rate of saving time deposits reached 124.6 per cent for the same reason.

The average rate of inflation on the basis of wholesale prices and consumer prices attained 68.3% and 75.5% respectively as of the year-end. Positive interest rate policy was adversely influenced by the accelerating pace of inflation. This development increased public demand for alternative saving instruments such as gold, foreign exchange and real estate.

The February 4th, 1988 resolutions were not successful at stopping the rapid depreciation in the value of the Turkish Lira.

After October 1988, interest rates soared to 85% for one year time deposits and to 40% for sight deposits. Depending on the progress of the inflation rate, interest rates declined gradually.

Savings deposits were the most important point of focus in the implementation of the new set of interest rates. They showed 90.7% annual increase. On the other hand, allocated total credits reached TL 21.1 trillion. The volume of credit allocation increase by foreign deposit banks in 1988 as compared to 1987 was 80.3%, while that of public deposit banks and private deposit banks were 45.6% and 31.0%, respectively.

Exports grew by 14% in 1988 with respect to the previous year, totalling US$ 11.662 million. OECD Countries, Islamic Countries and Eastern European Countries are the groups of countries towards which exports were mostly directed, while industrial exports made up the major proportion of total exports. Total imports materialized at US$ 14340 million.

Balance of payments gave a US$ 1.5 billion surplus. Tourism made a net contribution of $1.683 million to the balance of payments. (Please See Table II)

The ratio of foreign debt repayments to GNP increased by 10.2% in 1988 and total repayment reached US$ 7.2 billion. (Dısbank 1989, pp. 1-24)

THE MODEL DESCRIPTION AND REGRESSION RESULTS

Saving behavior is an essential element of the process of economic growth and has received great attention in literature. One of the reasons is that the investment rate is the key determinant of sustained economic growth. Domestic investment can be financed from national and foreign savings, but everywhere national saving provides the bulk of resources for investment.

The saving function of Turkey developed here is similar in most respects to the model used by Fry for the 7 Asian developing countries, as explained in chapter four. However, different from Fry's saving function which used national rather than private saving because of the nonavailability of disaggregated, consistent and reliable data this study surveys the effect of financial conditions on the volume of private savings for Turkey, since private sector savings constitutes the largest component of national savings in most developing countries. Moreover, the private sector uses the financial system extensively to route its savings to investment.

On the other hand 14 Asian developing economies examined by Fry (Please See Chapter 3) where direct financial claims, such as stocks and bonds, are unimportant compared with indirect claims, such as time and saving deposits. Financial savings are

directed towards claims offered by depository institutions. Because of the reasons mentioned above, in this study time and saving deposits are used in preference to other saving measures.

Fry (1988) finds that private savings exceeded goverment savings by a wide margin in 14 Asian developing countries - Bangladesh, Burma, Hong Kong, India, Indonesia, Korea, Malaysia, Nepal, Pakistan, Philippines, Singapore, SriLanka, Taiwan and Thailand - for which data is available (except Indonesia). On average, the contribution of private saving to national saving in Indonesia, India, Pakistan, Thailand, Burma, Korea, Malaysia, Sri Lanka and Singapore was above 90 percent in 1976 and more than 80 percent in 1981.

Financial variables are taken from the International Monetary Fund Financial Statistics, The Central Bank of the Rebuplic of Turkey's Quarterly and Monthly Bulletins, State Planning Organization's Main Economic Indicators and from State Institute of Statistics' Monthly Bulletin of Statistics and Under Secretariat of the Treasury and Foreign Trade, General Directorate of Economic Research and Assessment's, Monthly Economic Indicators. In order to see the effect of financial conditions more precisely and clearly quarterly data has been used.

Moreover, as a result of stabilization policies since 1980 various variables have been changed during each year, therefore short term data gives much better results.

The State Institute of Statistics does not supply the quarterly gross national product. This is a set-back for all econometric studies. This problem has tried to be solved to some extent by Uluatam (1976) using seasonal weights which are based on Diz's (1970) and Dutton's (1971) studies. Uluatam applies weights which are used for Argentinian studies. On the other hand Ertuğrul (1982 p.125) uses interpoletion techniques which are based on Feibes Boat to reach quarterly GNP for Turkey.

In order to calculate the quarterly GNP and the real GNP the Uluatam technique which is given below has been employed.

Uluatam (1976, p 49)

$$Y_{1t} = 4Y_t / \Sigma b_i \; (Y_{t-1} + 7.5/12 \; (Y_t - Y_{t-1}))$$

$$Y2t = 4Yt/\Sigma bi \; (Yt-1 + 10.5/12 \; (Yt - Yt-1))$$

$$Y_{3t} = 4Y_t / \Sigma b_i \; (Y_t + 1.5/12 \; (Y_{t+1} - Y_t))$$

$$Y_{4t} = 4y_t / \Sigma b_i \; (Y_t + 4.5/12 \; (Y_{t+1} - Y_t))$$

$$\Sigma b_i = 0.5 \; (Y_{t+1} + Y_{t-1}) + 3Y_t$$

On the other hand quarterly demographic data, from various issues of the State Institute of Statistics, is interpolated to provide quarterly population and therefore to obtain quarterly percapita GNP series.

Simple interpoletion can be calculated as shown below (Hildebrand 1956, Conte 1964)

$$X_t = X_0 + t/n\,(X_n - X_0)$$

Afterwards, the quarterly real GNP is divided by population to reach the real per capita GNP series.

Results of these estimates are presented in Table (III and IV) over the period 1963.1 - 1988.4.

The dependent variable in this study is time and saving figures over the period 1963.1 1988.4 taken from IMF Financial Statistics. However, for the period 1960.1 1970.4 the time and saving figures consist of the total saving plus commercial time deposits. It has included commercial time and saving time since 1971.1. Therefore I had to rearrange these figures for consistency. The series (TSQ) only includes commercial time, saving time and the certificate of deposits as is seen in Table V-VI. (Please See Graph 5 and 6)

As we stated earlier, without dismissing the importance of the determinant of individual saving behavior, this study focuses on the quantifiable determinants of the time and saving deposit rates. The relatively small numbers of variables account for over 80 percent of the variance in savings over that time. These results are parallel to the findings of Fry (1988) where 90 percent of the variance in national saving rates over time, and between countries for the 14 Asian developing economies is explained by the relatively small number of variables over the period 1961-1983.

Fry uses, foreign saving Sf/Y as a determinant of national saving behavior. As long as foreign savings is a transfer (gift or heavily subsidized loan) to recepient countries, it constitutes an increase in real wealth not captured by GNP. As in the case for any increase in real wealth not captured by GNP, it is rational economic behavior to react to an increase in foreign saving inflows by consuming more in the present as well as in the future.

The sources of these foreign savings are international development banks like the World Bank Group, bilateral official assistance, guaranteed export credits, and loans from private banks and capital markets of the developed countries.

Since the mid 1970's, as many developing countries, Turkey has also borrowed extensively on commercial terms from the international banking system.

Treating foreign saving as an exogenous variable is not valid any longer. Therefore, I exclude this variable from the original Fry model on which my study is based.

The debate over the interest sensitivity of savings in developing countries is still unsettled. One of the reasons of the disagreement over the empirical findings on the interest elasticity of savings is the use of different measures of real interest rates.

While a wide range of policy discussions express concern that interest rates can be positive in real terms, little is said about which price index should be used in comparison.

In an attempt to provide a better proxy for the expected real interest rates, this paper concentrates its analysis on the " ex-post" realized rate, i.e the nominal interest rate deflated by the actual price change over the relevant period.

Six different real interest rates series were calculated from quarterly nominal interest rates. RReal1 was calculated by deflating the nominal interest rate in effect in the t.th

quarter by rate of change in wholesale prices from t to t+1. Similarly, RReal2 and RReal4 were calculated by deflating the nominal interest rate in effect in t.th quarter by rate of change in wholesale prices from t to t+2 and t to t+4 respectively.

On the other hand R1, R2 and R4 were calculated by the same method but the rate of change in wholesale prices from (t-1) to t, (t-2) to t and (t-4) to t were used instead.
(Please See Table VII)

While not imputing perfect foresight, "ex-post" realized rate provides a better proxy for the expectations of depositors and borrowers than the usual method of averaging past inflation, particularly in periods of rising inflation, such as in Turkey, except a few periods over the periods 1963.1-1988.4.

A three month and a six month time horizon were also utilized in these real rates of interest calculations to reflect the short maturities of portfolios which characterize the financial markets of the developing countries. (Hanson and Neal 1985, pp 3-5). However, in view of all the questions regarding both the interest rates and the appropriate choice of proxy for expectations, it is warned that the figures in this study should not be interpreted as a price estimate of the real rate but only as a general indicator of the range of real interest rates.

It should also be noted that the analysis is affected very little by the choice of lagged or future inflation as the deflator for the calculation of the real rates. While the choice does affect the rates on a year to year basis, it has little impact on the broad picture over a longer period of time. (Please See Graph II)

The formula for the calculation of the real expost interest rates which is used in this paper is given below.

$$\text{Real Interest} = \text{Antilog}\,(\text{Ln}\,(1+r_t) - \text{Ln}(1+p_t)) - 1$$

where,

r_t = nominal rate of 6 months deposit interest at quarter t

p_t = rate of growth of inflation from quarter t to the following quarter t+1, t+2 and t+4, respectively for RReal1, RReal2 and RReal4.

The results of these calculations are illustrated in Table (VII).

The Ordinary Least Square (OLS) estimates of time and saving deposits function, in various alternative specifications were tried for Turkey over the period 1963.1-1988.4

The alternative specifications which give correlation coefficient, statistically significant over the 90% confidence level are presented in Table VIII-IX. However signs of some coefficients do not agree with a priori expectations.

Our estimates show that up to 99% of the variance in time and saving deposit rates over time is explained by the relatively small number of variables.

$$(TSQ/Y)_t = a_0 + a_1 g + a_2 y + a_3 r + a_4 (TSQ/Y)_{t-1}$$

where;

TDY=TSQ/Y: ratio of quarterly time and saving deposits to quarterly GNP.

Lnper=y: Natural logarithm of quarterly per capita real income. (Please See Table IV)

g: Growth rate in real GNP (Please See Table III)

GRY: growth rate in quarterly real GNP expressed in proportion to real GNP in the first quarter of 1963.

GRY1: 1 quarter lagged growth rate in quarterly real GNP (GRY1= GNP - GNP(-1) * 100 / GNP(-1))

GRY2: 2 quarter lagged growth rate in quarterly real GNP (GRY2= GNP - GNP(-2) * 100 / GNP(-2))

GRY4:1 year (4 quarter) lagged growth rate in quarterly real GNP

(GRY1= GNP - GNP(-4) * 100 / GNP(-4))

r: real deposit rates of interest on 6 month time and saving deposits. (Please See Table VII)

$(TSQ/Y)_{t-n}$: n quarter lagged ratio of time and saving deposits to GNP.

Sign of all the coefficients in 13 alternative equations agree with a priori expectations and the original Fry model. T statistics indicate that most of the coefficients are statistically significant at the 95% level of confidence. Moreover, F statistics also show overall significance in the regression equations at the 95% confidence level. (See Table IX)

Up to 88% of the variance in time and saving deposit rates over time is explained by the variations in the growth rate, real interest rate and per capita real income.

Autocorrelation problems in the equations were solved by using the 1 quarter lagged seasonally moving average model.

DW statistics show that our hypothesis, that the residuals are independent of one another is violated and there exists a positive autocorrelation among successive residuals.

A general source of autocorrelated disturbances is the fact that the disturbance represents the net influence of omitted explanatory variables.

First order seasonally moving average SMA(1) process is applied to eliminate autocorrelation and to reach accurate regression equations.

In the new regression equations all the correllation coefficients including SMA(1) are significant at the same level of confidence. Furthermore DW statistics, which are very close to 2 implies an absence of autocorrelation among the residuals.

The results of the 13th equation in Table IX, which uses 1 year lagged growth rate and 1 year lagged (ex-post) real interest rate are shown below.

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.1576659	0.0866777	-13.355983	0.000
GRY4	0.0018258	0.0007657	2.3845370	0.019
LNPER	0.1465378	0.0102620	14.279693	0.000
RREAL4	0.1285720	0.0145554	8.8333157	0.000

R-squared	0.730860	Mean of dependent var	0.067066
Adjusted R-squared	0.722786	S.D. of dependent var	0.041060
S.E. of regression	0.021619	Sum of squared resid	0.046736
Durbin-Watson stat	0.154984	F-statistic	90.51812
Log likelihood	253.2272		

The Durbin Watson statistic which is 0.15, indicates that a positive autocorrelation among successive residuals exists. When we applied first order SMA convergency is achieved after 14 iterations and the DW statistic reached 1.99.

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 14 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.1581747	0.0628524	-18.426910	0.000
GRY4	0.0019823	0.0005555	3.5687463	0.001
LNPER	0.1465017	0.0074412	19.687826	0.000
RREAL4	0.1289416	0.0105545	12.216688	0.000
SMA(1)	0.9569911	0.1005011	9.5221910	0.000

R-squared	0.859899	Mean of dependent var	0.067066
Adjusted R-squared	0.854238	S.D. of dependent var	0.041060
S.E. of regression	0.015676	Sum of squared resid	0.024328
Durbin-Watson stat	1.995660	F-statistic	151.9084
Log likelihood	287.1763		

After eliminating autocorrelations it is seen that the time and saving deposits rate is increased by about a 0.13 percentage point for each 1 percentage point rise in the real deposit rate of interest (RReal4). Turkey maintained real deposit rates which where, on average, quite negative over the 1963.1-1988.4 period. Therefore, there can be much scope for increasing saving directly by raising the deposit rate.

The same equation shows that a 1 percentage point increase in the real GNP growth rate, according to the same period in the previous year raises the time and saving deposit rate by a 0.002 percentage point. A 1 percentage point increase in the level of per capita real income increased the saving rate by a 0.15 percentage point.

All these findings show that financial conditions exert a positive effect on savings in Turkey over the period 1963.1-1988.4.

THE EMPIRICAL TEST FOR INTEREST LIBERALIZATION

All over the world, governments have exerted direct ınd indirect control over institutional interest rates. In leveloping countries, interest rate policies are specifically lesigned to achieve efficient resource mobilization and ıllocation, cheap credit facilities for the government sector and ıacroeconomic stability.

Turkish governments pursued active interest rate ›olicies for most of the 1963.1 1988.4 period. On the whole, :hese policies involved setting the entire structures of .nstitutional deposit and loan rates of interest. Administered .nterest rates were very "sticky". There was very little and very .ate change in nominal rates over time, particularly in :omparison to fluctuations in inflation rates. Governments were ınwilling or unable to set nominal rates in line with high rates ›f inflation. Therefore, real rates of interest have generally ıoved inversely with inflation rates. (Please See Table VII and ;raph II)

Maintaining real interest rates is advised to developing :ountries as a financial sector policy. This recommendation is ıow beginning to give way to concerns for increased market ›rientation in the full range of financial sector policies. In

recent years, a growing consensus has developed regarding the need for greater reliance on market forces in the determination of market interest rates and in the financial sector, in general. (Hanson and Neal 1985, p vii)

In Turkey, the financial sector was highly controlled by the authorities. The Turkish government intervened extensively in the financial markets, directing much of the credit allocation process through administered interest rates and subsidized credit, channelled to numerous sectors in the economy.

Beginning in the second half of the 1970's the system of administered nominal interest rates was placed under a great deal of stress by sharp inflation rates. During the 1977-1980 period inflation surged from less than 20% to an excess of 80%, driving virtually all real (ex-post) lending and deposit rates to significantly negative levels. (Please See Table VII) Turkey experienced a high degree of financial repression, with disequilibrium interest rates, credit rationing, segmented capital markets, and excessive intermediation cost.

To arrest the pervasive financial disintermediation that had taken place in previous years, due to an unrealistically low ceiling on interest rates on bank deposits, the authorities lifted the ceiling in July 1980. Following liberalization, time and deposit rates were determined through a "gentlemen's

agreement" among commercial banks, which permitted a rise in nominal rates, that, in combination with rapidly falling inflation rates, resulted in positive real time deposit rates between 1981 and mid 1983.

Owing to intense competition among banks as well as brokers in the unorganized financial market, rates offered on time deposits and on certificate of deposits (CD's) often exceeded the rates sanctioned under the agreement. At the same time, there were no effective institutional safeguards against unsound financial practices and to protect bank deposits. In this environment and against the backdrop of a tight monetary policy, the deregulation of interest rates and the introduction of CD's led to a financial crisis. (Please See Table VI) The crisis, which emerged as an increasing part of the excess demand for credit, was met by brokerage firms trading in CD's and corporate bonds in the unorganized market, culminated in mid 1982 with the collapse of Turkey's largest brokerage firm and strained the equity position of the entire banking system. This development was met with some relaxation in the monetary stance, as well as changes in monetary control in banking and capital market regulations. (Kopits 1987, pp 12-13)

During 1983, the authorities lowered reserve requirements, raised the ceiling on saving deposit rates, and reimposed ceilings on term deposit rates. In some respect, the

reimposition of the deposit ceiling represents a partial retreat from the liberalization of 1980. The central bank was authorized to review and determine ceilings on deposit rates, at least every three months, taking into account fluctuations in the rate of interest and other relevant economic developments. Higher interest rates were set for faster maturing time, on the assumption that the actual inflation rate would decline towards the offical target rate. As this assumption failed to materialize, in July 1985 a more traditional yield structure was reinstated, with higher rates allowed on long-term maturities. Since mid 1985 most time deposit rates had been positive in real terms. But this structure again reversed in recent years.

Between mid 1984 and late 1986 6 month time deposit rates were positive in real terms, but since the end of 1986 the interest rates on 6 month time deposits have become negative against the accelaration of inflation.

In order to see the effect of the liberalization program on mobilizing financial savings (time and saving deposits), ordinary least square estimates of the same regression equation on quarterly data over the period 1980.1-1988.4 are calculated. The results of this estimation is shown below.

```
MPL  1980.1 - 1988.4
5 Observations
S // Dependent Variable is TDY
================================================================
    VARIABLE     COEFFICIENT    STD. ERROR      T-STAT.   2-TAIL SIG.
================================================================
       C         -1.5958664     0.6152935    -2.5936667     0.014
     GRY4         0.0083164     0.0020746     4.0086314     0.000
    LNPER         0.1951177     0.0727635     2.6815303     0.011
    RREAL4        0.0764631     0.0320043     2.3891473     0.023
================================================================
-squared                 0.750378    Mean of dependent var    0.110874
djusted R-squared        0.726976    S.D. of dependent var    0.040383
.E. of regression        0.021101    Sum of squared resid     0.014248
urbin-Watson stat        0.278478    F-statistic              32.06460
og likelihood            89.94245
================================================================
```

T ratios and F ratio are statistically significant at the 95% level of confidence. As seen in the table below, the relevant tests for autocorrelation reveal serial independence of residuals after the appropriate correction (SMA(1)) of the estimates for time and saving deposits.

```
MPL  1980.1 - 1988.4
6 Observations
S // Dependent Variable is TDY
onvergence achieved after 10 iterations
================================================================
    VARIABLE     COEFFICIENT    STD. ERROR      T-STAT.   2-TAIL SIG.
================================================================
       C         -1.5421129     0.4428685    -3.4821014     0.002
     GRY4         0.0087218     0.0014946     5.8356541     0.000
    LNPER         0.1886023     0.0523734     3.6011116     0.001
    RREAL4        0.0780667     0.0230341     3.3891839     0.002
----------------------------------------------------------------
     SMA(1)       1.0034540     0.1798935     5.5780459     0.000
================================================================
R-squared                0.874758    Mean of dependent var    0.110874
Adjusted R-squared       0.858597    S.D. of dependent var    0.040383
S.E. of regression       0.015185    Sum of squared resid     0.007148
Durbin-Watson stat       2.011346    F-statistic              54.12999
Log likelihood           102.3570
================================================================
```

The results show that, given a 1 percent rise in the level of real interest rates, it leads to the 0.078 percentage change (rise) in the time and saving deposit rate.

The same coefficient for the period between 1963.1-1988.4 is 0.129 percent.

REGRESSION PERIODS

Correlation Coefficients	1963.1/ 1988.2	1970.1/ 1988.2	1980.1/ 1988.2
C	- 1.158	-1.507	-1.542
GRY4	0.002	0.004	0.009
RReal4	0.129	0.116	0.078
Lnper	0.147	0.186	0.189
SMA(1)	0.957	0.963	1.000

On the other hand, since the liberalization in 1980, the coefficients of one year real GNP growth and per capita real GNP have been greater than the coefficients between 1963.1-1988.2 quarters for the same variables.

A one percentage rise in real GNP growth and per capita GNP in logarithmic form increases the time and saving deposits by 0.009 and 0.189 percent respectively.

All these results show that financial liberalization in 1980 was not as successful as expected in mobilizing time and saving deposits. Although the real rate of interest was positive (on average) during the period 1980.1-1988.2, these positive interest rates have lesser effect on time and saving deposits rates in comparison to quite negative real deposit rates on average, in the 1963.1-1988.2 period.

In regard to the interest elasticity of saving, per capita real GNP is found to have a more predominant influence on time and saving deposits than interest rates.

Therefore, we can conclude that there is not so much scope for increasing saving directly by raising the deposit rate of interest as we expected previously.

CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH

The crucial problem in a developing country is to raise per capita GNP over time, on the assumption that it is a measure of progress of a country. This implies a certain rate of growth of aggregate GNP since population is assumed to be determined exogenously. Given the inflow of foreign resources, and also that output per unit of investment remains constant, national output would grow at the same rate as domestic saving.

Therefore, the question of whether interest rates affect domestic savings, has attracted considerable attention in theoretical and emprical work and, in this paper, I investigated empirically the effects of financial and economic conditions on time and saving deposits in Turkey during 1963-1988 period and after the reform of 1980.

There are many reasons why the elasticity of savings with respect to the interest rate attract considerable attention. First, increasing public sector deficits worldwide, was observed in the 1970's and early 1980's. Secondly, the efficacy of monetary and fiscal policy in influencing the business cycle depends among other things on the interest elasticity of savings. Thirdly, according to neoclassical growth models, economic growth is affected in the transition, from one steady state to the other

by the rate of capital accumulation, which in turn depends on the amount of private savings forthcoming. (Tullio and Contesso, 1986)

The theoretical and empirical literature stresses the importance of raising real interest rates in countries with interest rate ceilings which are permanently or at least temporarily negative.

Higher real interest rates would induce private households to save more in the commercial banking system and if the development process is to gain momentum, the ratio of financial assets to total savings of the private sector must be allowed to grow as fast as possible.

As interest rate changes succeeded in bringing a larger part of the household sector's savings into desired financial assets, the allocation of resources, the efficiency of investment and the incentive system ensured by financial intermediation, would all improve, leading eventually to a higher level of savings by the household sector.

In this study, the results obtained from the regressions (Please See Table IX) show that the effect of changes in the real deposit rate of interest on saving rates, are similar to those estimated for other developing countries. (Please See Fry, 1989)

The estimated real interest rate coefficient in a saving rate function lies in the range 0.1 to 0.2. (Shahid and Kyle, 1984 p.21)

Our estimates show that (Please See Table IX) for the period 63.1-88.4 the time and saving rate is increased by the some point, in the range of 0.129 to 0.155 for each 1 percentage point rise in the real deposit rate of interest, whether it is estimated ex-ante or ex-post. Although this effect is statistically significant, its magnitude is not large enough. On the other hand, the rate of growth effects, for the same equations are between 0.002-0.008 and, after the interest rate, the biggest emphasis comes from per capita real GNP which lies in a range 0.069-0.147.

Real interest rates have been negative since the early 1960s'. In an attempt to stimulate financial savings the authorities reformed the financial system in the 1980s. Interest rate ceilings were abolished or significantly adjusted upwards to compensate the rising rate of inflation and to increase the growth of the economy. Inadequate banking regulations caused undue risk taking on the part of the banks, when nonperforming assets rose, the banks raised deposit rates more to attract more funds to pay interest on existing deposits. Meanwhile, the inflation rate could not be brought down, therefore increasing inflation rates, eroded the positive effects of the shifts in interest rate ceilings.

In this study, the sample periods was also split into two subperiods 1970.1-88.4 and 1980.1-88.4 to check whether structural changes in the parameter values and especially in the coefficient of the interest rate had occured.

The result of the estimates showed that elasticity of per capita real GNP and the real GNP growth were higher in 1980.1-88.4 periods than 1963.1-88.4 and 1970.1-88.4 subperiods. In regard to the interest elasticity of saving, per capita real GNP is found to have a more predominant influence on time and savings deposits than interest rates.

An important conclusion can be drawn from the coefficients of the interest rates for the above mentioned subperiods, that the effect of real interest rate on time and saving deposits was much lesser after the partial interest rate liberalization, when we compare it to the 1963.1-88.4 and 1970.1-88.4 periods.

A reason for this is that when the interest rate on savings is increased by the Central bank and/or by banks, other interest rates are also rising in the economy and usually by more, so that the substitution effect from noninterest bearing money to time deposit is reduced by the substitution effect from time deposits to nonmoney assets. When the response to the high interet rates is weak or insufficient, the monetary authorities

is required to intervene through the creation of different types of financial intermediaries.

As Hanson and Neal stated, the success of financial liberalization programs depends on appropriate domestic fiscal, monetary , exchange rate, commercial and trade policies. A reasonable degree of price stability is a prerequisite for efficient and effective resource mobilization and allocation through the financial sector.

As opposed to simply a mechanical insistence on positive real interest rates, the market oriented perspective, stresses, the need to reduce the size of subsidies passed through the financial sector and to increase the reliance on interest rates for the mobilization and allocation of resources, paying attention not only to the real levels of rates, but to the need for differentials which reflect differences in risk, maturity and cost.

As it was stated earlier unavailability of quarterly gross national product was a major obstacle in this study. Although the problem was solved to some extent, more sophisticated estimation methods for quarterly GNP may give better and more significant regression results than that offered here.

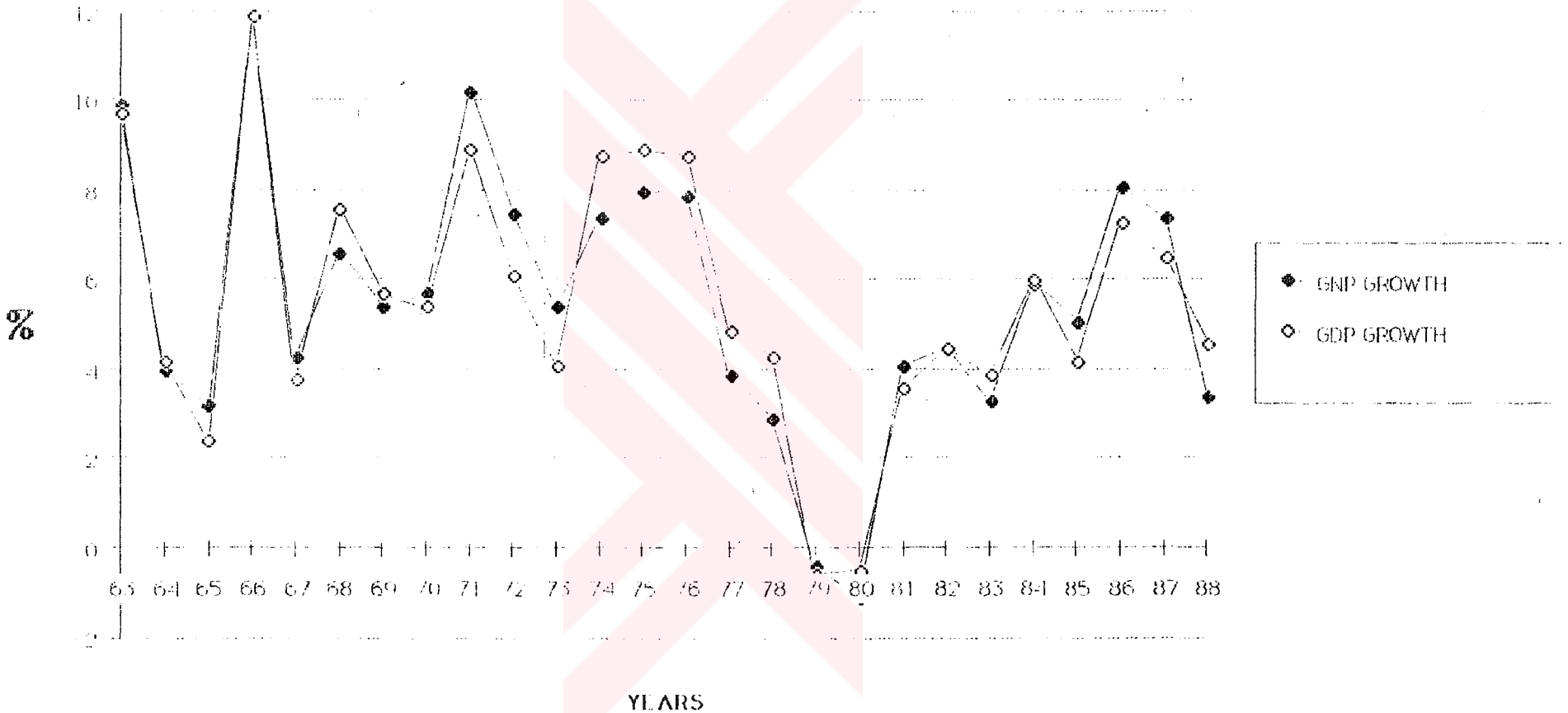
Although the quarter to quarter variability of the tax factor is relatively low, the tax factor may also be taken into consideration in the calculation of ex-ante and ex-post real interest rates.

This study focuses on the quantifiable determinants of time and saving rates. In addition to these determinants, Fry extended his model and included population dependency ration DEP which is a linear transformation of DR, the population under the age of 15 divided by the population aged 15 to 64. Proximity or accessibility of depository institutions' branches in rural areas was another financial variable examined in Fry's later studies.

Furthermore many nonfinancial, noneconomic and nonquantifiable variables also play an important role in determining saving behavior. The analysis of these determinants may be an interesting topic for further research.

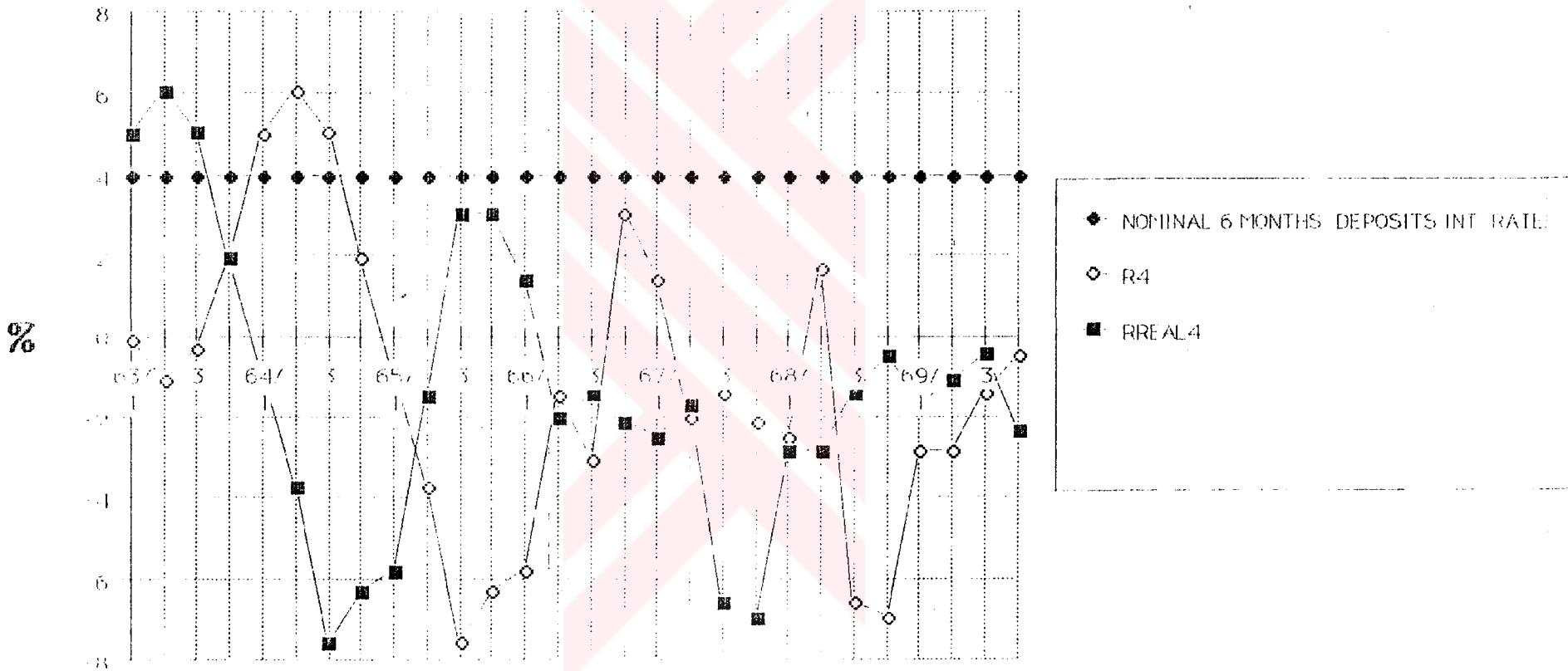
GRAPHS

GROWTH OF GNP AND GDP



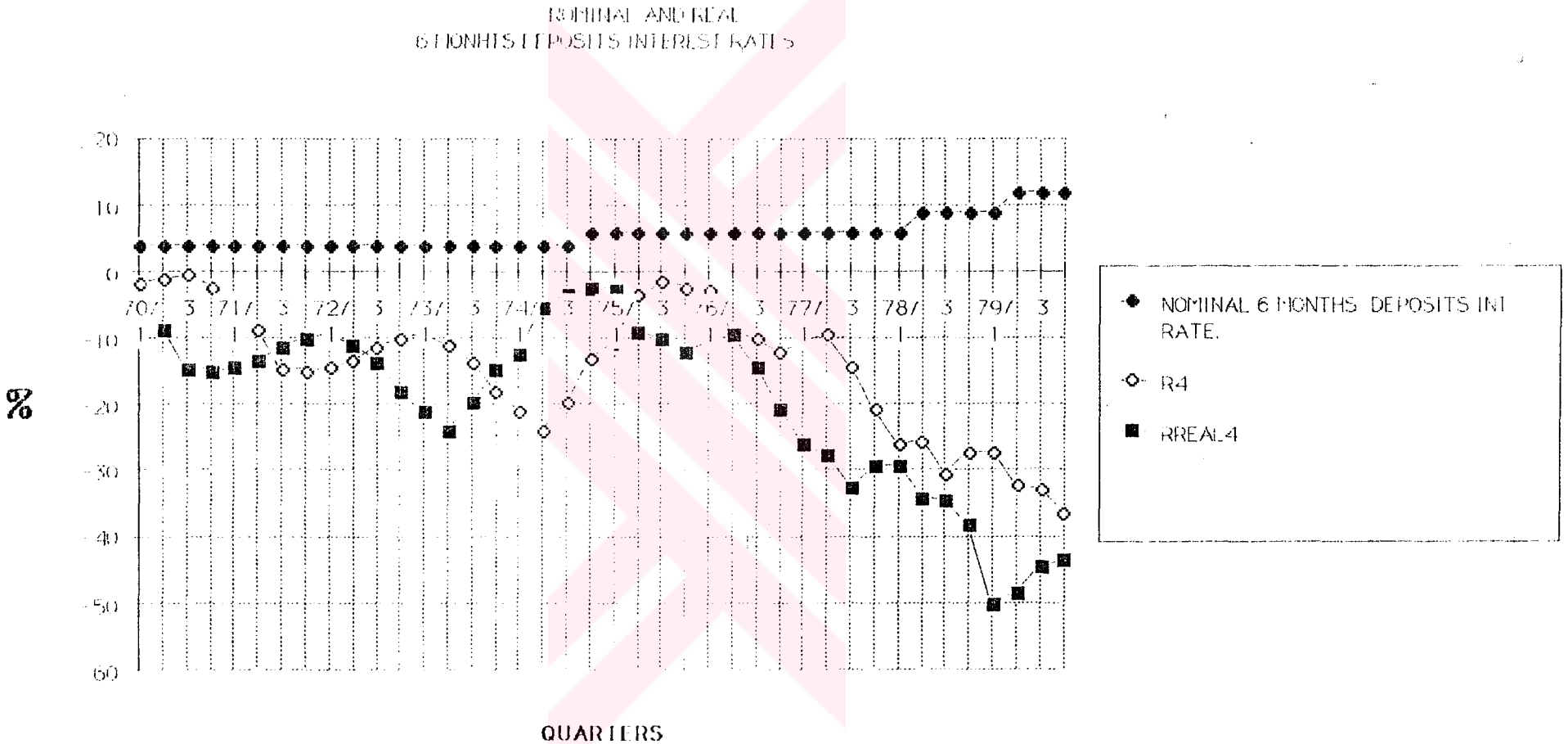
GRAPH - 1

NOMINAL AND REAL
6 MONTHS DEPOSITS INTEREST RATES



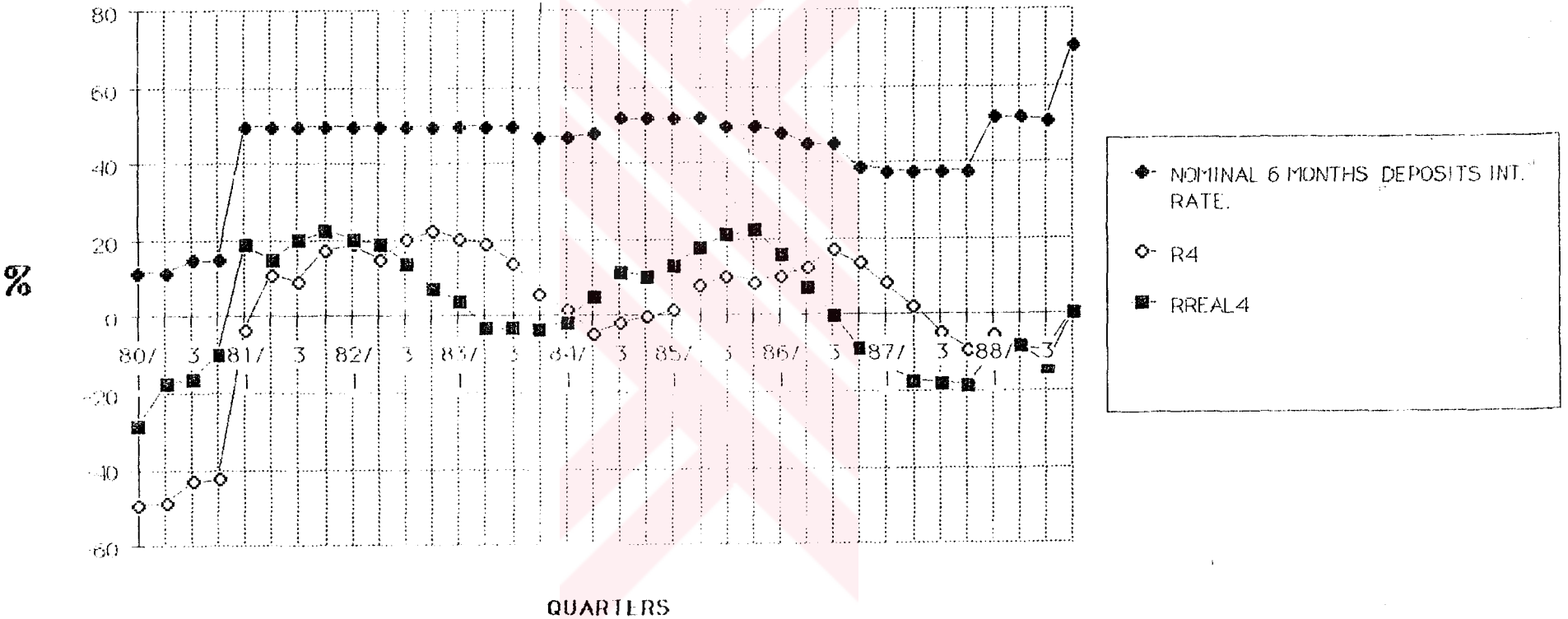
QUARTERS

GRAPH - 2/A

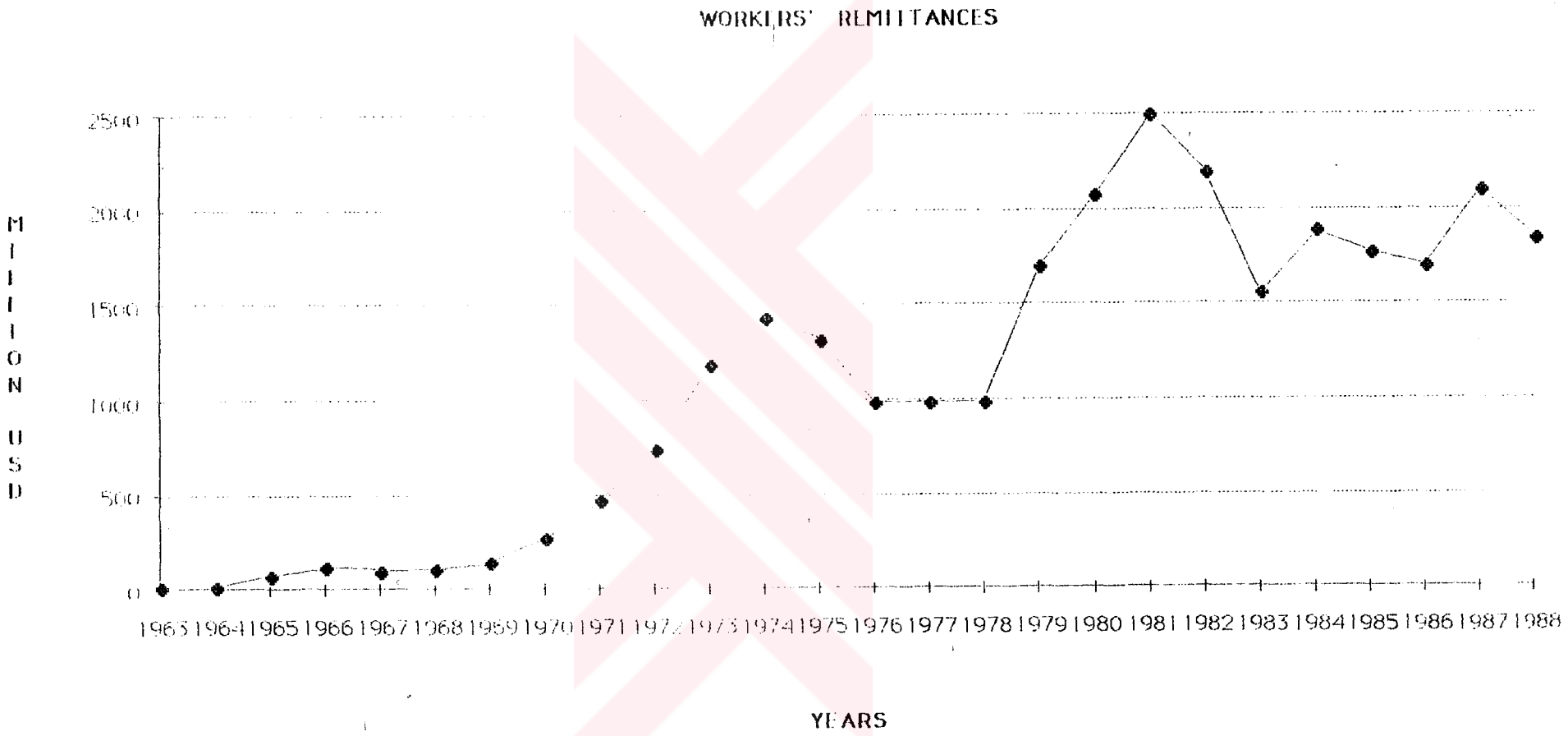

NOMINAL AND REAL
6 MONTHS DEPOSITS INTEREST RATES
20
10
0
-10
-20
-30
-40
-50
-60
%
70/1
3
71/1
3
72/1
3
73/1
3
74/1
3
75/1
3
76/1
3
77/1
3
78/1
3
79/1
3
QUARTERS
NOMINAL 6 MONTHS DEPOSITS INT RATE.
R4
RREAL4

GRAPH - 2/B

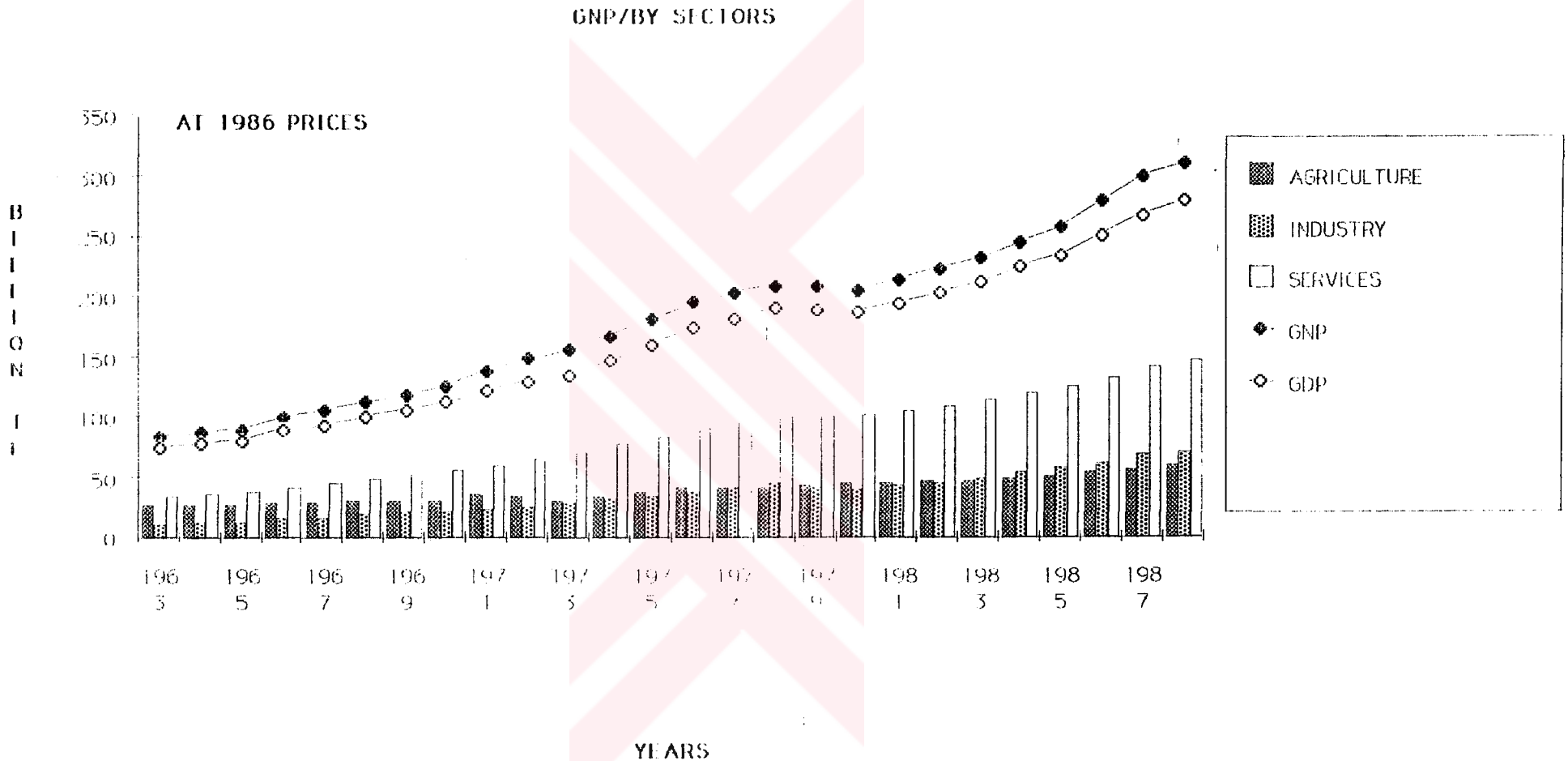
NOMINAL AND REAL
6 MONHTS DEPOSITS INTEREST RATES



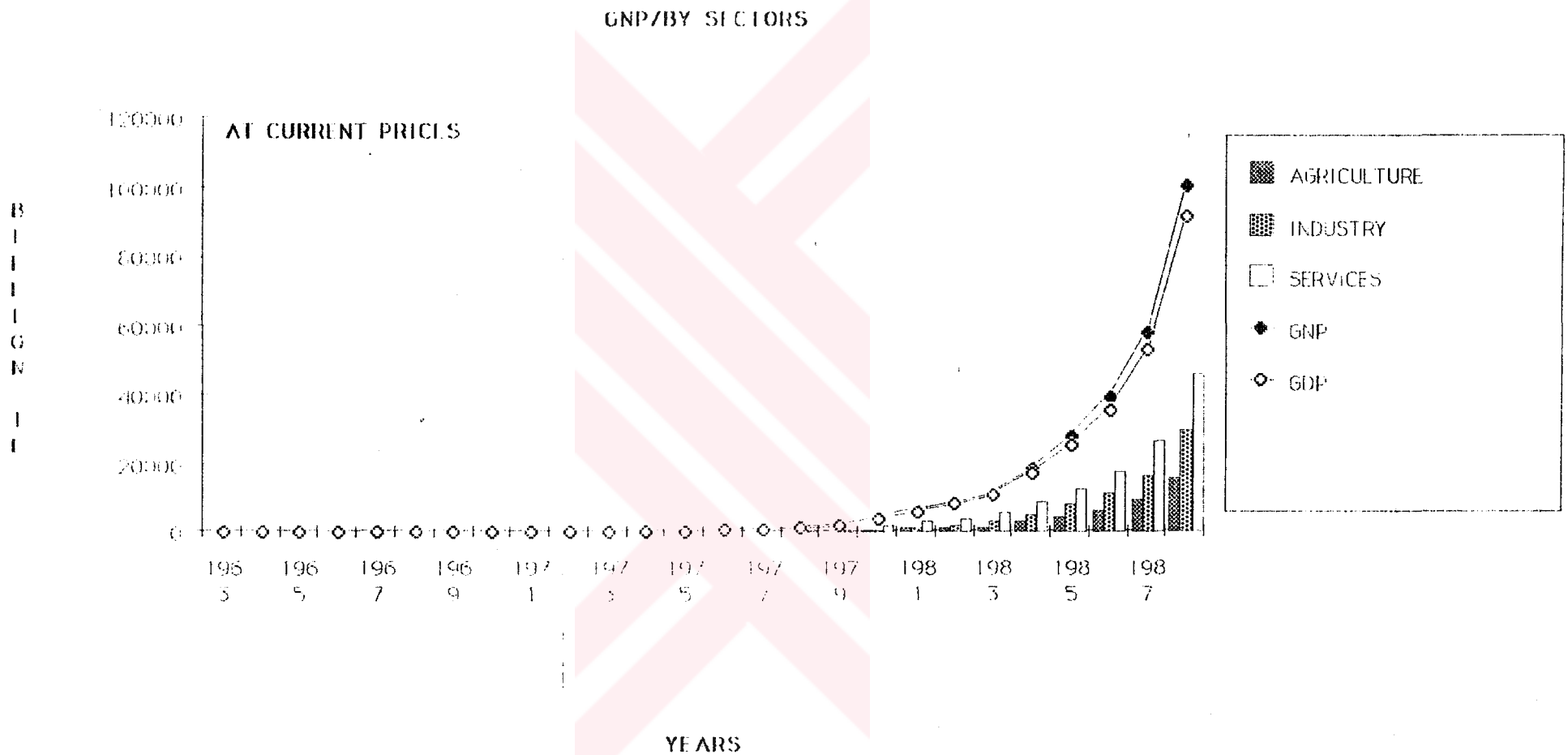
GRAPH -2/C


WORKERS' REMITTANCES
MILLION USD
2500
2000
1500
1000
500
0
1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988
YEARS

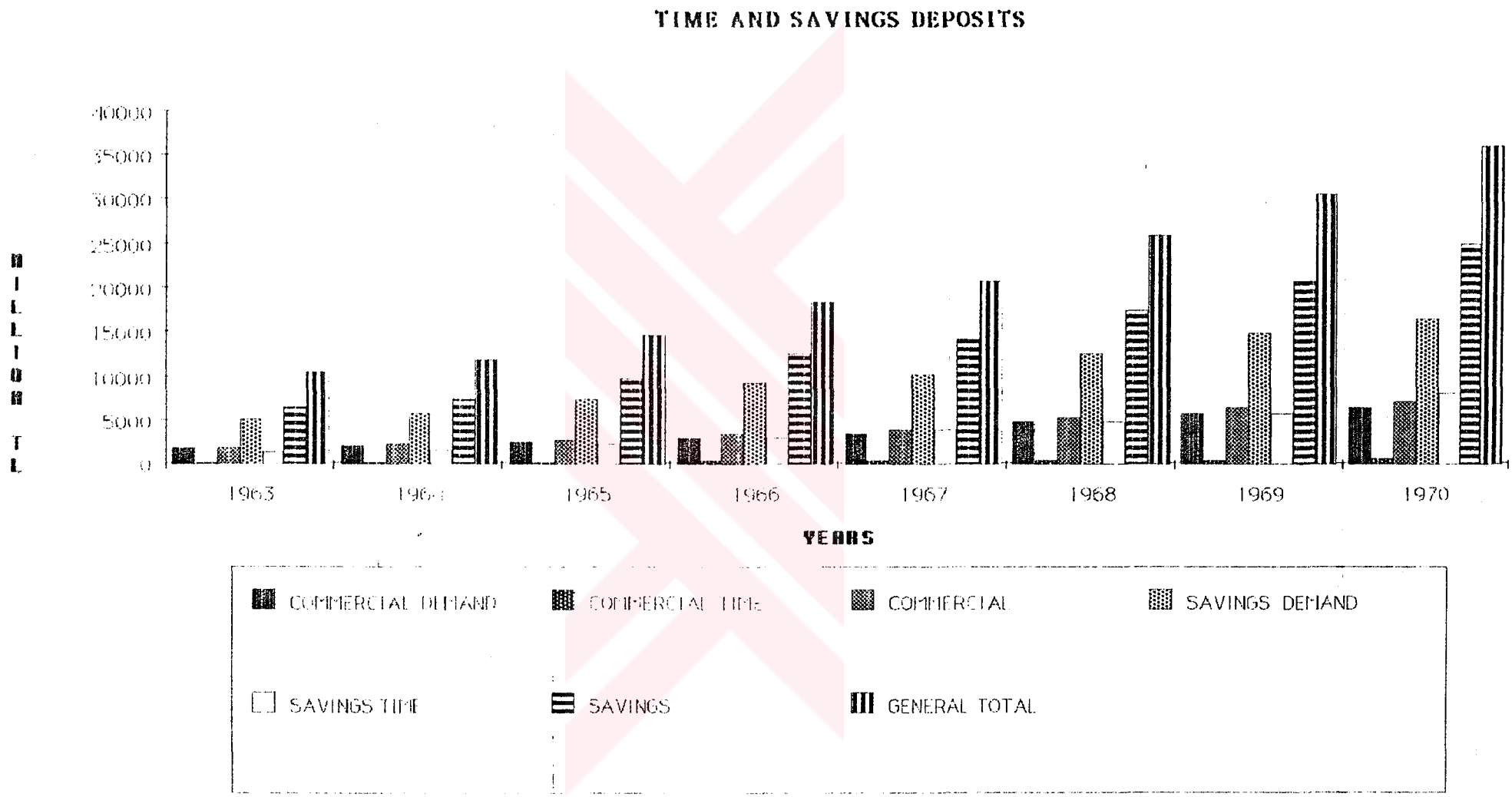
GRAPH - 3


GNP/BY SECTORS
AT 1986 PRICES
BILLION TL
350
300
250
200
150
100
50
0
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
AGRICULTURE
INDUSTRY
SERVICES
GNP
GDP
YEARS

GRAPH -- 4/A


GNP/BY SECTORS
AT CURRENT PRICES
BILLION
120000
100000
80000
60000
40000
20000
0
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
AGRICULTURE
INDUSTRY
SERVICES
GNP
GDP
YEARS

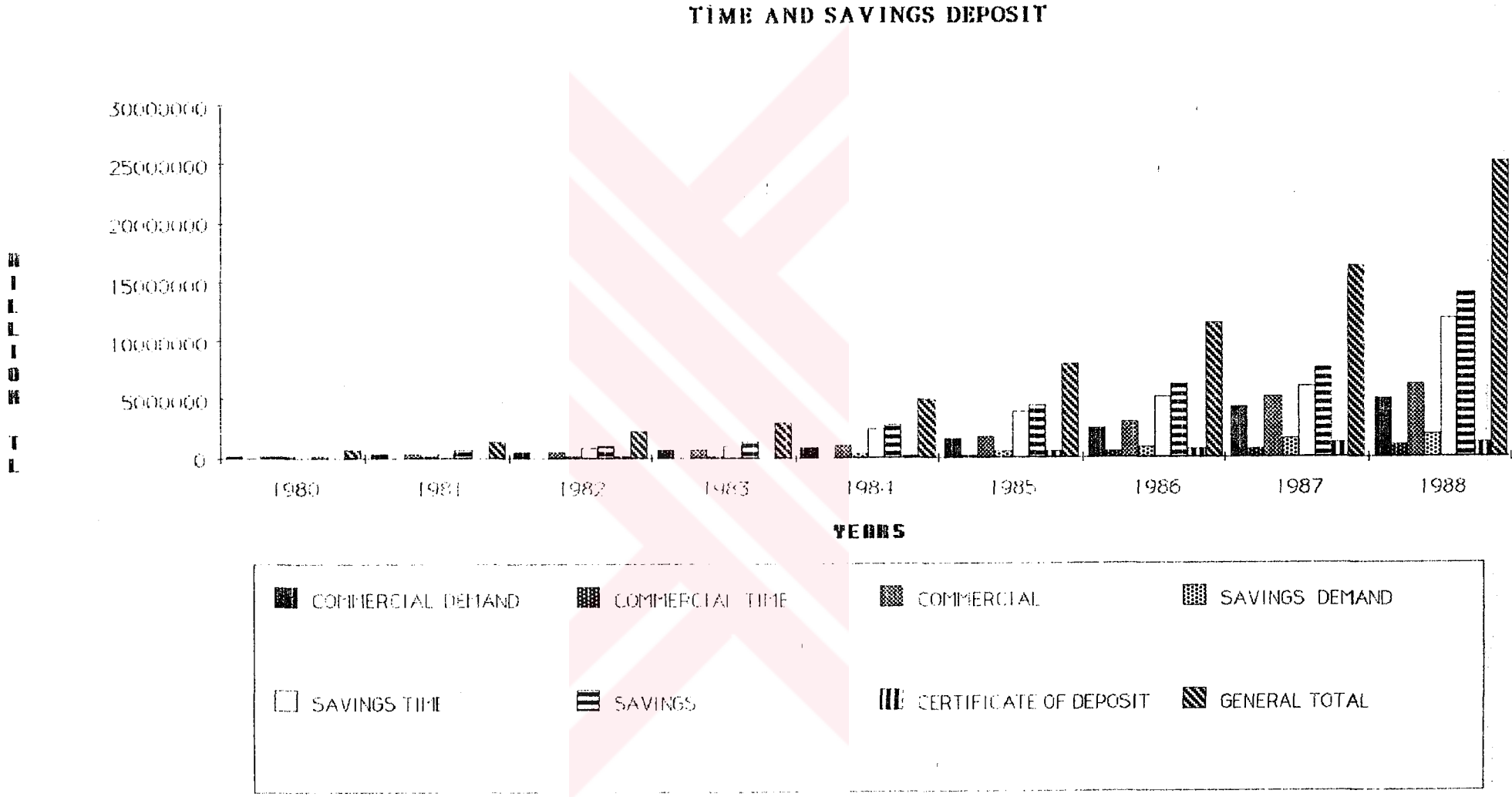
GRAPH - 4/B


TIME AND SAVINGS DEPOSITS
MILLION TL
40000
35000
30000
25000
20000
15000
10000
5000
0
1963
1964
1965
1966
1967
1968
1969
1970
YEARS
COMMERCIAL DEMAND
COMMERCIAL TIME
COMMERCIAL
SAVINGS DEMAND
SAVINGS TIME
SAVINGS
GENERAL TOTAL

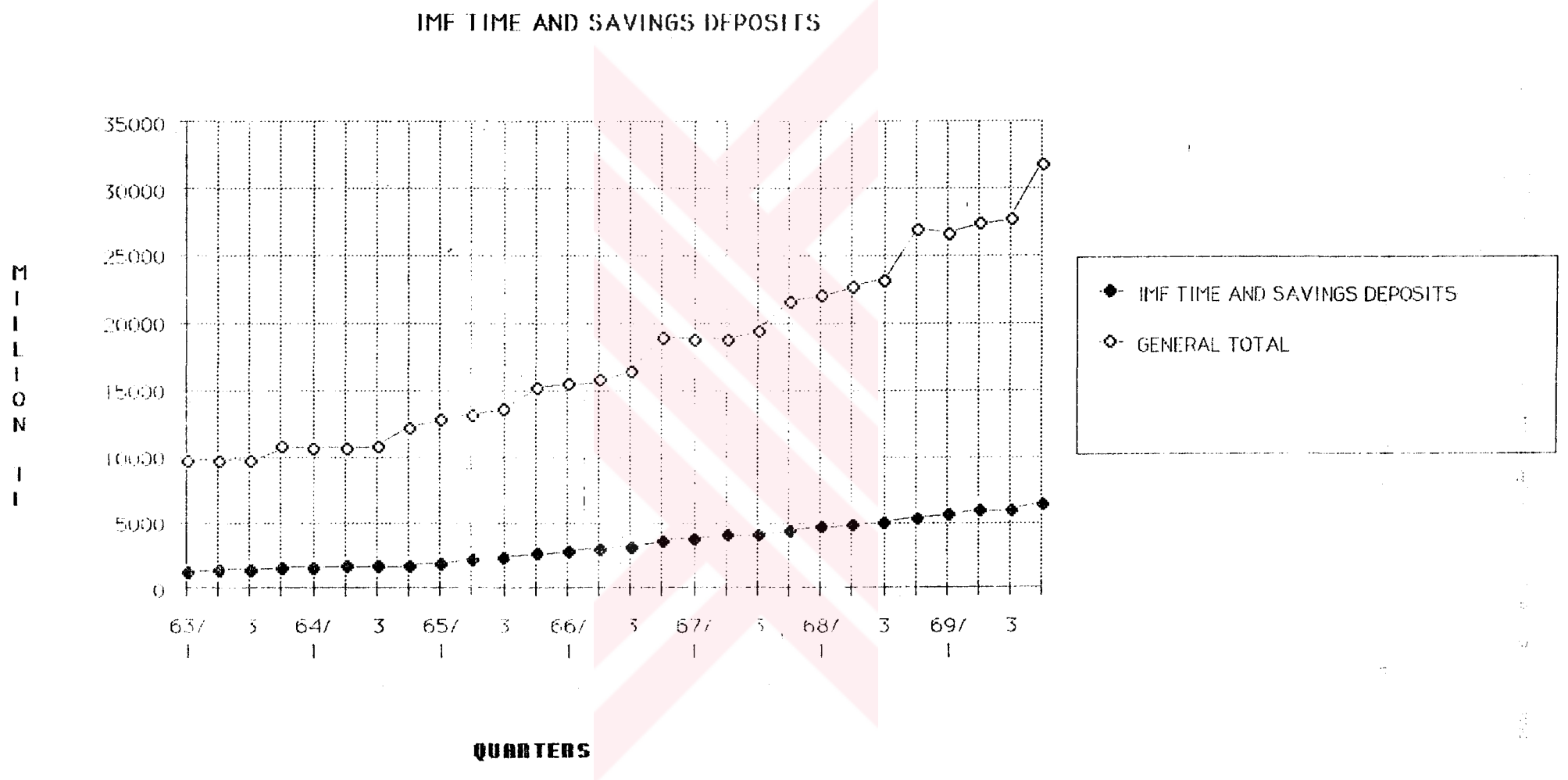
GRAPH - 5/A


TIME AND SAVINGS DEPOSITS
500000
400000
300000
200000
100000
0
MILLION TL
1971
1972
1973
1974
1975
1976
1977
1978
1979
YEARS
COMMERCIAL DEMAND
COMMERCIAL TIME
COMMERCIAL
SAVINGS DEMAND
SAVINGS TIME
SAVINGS
GENERAL TOTAL

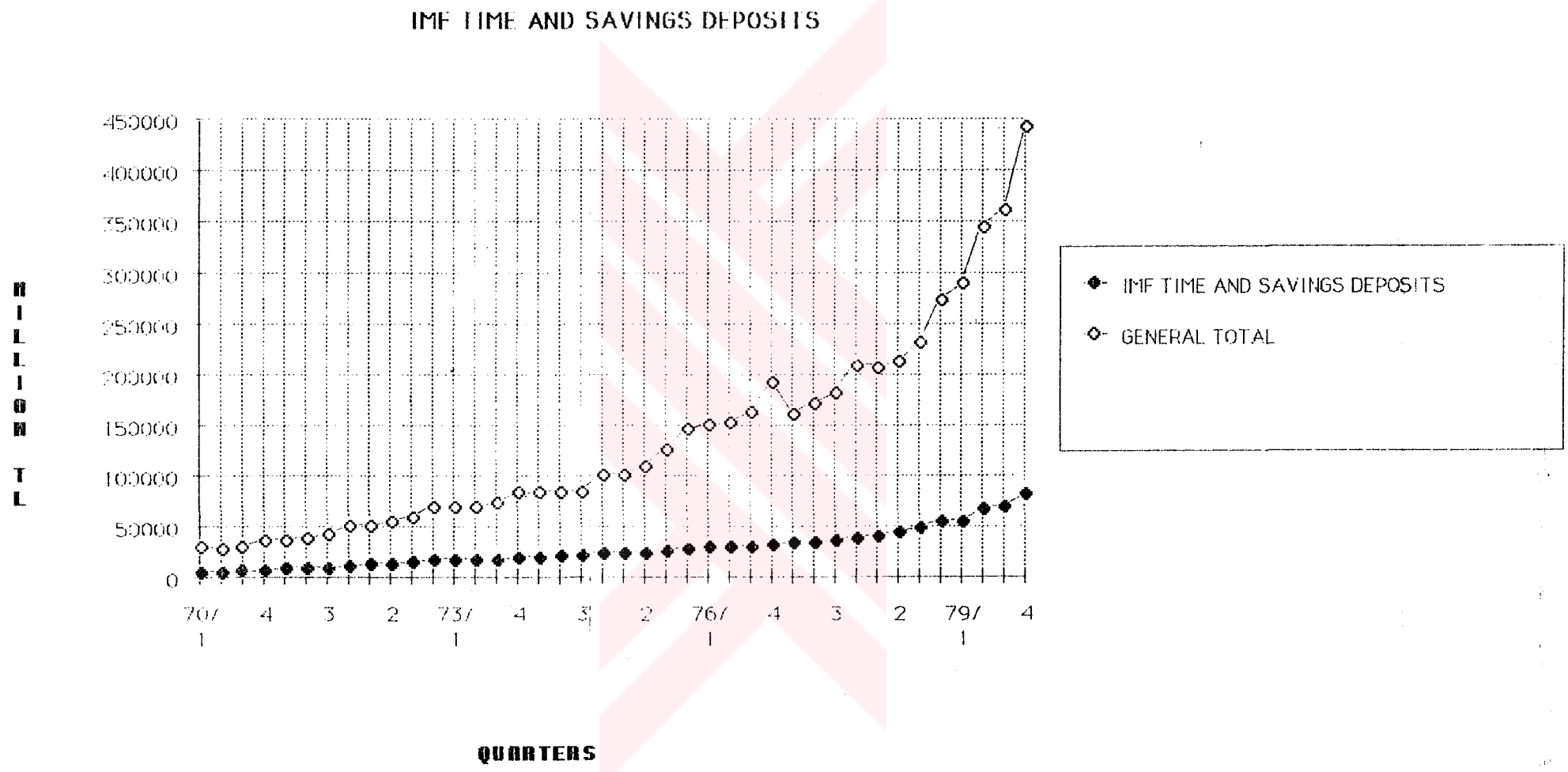
GRAPH - 5/B


TİME AND SAVINGS DEPOSIT
30000000
25000000
20000000
15000000
10000000
5000000
0
1980
1981
1982
1983
1984
1985
1986
1987
1988
YEARS
COMMERCIAL DEMAND
COMMERCIAL TIME
COMMERCIAL
SAVINGS DEMAND
SAVINGS TIME
SAVINGS
CERTIFICATE OF DEPOSIT
GENERAL TOTAL

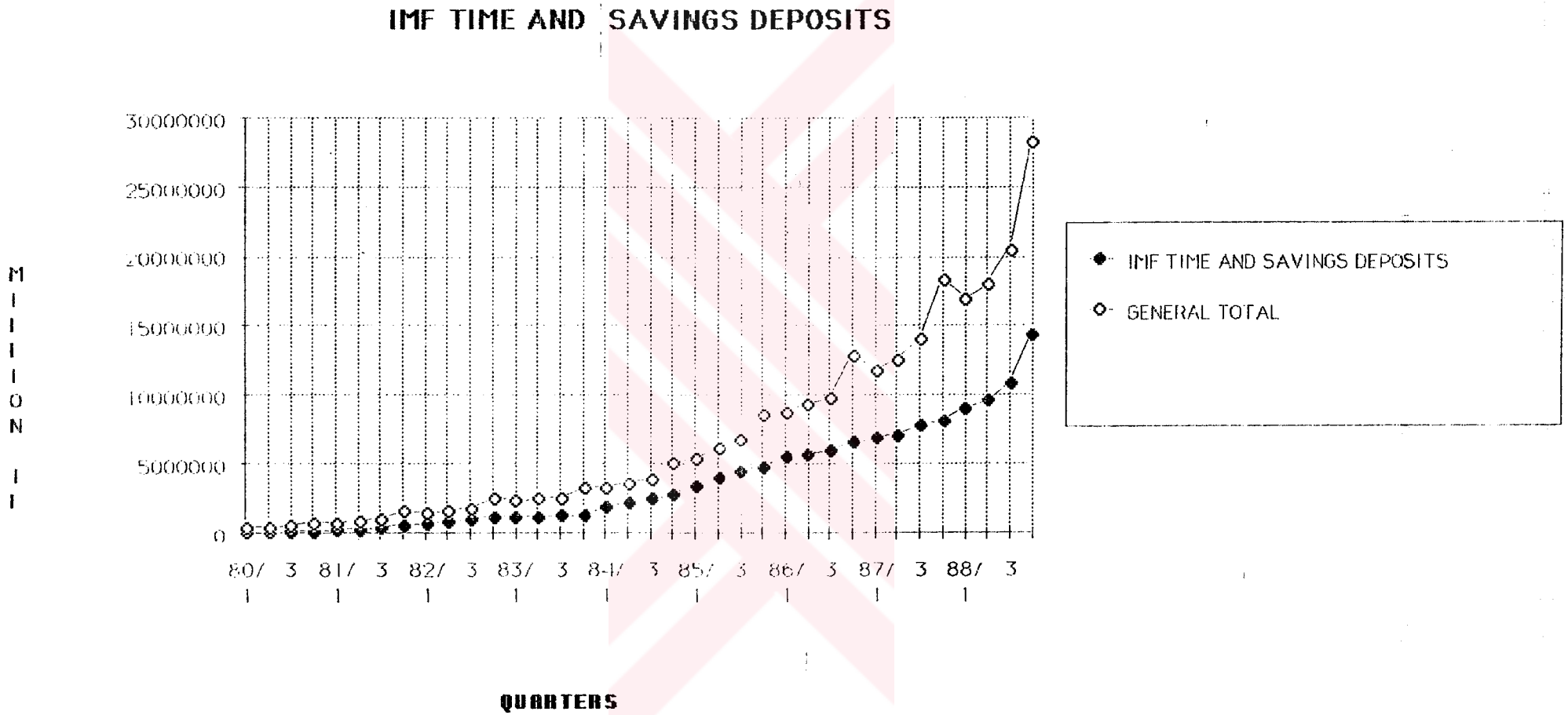
GRAPH - 5/C


IMF TIME AND SAVINGS DEPOSITS
35000
30000
25000
20000
15000
10000
5000
0
MILLION
63/1
3
64/1
3
65/1
3
66/1
3
67/1
3
68/1
3
69/1
3
QUARTERS
IMF TIME AND SAVINGS DEPOSITS
GENERAL TOTAL

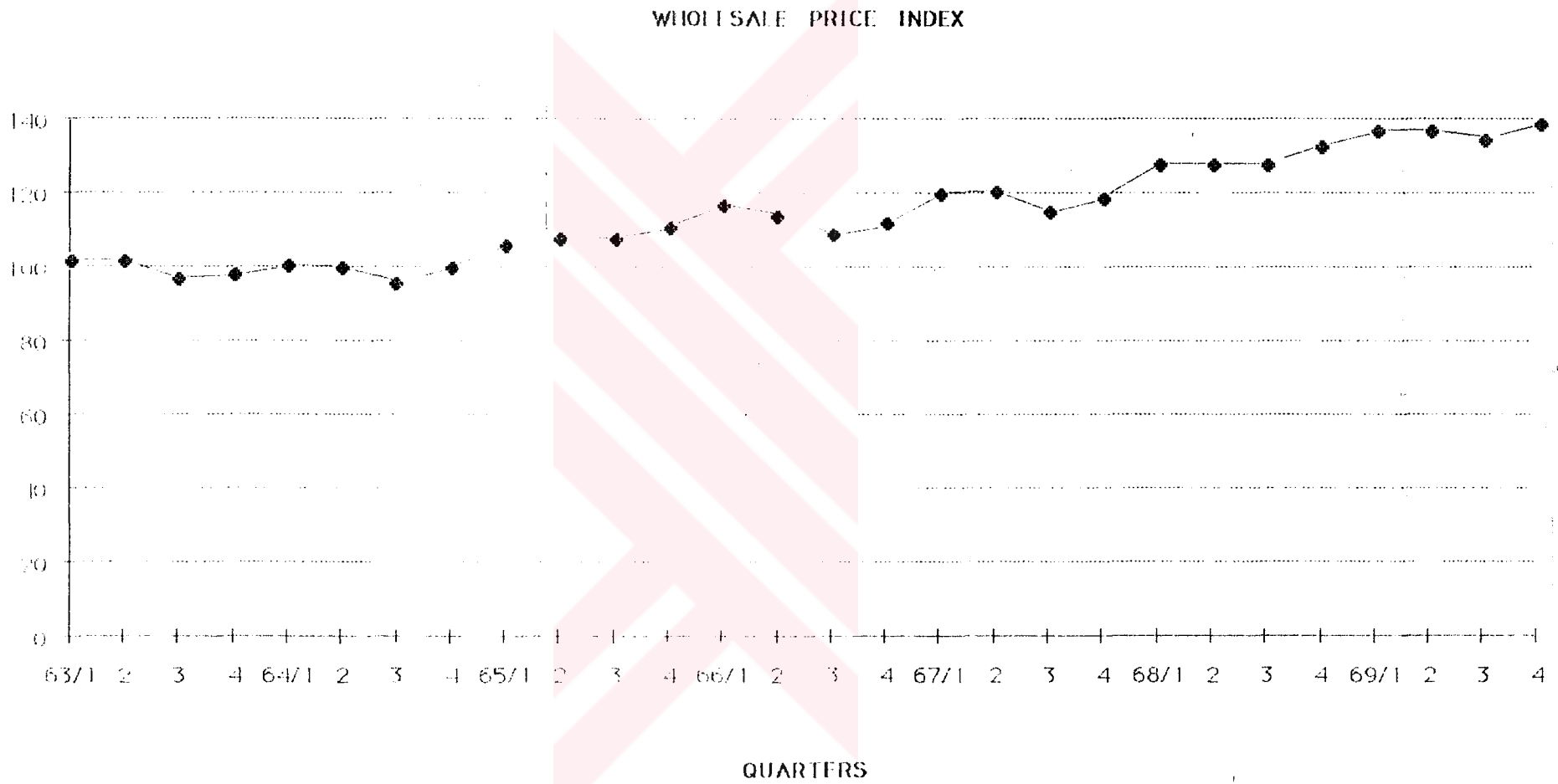
GRAPH – 6/A


IMF TIME AND SAVINGS DEPOSITS
MILLION TL
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
70/ 1
4
3
2
73/ 1
4
3
2
76/ 1
4
3
2
79/ 1
4
QUARTERS
IMF TIME AND SAVINGS DEPOSITS
GENERAL TOTAL

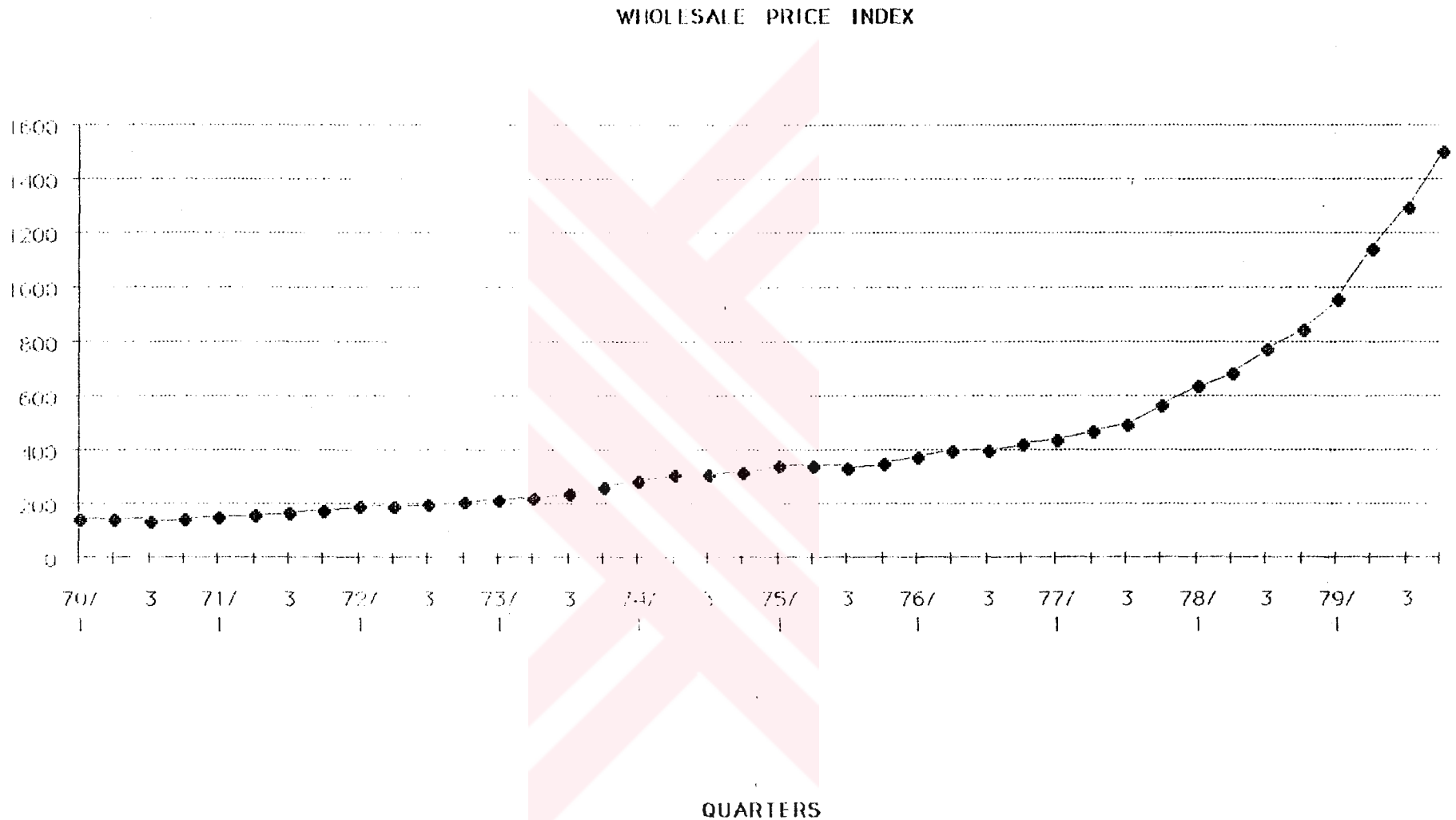
GRAPH - 6/B


IMF TIME AND SAVINGS DEPOSITS
30000000
25000000
20000000
15000000
10000000
5000000
0
M I L L I O N
80/ 1
3
81/ 1
3
82/ 1
3
83/ 1
3
84/ 1
3
85/ 1
3
86/ 1
3
87/ 1
3
88/ 1
3
QUARTERS
IMF TIME AND SAVINGS DEPOSITS
GENERAL TOTAL

GRAPH - 6/C

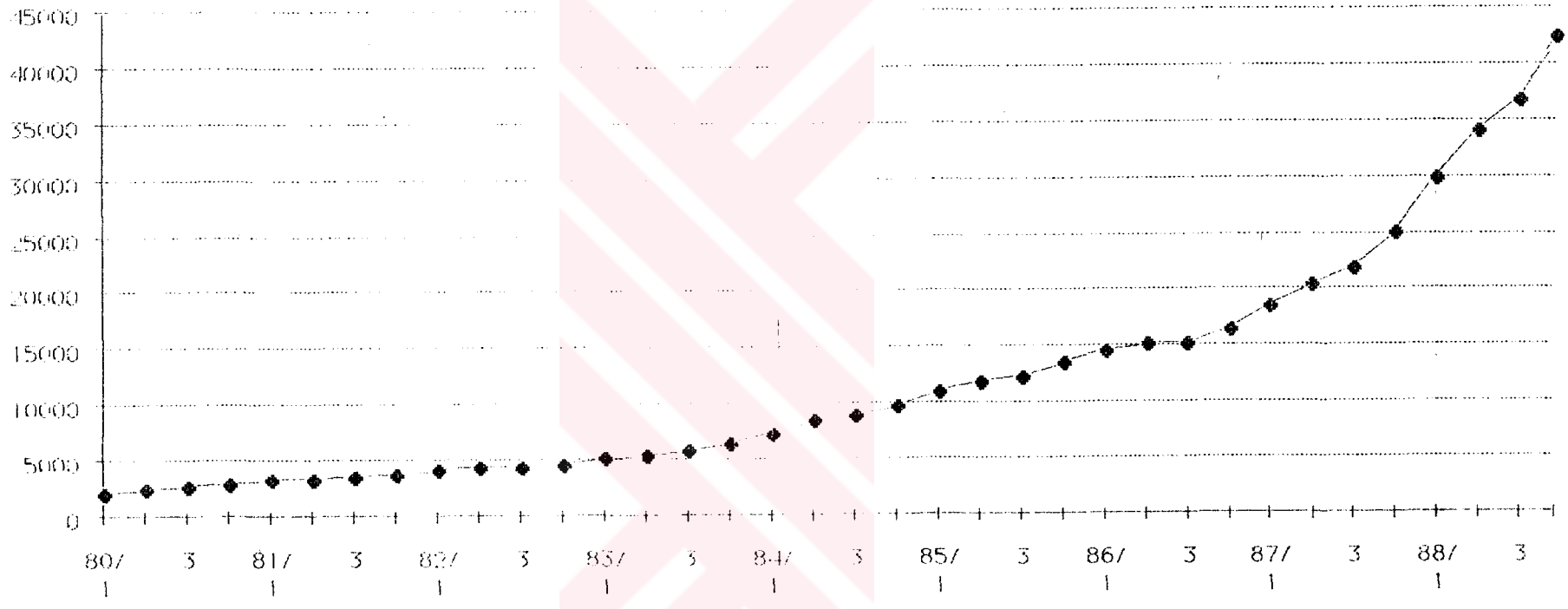

WHOLESALE PRICE INDEX
140
120
100
80
60
40
20
0
63/1 2 3 4 64/1 2 3 4 65/1 2 3 4 66/1 2 3 4 67/1 2 3 4 68/1 2 3 4 69/1 2 3 4
QUARTERS

GRAPH - 7/A


WHOLESALE PRICE INDEX
1600
1400
1200
1000
800
600
400
200
0
70/1
3
71/1
3
72/1
3
73/1
3
74/1
3
75/1
3
76/1
3
77/1
3
78/1
3
79/1
3
QUARTERS

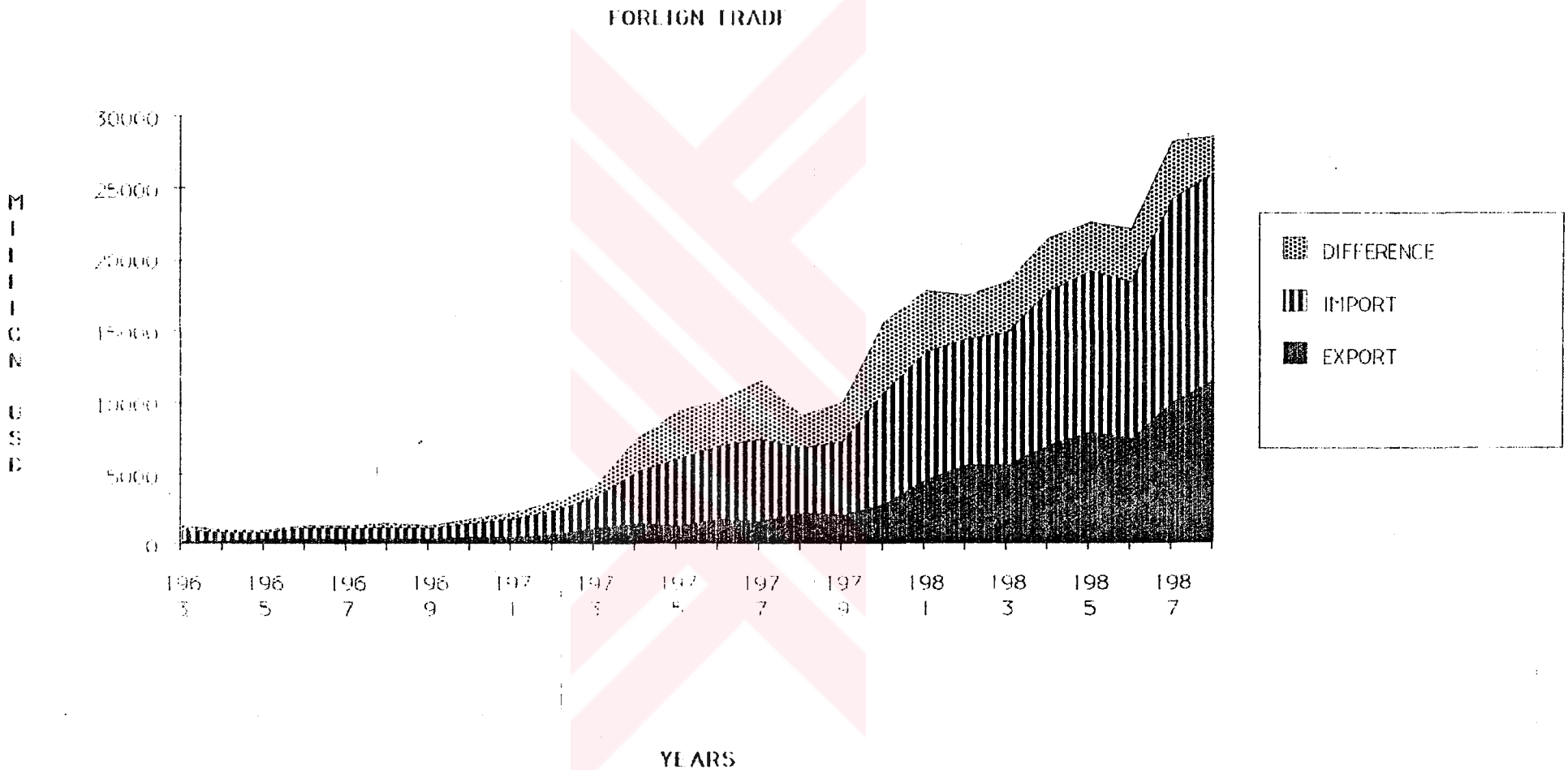
GRAPH – 7/B

WHOLESALE PRICE INDEX

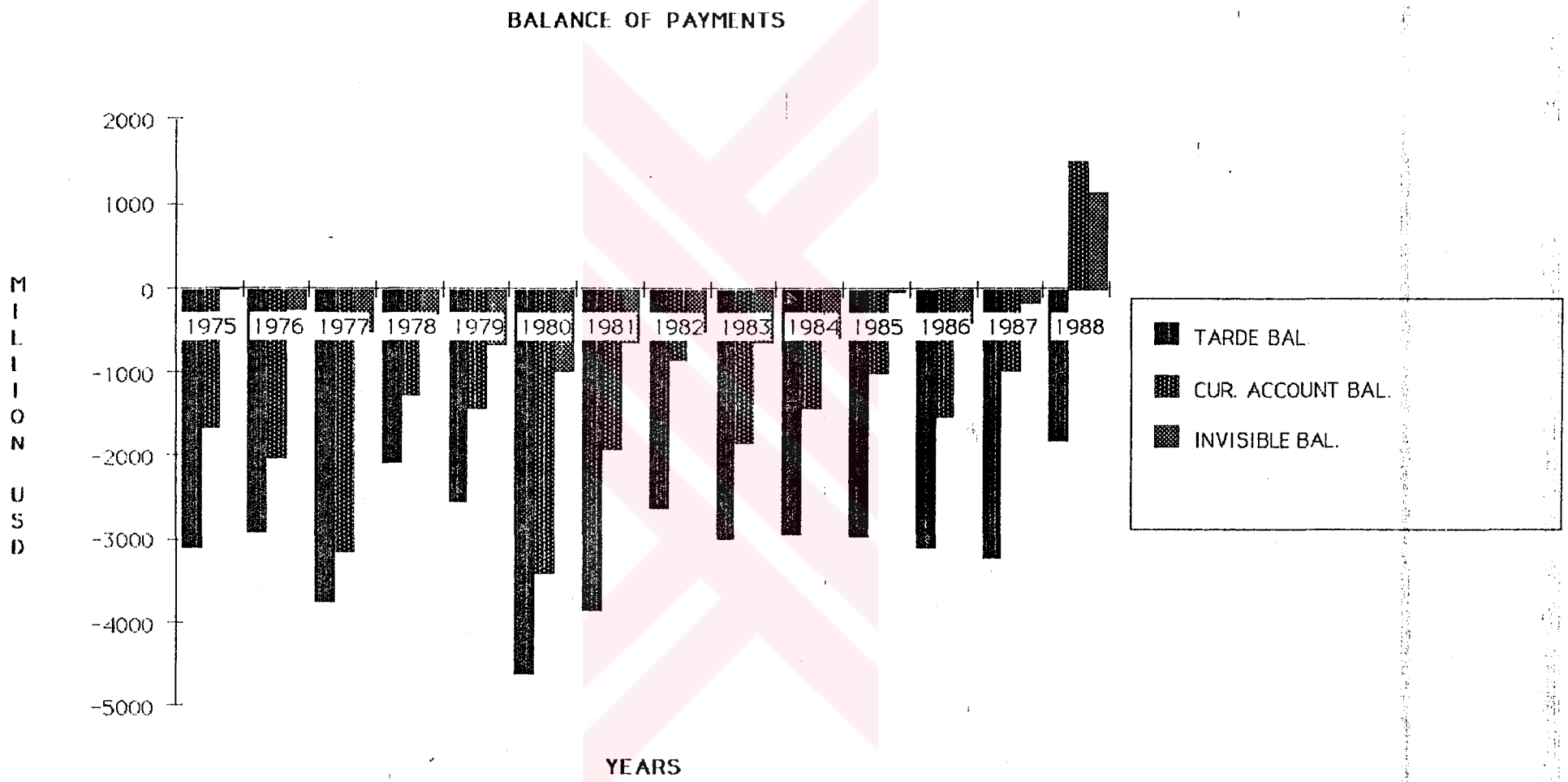


QUARTERS

GRAPH -7/C


FOREIGN TRADE
MILLION USD
30000
25000
20000
15000
10000
5000
0
DIFFERENCE
IMPORT
EXPORT
YEARS

GRAPH - 8


BALANCE OF PAYMENTS
2000
1000
0
-1000
-2000
-3000
-4000
-5000
MILLION USD
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
YEARS
TARDE BAL.
CUR. ACCOUNT BAL.
INVISIBLE BAL.

GRAPH - 9

TABLES

MACRO ECONOMIC INDICATORS, 1963-1988

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Growth in GDP at constant prices %	9.7	4.2	2.4	11.9	3.8	7.6	5.7	5.4	8.9	6.1	4.1	8.8	8.9
Growth in GNP at constant prices %	9.9	4.0	3.2	11.9	4.3	6.6	5.4	5.7	10.2	7.5	5.4	7.4	8.0
Inflation %	4.3	1.2	8.1	4.8	7.6	3.2	7.2	6.7	15.9	18.5	20.0	29.8	10.1
Interest on 6 month deposit	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	6.0
Growth of export	-3.40	11.68	12.90	5.82	6.31	-4.98	8.27	9.50	15.14	30.72	48.81	16.32	-8.55
PR.D.I./GNP	0.82	0.82	0.81	0.81	0.80	0.80	0.79	0.80	0.80	0.79	0.79	0.82	0.79
PR.S./GNP	0.06	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.10	0.09
PU.D.I./GNP	0.18	0.18	0.19	0.19	0.19	0.21	0.21	0.20	0.21	0.21	0.21	0.19	0.21
PU.S./GNP	0.07	0.06	0.07	0.08	0.08	0.09	0.09	0.09	0.08	0.01	0.09	0.07	0.09
DOM.S./GNP	0.13	0.15	0.16	0.17	0.17	0.18	0.19	0.19	0.18	0.18	0.20	0.17	0.18
FOR.S./GNP	0.04	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	-	0.02	0.02	0.05
TOT.S./GNP	0.17	0.17	0.16	0.19	0.19	0.20	0.20	0.20	0.19	0.18	0.18	0.20	0.23
Current Account $													(1,648)
Workers' Remittances		8.10	69.80	115.30	93.00	107.30	140.60	273.10	471.40	740.10	1,183	1,426	1,312

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Growth in GDP at constant prices %	8.8	4.9	4.3	-0.6	-0.5	3.6	4.5	3.9	6.0	4.2	7.3	6.5	4.6
Growth in GNP at constant prices %	7.9	3.9	2.9	-0.4	-1.1	4.1	4.5	3.3	5.9	5.1	8.1	7.4	3.4
Inflation %	15.6	24.1	52.6	63.9	107.2	36.8	25.2	30.6	52.0	40.0	26.7	38.4	68.3
Interest on 6 month deposit	6.0	6.0	9.0	12.0	32.0	50.0	50.0	47.0	52.0	50.0	41.0	38.0	71.0
Growth of export	39.90	10.56	30.52	-1.18	28.70	61.62	22.18	-0.31	24.55	11.55	-6.30	36.65	14.45
PR.D.I./GNP	0.79	0.79	0.81	0.84	0.83	0.81	0.80	0.82	0.84	0.82	0.81	0.83	0.82
PR.S./GNP	0.09	0.11	0.13	0.17	0.11	0.10	0.10	0.80	0.90	0.90	0.12	0.16	0.17
PU.D.I./GNP	0.21	0.21	0.19	0.15	0.18	0.19	0.20	0.19	0.16	0.18	0.19	0.17	0.18
PU.S./GNP	0.08	0.07	0.07	0.03	0.05	0.09	0.09	0.08	0.08	0.09	0.10	0.08	0.09
DOM.S./GNP	0.18	0.17	0.20	0.20	0.16	0.18	0.19	0.16	0.17	0.19	0.22	0.24	0.26
FOR.S./GNP	0.06	0.07	0.03	0.02	0.06	0.03	0.02	0.04	0.03	0.02	0.04	0.02	0.02
TOT.S./GNP	0.23	0.24	0.23	0.22	0.21	0.22	0.20	0.20	0.20	0.21	0.26	0.25	0.24
Current Account $	(2,029)	(3,140)	(1,265)	(1,413)	(3,408)	(1,919)	(835)	(1,828)	(1,407)	(1,013)	(1,528)	(982)	1,503
Workers' Remittances	983	982	983	1,695	2,071	2,490	2,187	1,554	1,881	1,774	1,696	2,102	1,844

TABLE III

obs	GNP	GRY	GRY1	GRY2	GRY4
1963.1	81887.00	0.000000	3.445248	5.920043	9.595156
1963.2	83757.00	2.283635	2.283635	5.807560	10.45433
1963.3	85123.00	3.951787	1.630908	3.951787	10.10578
1963.4	85986.00	5.005679	1.013827	2.661270	8.623385
1964.1	86417.00	5.532013	0.501244	1.520153	5.532013
1964.2	87276.00	6.581020	0.994017	1.500244	4.201440
1964.3	88049.00	7.525004	0.885696	1.888517	3.437379
1964.4	88737.00	8.365186	0.781383	1.674000	3.199358
1965.1	88349.00	7.891363	-0.437247	0.340719	2.235671
1965.2	89028.00	8.720554	0.768543	0.327935	2.007425
1965.3	90708.00	10.77216	1.887047	2.670093	3.019909
1965.4	93387.00	14.04374	2.953433	4.896213	5.240204
1966.1	97937.00	19.60018	4.872199	7.969529	10.85242
1966.2	100668.0	22.93526	2.788527	7.796588	13.07454
1966.3	102570.0	25.25798	1.889379	4.730592	13.07713
1966.4	103643.0	26.56832	1.046115	2.955259	10.98226
1967.1	103524.0	26.42300	-0.114817	0.930097	5.704688
1967.2	104584.0	27.71746	1.023917	0.907924	3.890015
1967.3	105991.0	29.43569	1.345330	2.383022	3.335283
1967.4	107743.0	31.57522	1.652971	3.020539	3.955887
1968.1	109970.0	34.29482	2.066956	3.754092	6.226575
1968.2	111730.0	36.44412	1.600436	3.700472	6.832785
1968.3	113373.0	38.45055	1.470509	3.094480	6.964742
1968.4	114900.0	40.31531	1.346882	2.837197	6.642659
1969.1	116217.0	41.92363	1.146214	2.508534	5.680640
1969.2	117741.0	43.78473	1.311340	2.472585	5.379934
1969.3	119356.0	45.75696	1.371655	2.700982	5.277271
1969.4	121063.0	47.84154	1.430175	2.821447	5.363795
1970.1	122142.0	49.15921	0.891271	2.334194	5.098221
1970.2	123840.0	51.23280	1.390185	2.293847	5.180014
1970.3	126274.0	54.20519	1.965439	3.382948	5.796106
1970.4	129445.0	58.07760	2.511206	4.526002	6.923668
1971.1	133699.0	63.27256	3.286338	5.880070	9.461938
1971.2	136896.0	67.17672	2.391192	5.756113	10.54264
1971.3	139784.0	70.70353	2.109631	4.551268	10.69896
1971.4	142362.0	73.85177	1.844274	3.992812	9.978755
1972.1	144899.0	76.94994	1.782077	3.659217	8.377026
1972.2	147477.0	80.09818	1.779170	3.592953	7.729225
1972.3	149766.0	82.89350	1.552106	3.358891	7.141017
1972.4	151765.0	85.33467	1.334749	2.907572	6.604993
1973.1	153028.0	86.87704	0.832208	2.178064	5.610115
1973.2	155017.0	89.30599	1.299762	2.142787	5.112662
1973.3	157452.0	92.27960	1.570795	2.890974	5.132006
1973.4	160333.0	95.79787	1.829764	3.429301	5.645570
1974.1	163459.0	99.61533	1.949692	3.815131	6.816400
1974.2	166344.0	103.1385	1.764969	3.749072	7.306941
1974.3	169455.0	106.9376	1.870221	3.668198	7.623276
1974.4	172794.0	111.0152	1.970435	3.877507	7.771950
1975.1	176248.0	115.2332	1.998912	4.008734	7.823980
1975.2	179589.0	119.3132	1.895624	3.932428	7.962415
1975.3	183054.0	123.5446	1.929405	3.861604	8.025140
1975.4	186643.0	127.9275	1.960624	3.927857	8.014746

obs	GNP	GRY	GRY1	GRY2	GRY4
1976.1	191118.0	133.3924	2.397625	4.405258	8.436976
1976.2	194796.0	137.8839	1.924466	4.368232	8.467668
1976.3	197554.0	141.2520	1.415840	3.367553	7.921160
1976.4	199464.0	143.5845	0.966824	2.396353	6.869264
1977.1	200725.0	145.1244	0.632194	1.605131	5.026737
1977.2	202629.0	147.4495	0.948561	1.586753	4.021130
1977.3	204310.0	149.5024	0.829595	1.786026	3.419824
1977.4	205768.0	151.2829	0.713621	1.549137	3.160470
1978.1	207826.0	153.7961	1.000156	1.720914	3.537676
1978.2	209288.0	155.5815	0.703473	1.710664	3.286302
1978.3	209914.0	156.3459	0.299109	1.004687	2.742891
1978.4	209703.0	156.0883	-0.100517	0.198291	1.912348
1979.1	208831.0	155.0234	-0.415826	-0.515926	0.483578
1979.2	208621.0	154.7669	-0.100560	-0.515968	-0.318700
1979.3	208238.0	154.2992	-0.183586	-0.283962	-0.798422
1979.4	207682.0	153.6202	-0.267002	-0.450099	-0.963744
1980.1	205611.0	151.0911	-0.997198	-1.261537	-1.541917
1980.2	205059.0	150.4170	-0.268468	-1.262989	-1.707402
1980.3	205845.0	151.3769	0.383304	0.113807	-1.149166
1980.4	207969.0	153.9707	1.031844	1.419104	0.138192
1981.1	211317.0	158.0593	1.609855	2.658311	2.775143
1981.2	213453.0	160.6678	1.010804	2.636931	4.093456
1981.3	215740.0	163.4606	1.071430	2.093064	4.807015
1981.4	218178.0	166.4379	1.130064	2.213602	4.908905
1982.1	221057.0	169.9537	1.319565	2.464541	4.609189
1982.2	223500.0	172.9371	1.105145	2.439293	4.706891
1982.3	225652.0	175.5651	0.962864	2.078649	4.594419
1982.4	227513.0	177.8378	0.824721	1.795526	4.278616
1983.1	228295.0	178.7927	0.343717	1.171273	3.274269
1983.2	230147.0	181.0544	0.811231	1.157736	2.974049
1983.3	232789.0	184.2808	1.147962	1.968506	3.162835
1983.4	236223.0	188.4744	1.475156	2.640052	3.828353
1984.1	240632.0	193.8586	1.866457	3.369145	5.403973
1984.2	244080.0	198.0693	1.432893	3.326094	6.053957
1984.3	247370.0	202.0870	1.347919	2.800126	6.263612
1984.4	250503.0	205.9130	1.266524	2.631514	6.045136
1985.1	252459.0	208.3017	0.780829	2.057242	4.914974
1985.2	255577.0	212.1094	1.235052	2.025525	4.710341
1985.3	259729.0	217.1798	1.624559	2.879676	4.996160
1985.4	264916.0	223.5141	1.997082	3.654085	5.753624
1986.1	271200.0	231.1881	2.372073	4.416526	7.423384
1986.2	276408.0	237.5481	1.920354	4.337979	8.150577
1986.3	281603.0	243.8922	1.879468	3.835914	8.421855
1986.4	286787.0	250.2229	1.840889	3.754957	8.255824
1987.1	293232.0	258.0935	2.247313	4.129572	8.123894
1987.2	298438.0	264.4510	1.775386	4.062597	7.970102
1987.3	302336.0	269.2112	1.306134	3.104709	7.362493
1987.4	304926.0	272.3741	0.856663	2.173986	6.324903
1988.1	306766.0	274.6211	0.603425	1.465257	4.615458
1988.2	309349.0	277.7755	0.842010	1.450516	3.656036
1988.3	311338.0	280.2044	0.642963	1.490387	2.977482
1988.4	312733.0	281.9080	0.448066	1.093910	2.560293

TABLE IV

obs	GNPC	POP	PERCAP	LNPER
1963.1	63910.00	29114.00	2812.633	7.941876
1963.2	66233.00	29294.00	2859.186	7.958293
1963.3	67963.00	29475.00	2887.973	7.968310
1963.4	69101.00	29655.00	2899.545	7.972309
1964.1	69551.00	29840.00	2896.012	7.971090
1964.2	70637.00	30025.00	2906.778	7.974801
1964.3	71876.00	30209.00	2914.661	7.977509
1964.4	73227.00	30394.00	2919.556	7.979187
1965.1	73584.00	30583.00	2888.827	7.968606
1965.2	74917.00	30773.00	2893.056	7.970069
1965.3	77393.00	30962.00	2929.656	7.982640
1965.4	81011.00	31151.00	2997.881	8.005661
1966.1	86456.00	31347.00	3124.286	8.046961
1966.2	90153.00	31543.00	3191.453	8.068232
1966.3	93267.00	31738.00	3231.773	8.080786
1966.4	95800.00	31934.00	3245.538	8.085036
1967.1	97598.00	32138.00	3221.233	8.077519
1967.2	100112.0	32342.00	3233.690	8.081379
1967.3	102744.0	32546.00	3256.652	8.088455
1967.4	105492.0	32750.00	3289.863	8.098601
1968.1	108198.0	32959.00	3336.570	8.112699
1968.2	110946.0	33167.00	3368.710	8.122285
1968.3	113867.0	33376.00	3396.842	8.130602
1968.4	116962.0	33585.00	3421.170	8.137738
1969.1	118995.0	33799.00	3438.475	8.142783
1969.2	122062.0	34013.00	3461.647	8.149500
1969.3	126427.0	34228.00	3487.087	8.156822
1969.4	132088.0	34442.00	3514.982	8.164789
1970.1	136658.0	34662.00	3523.801	8.167296
1970.2	142275.0	34882.00	3550.255	8.174775
1970.3	150584.0	35101.00	3597.447	8.187980
1970.4	161587.0	35321.00	3664.817	8.206533
1971.1	175408.0	35545.00	3761.401	8.232547
1971.2	186590.0	35768.00	3827.332	8.249924
1971.3	198193.0	35992.00	3883.752	8.264557
1971.4	210219.0	36215.00	3931.023	8.276655
1972.1	220351.0	36444.00	3975.936	8.288015
1972.2	232274.0	36674.00	4021.296	8.299359
1972.3	246771.0	36903.00	4058.369	8.308537
1972.4	263841.0	37132.00	4087.176	8.315610
1973.1	278525.0	37367.00	4095.271	8.317588
1973.2	295451.0	37602.00	4122.573	8.324233
1973.3	318292.0	37837.00	4161.324	8.333589
1973.4	347050.0	38072.00	4211.310	8.345529
1974.1	384088.0	38313.00	4266.411	8.358528
1974.2	413479.0	38554.00	4314.572	8.369753
1974.3	441793.0	38795.00	4367.960	8.382052
1974.4	469030.0	39036.00	4426.529	8.395371
1975.1	491516.0	39283.00	4486.623	8.408855
1975.2	518492.0	39531.00	4542.992	8.421341
1975.3	549259.0	39778.00	4601.891	8.434222
1975.4	583817.0	40025.00	4663.161	8.447449

obs	GNPC	POP	PERCAP	LNPER
1976.1	616084.0	40248.00	4748.509	8.465586
1976.2	650513.0	40470.00	4813.343	8.479147
1976.3	692200.0	40693.00	4854.742	8.487711
1976.4	741145.0	40915.00	4875.083	8.491893
1977.1	774293.0	41128.00	4880.495	8.493002
1977.2	822260.0	41342.00	4901.287	8.497253
1977.3	896877.0	41555.00	4916.617	8.500376
1977.4	998145.0	41768.00	4926.451	8.502374
1978.1	1082564.	41986.00	4949.888	8.507120
1978.2	1182280.	42204.00	4958.961	8.508951
1978.3	1340582.	42422.00	4948.234	8.506786
1978.4	1557468.	42640.00	4917.988	8.500655
1979.1	1728392.	42863.00	4872.058	8.491272
1979.2	1939661.	43085.00	4842.080	8.485100
1979.3	2305155.	43308.00	4808.303	8.478100
1979.4	2824874.	43530.00	4771.008	8.470313
1980.1	3608711.	43757.00	4698.928	8.455090
1980.2	4169471.	43984.00	4662.127	8.447228
1980.3	4715534.	44221.00	4654.915	8.445679
1980.4	5246900.	44438.00	4679.981	8.451049
1981.1	5752271.	44714.00	4725.970	8.460828
1981.2	6281246.	44989.00	4744.560	8.464754
1981.3	6818083.	45265.00	4766.155	8.469296
1981.4	7362783.	45540.00	4790.909	8.474476
1982.1	7845637.	45827.00	4823.729	8.481302
1982.2	8386077.	46114.00	4846.684	8.486050
1982.3	9005229.	46401.00	4863.085	8.489429
1982.4	9703096.	46688.00	4873.051	8.491475
1983.1	10059470	46982.00	4859.201	8.488629
1983.2	10734420	47276.00	4868.157	8.490471
1983.3	11889340	47570.00	4893.609	8.495686
1983.4	13524210	47864.00	4935.296	8.504168
1984.1	15542210	48166.00	4995.889	8.516371
1984.2	17218410	48467.00	5036.004	8.524368
1984.3	19212940	48769.00	5072.279	8.531546
1984.4	21525800	49070.00	5105.013	8.537978
1985.1	24031340	49379.00	5112.680	8.539479
1985.2	26362900	49688.00	5143.636	8.545516
1985.3	28955200	49997.00	5194.892	8.555431
1985.4	31808230	50306.00	5266.091	8.569043
1986.1	34168128	50616.00	5357.990	8.586344
1986.2	36980568	50926.00	5427.640	8.599259
1986.3	40715840	51236.00	5496.194	8.611811
1986.4	45373940	51546.00	5563.710	8.624021
1987.1	48862020	51871.00	5653.101	8.639959
1987.2	53411200	52196.00	5717.641	8.651312
1987.3	60664552	52520.00	5756.588	8.658100
1987.4	70622088	52845.00	5770.196	8.660461
1988.1	81381912	53178.00	5768.664	8.660195
1988.2	91438592	53511.00	5781.036	8.662338
1988.3	1.05D+08	53843.00	5782.330	8.662562
1988.4	1.23D+08	54176.00	5772.538	8.660867

TABLE V

obs	TSQ	TDY	WPQ	R
1963.1	1348.000	0.021092	102.0000	4.000000
1963.2	1415.000	0.021364	102.0000	4.000000
1963.3	1460.000	0.021482	97.00000	4.000000
1963.4	1571.000	0.022735	98.00000	4.000000
1964.1	1646.000	0.023666	101.0000	4.000000
1964.2	1691.000	0.023939	100.0000	4.000000
1964.3	1708.000	0.023763	96.00000	4.000000
1964.4	1798.000	0.024554	100.0000	4.000000
1965.1	1995.000	0.027112	106.0000	4.000000
1965.2	2252.000	0.030060	108.0000	4.000000
1965.3	2412.000	0.031166	108.0000	4.000000
1965.4	2651.000	0.032724	111.0000	4.000000
1966.1	2853.000	0.032999	117.0000	4.000000
1966.2	3050.000	0.033831	114.0000	4.000000
1966.3	3219.000	0.034514	109.0000	4.000000
1966.4	3662.000	0.038225	112.0000	4.000000
1967.1	3861.000	0.039560	120.0000	4.000000
1967.2	4063.000	0.040585	121.0000	4.000000
1967.3	4147.000	0.040362	115.0000	4.000000
1967.4	4419.000	0.041889	119.0000	4.000000
1968.1	4657.000	0.043041	128.0000	4.000000
1968.2	4871.000	0.043904	128.0000	4.000000
1968.3	5014.000	0.044034	128.0000	4.000000
1968.4	5430.000	0.046425	133.0000	4.000000
1969.1	5662.000	0.047582	137.0000	4.000000
1969.2	5927.000	0.048557	137.0000	4.000000
1969.3	5963.000	0.047166	135.0000	4.000000
1969.4	6439.000	0.048748	139.0000	4.000000
1970.1	6692.000	0.048969	145.0000	4.000000
1970.2	6771.000	0.047591	144.0000	4.000000
1970.3	7506.000	0.049846	141.0000	4.000000
1970.4	8903.000	0.055097	148.0000	4.000000
1971.1	9909.000	0.056491	159.0000	4.000000
1971.2	10579.00	0.056697	164.0000	4.000000
1971.3	11551.00	0.058282	172.0000	4.000000
1971.4	13071.00	0.062178	181.0000	4.000000
1972.1	14338.00	0.065069	193.0000	4.000000
1972.2	15149.00	0.065220	197.0000	4.000000
1972.3	16215.00	0.065709	202.0000	4.000000
1972.4	18251.00	0.069174	209.0000	4.000000
1973.1	18932.00	0.067972	221.0000	4.000000
1973.2	18940.00	0.064105	230.0000	4.000000
1973.3	19039.00	0.059816	243.0000	4.000000
1973.4	20808.00	0.059957	265.0000	4.000000
1974.1	21668.00	0.056414	291.0000	4.000000
1974.2	22134.00	0.053531	314.0000	4.000000
1974.3	22739.00	0.051470	315.0000	4.000000
1974.4	24978.00	0.053255	323.0000	6.000000
1975.1	25444.00	0.051766	345.0000	6.000000
1975.2	26053.00	0.050248	345.0000	6.000000
1975.3	27364.00	0.049320	339.0000	6.000000
1975.4	30375.00	0.052028	351.0000	6.000000

obs	TSQ	TDY	WPQ	R
1976.1	31008.00	0.050331	376.0000	6.000000
1976.2	31232.00	0.048011	402.0000	6.000000
1976.3	31723.00	0.045829	400.0000	6.000000
1976.4	34194.00	0.046137	423.0000	6.000000
1977.1	35430.00	0.045758	445.0000	6.000000
1977.2	35762.00	0.043492	471.0000	6.000000
1977.3	37093.00	0.041358	495.0000	6.000000
1977.4	40281.00	0.040356	566.0000	6.000000
1978.1	42510.00	0.039268	637.0000	6.000000
1978.2	46737.00	0.039531	690.0000	9.000000
1978.3	50276.00	0.037503	777.0000	9.000000
1978.4	56600.00	0.036341	847.0000	9.000000
1979.1	46809.00	0.027082	956.0000	9.000000
1979.2	68894.00	0.035519	1143.000	12.00000
1979.3	71992.00	0.031231	1295.000	12.00000
1979.4	84346.00	0.029858	1498.000	12.00000
1980.1	88788.00	0.024604	2092.000	12.00000
1980.2	91585.00	0.021966	2479.000	12.00000
1980.3	125112.0	0.026532	2608.000	15.00000
1980.4	181866.0	0.034662	2975.000	15.00000
1981.1	259877.0	0.045178	3250.000	50.00000
1981.2	342525.0	0.054531	3348.000	50.00000
1981.3	476691.0	0.069916	3578.000	50.00000
1981.4	672727.0	0.091369	3792.000	50.00000
1982.1	807367.0	0.102907	4098.000	50.00000
1982.2	929112.0	0.110792	4353.000	50.00000
1982.3	1034348.	0.114861	4464.000	50.00000
1982.4	1217429.	0.125468	4640.000	50.00000
1983.1	1210717.	0.120356	5114.000	50.00000
1983.2	1288392.	0.120024	5475.000	50.00000
1983.3	1311917.	0.110344	5857.000	50.00000
1983.4	1353314.	0.100066	6450.000	47.00000
1984.1	1964820.	0.126418	7371.000	47.00000
1984.2	2250459.	0.130701	8466.000	48.00000
1984.3	2516040.	0.130956	9061.000	52.00000
1984.4	2926358.	0.135946	9815.000	52.00000
1985.1	3533082.	0.147020	10999.00	52.00000
1985.2	4052167.	0.153707	11869.00	52.00000
1985.3	4512128.	0.155831	12304.00	50.00000
1985.4	4936792.	0.155205	13513.00	50.00000
1986.1	5591930.	0.163659	14701.00	48.00000
1986.2	5841172.	0.157953	15261.00	45.00000
1986.3	6063152.	0.148914	15211.00	45.00000
1986.4	6627344.	0.146061	16507.00	39.00000
1987.1	7007079.	0.143405	18688.00	38.00000
1987.2	7203275.	0.134864	20496.00	38.00000
1987.3	7946205.	0.130986	22014.00	38.00000
1987.4	8227502.	0.116500	25083.00	38.00000
1988.1	9140800.	0.112320	29851.00	52.00000
1988.2	9669500.	0.105738	34103.00	52.00000
1988.3	10913400	0.103937	36878.00	51.00000
1988.4	14487000	0.117780	42514.00	71.00000

TABLE VI

	A	B	C	D	E	F	G	H	I
1	YEARS	COMMERCIAL DEMAND	COMMERCIAL TIME	COMMERCIAL	SAVINGS DEMAND	SAVINGS TIME	SAVINGS	CERTIFICATE OF DEPOSIT	GENERAL TOTAL
2	1963	1805	210	2015	5242	1361	6603		10516
3	1964	2207	215	2422	5934	1583	7517		12010
4	1965	2555	358	2913	7528	2293	9821		14782
5	1966	3181	459	3640	9410	3203	12613		18486
6	1967	3562	465	4027	10390	3954	14344		21015
7	1968	4926	517	5443	12300	4913	17713		26115
8	1969	6014	591	6605	15018	5848	20866		30759
9	1970	6591	679	7270	16819	8224	25043		36171
10	1971	8704	758	9462	20916	12313	33229		48350
11	1972	11901	1077	12978	24929	17174	42103		62619
12	1973	16030	186	16216	33056	20622	53678		79971
13	1974	22631	205	22836	39831	24773	64604		98447
14	1975	32095	279	32374	52770	30096	82866		130428
15	1976	44977	380	45357	63595	33814	97409		158448
16	1977	62953	339	63292	82399	34064	116463		205803
17	1978	86033	338	86371	103268	44076	147344		269058
18	1979	154480	698	155178	142643	82610	225253		432386
19	1980	286019	935	286954	193505	154809	348314	22195	745483
20	1981	458468	2884	461352	220892	511715	732607	150549	1509460
21	1982	651262	6295	657557	270199	948380	1218579	257560	2357425
22	1983	806061	11191	817252	262047	1222439	1484486	113835	3083159
23	1984	1042635	116624	1159259	442700	2535949	2978649	273756	4980801
24	1985	1596640	302757	1899397	580778	3967128	4547906	673299	7998912
25	1986	2618256	562726	3180982	967422	5277296	6244718	787322	11533821
26	1987	4332666	835455	5168121	1648439	6024717	7673156	1367330	16448100
27	1988	5045700	1185900	6231600	2071900	12005700	14077600	1251100	25238900
28									
29		*SOURCE:*	THE CENTRAL BANK OF THE REPUBLIC OF TURKEY						

TABLE VII

obs	R1	R2	R4	RREAL1	RREAL2	RREAL4
1963.1	-0.021176	-0.051765	-0.000784	0.040000	0.093608	0.050297
1963.2	0.040000	-0.021176	-0.010980	0.093608	0.082449	0.060800
1963.3	0.093608	0.093608	-0.002887	0.029388	-0.001188	0.050833
1963.4	0.029388	0.082449	0.018776	0.009109	0.019200	0.019200
1964.1	0.009109	-0.001188	0.050297	0.050400	0.094167	-0.009057
1964.2	0.050400	0.019200	0.060800	0.083333	0.040000	-0.037037
1964.3	0.083333	0.094167	0.050833	-0.001600	-0.058113	-0.075556
1964.4	-0.001600	0.040000	0.019200	-0.018868	-0.037037	-0.063063
1965.1	-0.018868	-0.058113	-0.009057	0.020741	0.020741	-0.057778
1965.2	0.020741	-0.037037	-0.037037	0.040000	0.011892	-0.014737
1965.3	0.040000	0.020741	-0.075556	0.011892	-0.040000	0.030459
1965.4	0.011892	0.011892	-0.063063	-0.013333	0.012632	0.030714
1966.1	-0.013333	-0.040000	-0.057778	0.067368	0.116330	0.014000
1966.2	0.067368	0.012632	-0.014737	0.087706	0.058571	-0.020165
1966.3	0.087706	0.116330	0.030459	0.012143	-0.055333	-0.014261
1966.4	0.012143	0.058571	0.030714	-0.029333	-0.037355	-0.021176
1967.1	-0.029333	-0.055333	0.014000	0.031405	0.085217	-0.025000
1967.2	0.031405	-0.037355	-0.020165	0.094261	0.057479	-0.016875
1967.3	0.094261	0.085217	-0.014261	0.005042	-0.065625	-0.065625
1967.4	0.005042	0.057479	-0.021176	-0.033125	-0.033125	-0.069474
1968.1	-0.033125	-0.065625	-0.025000	0.040000	0.040000	-0.028321
1968.2	0.040000	-0.033125	-0.016875	0.040000	0.000902	-0.028321
1968.3	0.040000	0.040000	-0.065625	0.000902	-0.028321	-0.013926
1968.4	0.000902	0.000902	-0.069474	0.009635	0.009635	-0.004892
1969.1	0.009635	-0.028321	-0.028321	0.040000	0.055407	-0.017379
1969.2	0.040000	0.009635	-0.028321	0.055407	0.025036	-0.010556
1969.3	0.055407	0.055407	-0.013926	0.010072	-0.031724	-0.004255
1969.4	0.010072	0.025036	-0.004892	-0.003034	0.003889	-0.023243
1970.1	-0.003034	-0.031724	-0.017379	0.047222	0.069504	-0.051572
1970.2	0.047222	0.003889	-0.010556	0.062128	0.011892	-0.086829
1970.3	0.062128	0.069504	-0.004255	-0.009189	-0.077736	-0.147442
1970.4	-0.009189	0.011892	-0.023243	-0.031950	-0.061463	-0.149613
1971.1	-0.031950	-0.077736	-0.051572	0.008293	-0.038605	-0.143212
1971.2	0.008293	-0.061463	-0.086829	-0.008372	-0.057680	-0.134213
1971.3	-0.008372	-0.038605	-0.147442	-0.011713	-0.073161	-0.114455
1971.4	-0.011713	-0.057680	-0.149613	-0.024663	-0.044467	-0.099330
1972.1	-0.024663	-0.073161	-0.143212	0.018883	-0.006337	-0.091765
1972.2	0.018883	-0.044467	-0.134213	0.014257	-0.019713	-0.109217
1972.3	0.014257	-0.006337	-0.114455	0.005167	-0.049412	-0.135473
1972.4	0.005167	-0.019713	-0.099330	-0.016471	-0.054957	-0.179774
1973.1	-0.016471	-0.049412	-0.091765	-0.000696	-0.054156	-0.210172
1973.2	-0.000696	-0.054957	-0.109217	-0.015638	-0.097358	-0.238217
1973.3	-0.015638	-0.054156	-0.135473	-0.046340	-0.131546	-0.197714
1973.4	-0.046340	-0.097358	-0.179774	-0.052921	-0.122293	-0.146749
1974.1	-0.052921	-0.131546	-0.210172	-0.036178	-0.039238	-0.122783
1974.2	-0.036178	-0.122293	-0.238217	0.036698	0.011022	-0.053449
1974.3	0.036698	-0.039238	-0.197714	0.014241	-0.050435	-0.033628
1974.4	0.033746	0.030464	-0.130341	-0.007594	-0.007594	-0.024558
1975.1	-0.007594	-0.032174	-0.105913	0.060000	0.078761	-0.027394
1975.2	0.060000	-0.007594	-0.035246	0.078761	0.041880	-0.090299
1975.3	0.078761	0.078761	-0.015044	0.023761	-0.044308	-0.101650
1975.4	0.023761	0.041880	-0.024558	-0.010479	-0.074478	-0.120425

obs	R1	R2	R4	RREAL1	RREAL2	RREAL4
1976.1	-0.010479	-0.044308	-0.027394	-0.008557	-0.003600	-0.104360
1976.2	-0.008557	-0.074478	-0.090299	0.065300	0.007376	-0.095287
1976.3	0.065300	-0.003600	-0.101650	0.002364	-0.047191	-0.143434
1976.4	0.002364	0.007376	-0.120425	0.007596	-0.048026	-0.207809
1977.1	0.007596	-0.047191	-0.104360	0.001486	-0.047071	-0.259498
1977.2	0.001486	-0.048026	-0.095287	0.008606	-0.117915	-0.276435
1977.3	0.008606	-0.047071	-0.143434	-0.072968	-0.176295	-0.324710
1977.4	-0.072968	-0.117915	-0.207809	-0.058148	-0.130493	-0.291665
1978.1	-0.058148	-0.176295	-0.259498	-0.021420	-0.130991	-0.293703
1978.2	0.006275	-0.105884	-0.255957	-0.032046	-0.112043	-0.341995
1978.3	-0.032046	-0.106396	-0.305598	-8.26D-05	-0.114090	-0.346000
1978.4	-8.26D-05	-0.112043	-0.271618	-0.034278	-0.192275	-0.383692
1979.1	-0.034278	-0.114090	-0.273713	-0.088329	-0.195336	-0.501893
1979.2	-0.063237	-0.170044	-0.323884	-0.011459	-0.145421	-0.483598
1979.3	-0.011459	-0.173189	-0.328000	-0.031776	-0.306692	-0.443865
1979.4	-0.031776	-0.145421	-0.366729	-0.198012	-0.323211	-0.436047
1980.1	-0.198012	-0.306692	-0.488184	-0.054845	-0.101595	-0.279065
1980.2	-0.054845	-0.323211	-0.483598	0.064601	-0.066729	-0.170705
1980.3	0.093117	-0.077531	-0.428969	0.008134	-0.077169	-0.161766
1980.4	0.008134	-0.041731	-0.420941	0.052692	0.021879	-0.097772
1981.1	0.373077	0.203692	-0.034462	0.456093	0.362493	0.189605
1981.2	0.456093	0.332885	0.110663	0.403577	0.324367	0.153687
1981.3	0.403577	0.362493	0.093348	0.415348	0.309663	0.202285
1981.4	0.415348	0.324367	0.176820	0.387994	0.306685	0.225862
1982.1	0.387994	0.309663	0.189605	0.412130	0.377016	0.201994
1982.2	0.412130	0.306685	0.153687	0.462702	0.407220	0.192603
1982.3	0.462702	0.377016	0.202285	0.443103	0.309347	0.143247
1982.4	0.443103	0.407220	0.225862	0.360970	0.271233	0.079070
1983.1	0.360970	0.309347	0.201994	0.401096	0.309715	0.040700
1983.2	0.401096	0.271233	0.192603	0.402168	0.273256	-0.029943
1983.3	0.402168	0.309715	0.143247	0.362093	0.191901	-0.030405
1983.4	0.334851	0.247791	0.057488	0.286325	0.119950	-0.033979
1984.1	0.286325	0.168063	0.019886	0.279869	0.195825	-0.014877
1984.2	0.288576	0.127569	-0.042877	0.382814	0.276585	0.055664
1984.3	0.420188	0.236499	-0.017477	0.403232	0.252179	0.119369
1984.4	0.403232	0.311087	-0.001121	0.356378	0.256955	0.104033
1985.1	0.356378	0.252179	0.018631	0.408584	0.358784	0.137234
1985.2	0.408584	0.256955	0.084196	0.466261	0.335076	0.182156
1985.3	0.446968	0.340905	0.104641	0.365796	0.255425	0.213333
1985.4	0.365796	0.317509	0.089506	0.378784	0.328189	0.227934
1986.1	0.360400	0.238686	0.107307	0.425692	0.430378	0.164249
1986.2	0.396793	0.283917	0.127714	0.454766	0.340549	0.079647
1986.3	0.454766	0.401384	0.172888	0.336157	0.180220	0.001906
1986.4	0.280868	0.285078	0.137885	0.227779	0.119474	-0.085248
1987.1	0.218946	0.123244	0.085583	0.258267	0.171502	-0.136061
1987.2	0.258267	0.111420	0.027526	0.284841	0.127635	-0.170616
1987.3	0.284841	0.171502	-0.046462	0.211152	0.017699	-0.176221
1987.4	0.211152	0.127635	-0.091829	0.159577	0.015000	-0.185808
1988.1	0.277216	0.120943	-0.048415	0.330485	0.230368	-0.090766
1988.2	0.330485	0.117971	-0.086476	0.405623	0.219282	-0.080048
1988.3	0.396375	0.222274	-0.098619	0.309822	0.115880	-0.137190
1988.4	0.483309	0.371692	0.008890	0.456805	0.290201	0.005782

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APPENDIX FOR CHAPTER V

Time and Saving Deposits (TSQ/GNPC) for Turkey over the period 1963.1 1988.4

TABLE VIII

	C	GRY	R1	R2	RREAL1	RREAL2	LNPER	TDY(-1)	TDY(-2)	TDY(-4)	R2	F
1	-0.168 (0.086)	-7.2 D-05 (3.3 D-05)	0.033 (0.005)				0.022 (0.011)	0.915 (0.024)			0.99	1711
2	-0.178 (0.084)	-7.5 D-05 (3.3 D-05)			0.033 (0.005)		0.023 (0.010)	0.914 (0.023)			0.99	1786
3	-0.395 (0.126)	-0.0002 (4.98 D-05)	0.062 (0.007)				0.050 (0.016)		0.857 (0.033)		0.97	808
4	-0.450 (0.116)	-0.0002 (4.6 D-05)			0.066 (0.006)		0.057 (0.014)		0.861 (0.030)		0.97	975
5	-0.356 (0.112)	-0.0001 (4.3 D-05)				0.059 (0.005)	0.045 (0.014)		0.847 (0.030)		0.97	983
6	-0.856 (0.180)	-0.0004 (7.4 D-05)	0.114 (0.009)				0.108 (0.022)			0.797 (0.045)	0.94	429
7	-0.580 (0.184)	-0.0002 (7.2 D-05)		0.100 (0.009)			0.074 (0.023)			0.739 (0.048)	0.94	372
8	-0.864 (0.179)	-0.0004 (7.3 D-05)			0.113 (0.009)		0.109 (0.022)			0.805 (0.044)	0.94	437
9	-0.660 (0.177)	-0.0002 (6.9 D-05)				0.099 (0.008)	0.084 (0.022)			0.773 (0.045)	0.94	414

MPL 1963.1 - 1988.4
04 Observations
S // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.1680679	0.0861293	-1.9513448	0.054
GRY	-7.231D-05	3.345D-05	-2.1618817	0.034
R1	0.0325491	0.0050278	6.4738745	0.000
LNPER	0.0215018	0.0107171	2.0063043	0.048
TDY(-1)	0.9150520	0.0235868	38.795050	0.000

t-squared	0.985739	Mean of dependent var	0.067066
Adjusted R-squared	0.985163	S.D. of dependent var	0.041060
S.E. of regression	0.005001	Sum of squared resid	0.002476
Durbin-Watson stat	1.815167	F-statistic	1710.748
Log likelihood	405.9875		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.1779826	0.0842493	-2.1125706	0.038
GRY	-7.523D-05	3.264D-05	-2.3048799	0.024
RREAL1	0.0332893	0.0048026	6.9315431	0.000
LNPER	0.0227305	0.0104817	2.1685897	0.033
TDY(-1)	0.9144158	0.0229216	39.893236	0.000

t-squared	0.986334	Mean of dependent var	0.067066
Adjusted R-squared	0.985782	S.D. of dependent var	0.041060
S.E. of regression	0.004896	Sum of squared resid	0.002373
Durbin-Watson stat	1.902108	F-statistic	1786.311
Log likelihood	408.2037		

MPL 1963.1 - 1988.4
04 Observations
S // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.3954449	0.1263449	-3.1298838	0.002
GRY	-0.0001705	4.983D-05	-3.4209623	0.001
R1	0.0619242	0.0068657	9.0193343	0.000
LNPER	0.0502778	0.0157169	3.1989704	0.002
TDY(-2)	0.8570705	0.0330927	25.899105	0.000

t-squared	0.970282	Mean of dependent var	0.067066
Adjusted R-squared	0.969082	S.D. of dependent var	0.041060
S.E. of regression	0.007220	Sum of squared resid	0.005160
Durbin-Watson stat	1.280369	F-statistic	808.0909
Log likelihood	367.8088		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.4503268	0.1156371	-3.8943106	0.000
GRY	-0.0001933	4.561D-05	-4.2393206	0.000
RREAL1	0.0659120	0.0060819	10.837378	0.000
LNPER	0.0571011	0.0143826	3.9701449	0.000
TDY(-2)	0.8612749	0.0298236	28.878969	0.000

R-squared	0.975239	Mean of dependent var	0.067066
Adjusted R-squared	0.974238	S.D. of dependent var	0.041060
S.E. of regression	0.006590	Sum of squared resid	0.004300
Durbin-Watson stat	1.209358	F-statistic	974.8008
Log likelihood	377.2969		

IPL 1963.1 - 1988.4
4 Observations
// Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.3564746	0.1116540	-3.1926712	0.002
GRY	-0.0001167	4.257D-05	-2.7404063	0.008
RREAL2	0.0594209	0.0054415	10.919875	0.000
LNPER	0.0454196	0.0138822	3.2717870	0.002
TDY(-2)	0.8472401	0.0300851	28.161472	0.000

-squared	0.975443	Mean of dependent var	0.067066
ljusted R-squared	0.974450	S.D. of dependent var	0.041060
.E. of regression	0.006563	Sum of squared resid	0.004264
irbin-Watson stat	1.023959	F-statistic	983.0896
og likelihood	377.7263		

MPL 1963.1 - 1988.4
04 Observations
S // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8555585	0.1804444	-4.7413968	0.000
GRY	-0.0003773	7.385D-05	-5.1083438	0.000
R1	0.1143455	0.0088071	12.983288	0.000
LNPER	0.1082606	0.0224410	4.8242362	0.000
TDY(-4)	0.7974641	0.0445836	17.886925	0.000

t-squared	0.945397	Mean of dependent var	0.067066
djusted R-squared	0.943191	S.D. of dependent var	0.041060
.E. of regression	0.009787	Sum of squared resid	0.009482
urbin-Watson stat	0.900878	F-statistic	428.5217
og likelihood	336.1745		

MPL 1963.1 - 1988.4
04 Observations
S // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5799973	0.1838948	-3.1539623	0.002
GRY	-0.0001963	7.227D-05	-2.7164743	0.008
R2	0.0996602	0.0085617	11.640196	0.000
LNPER	0.0740377	0.0228656	3.2379515	0.002
TDY(-4)	0.7393331	0.0480625	15.382758	0.000

R-squared	0.937696	Mean of dependent var	0.067066
Adjusted R-squared	0.935179	S.D. of dependent var	0.041060
S.E. of regression	0.010454	Sum of squared resid	0.010819
Durbin-Watson stat	0.675302	F-statistic	372.4965
Log likelihood	329.3139		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8643356	0.1787867	-4.8344503	0.000
GRY	-0.0003773	7.302D-05	-5.1676804	0.000
RREAL1	0.1129877	0.0085703	13.183639	0.000
LNPER	0.1092916	0.0222324	4.9158661	0.000
TDY(-4)	0.8046904	0.0441379	18.231294	0.000

R-squared	0.946446	Mean of dependent var	0.067066
Adjusted R-squared	0.944283	S.D. of dependent var	0.041060
S.E. of regression	0.009692	Sum of squared resid	0.009300
Durbin-Watson stat	0.931240	F-statistic	437.4029
Log likelihood	337.1835		

:MPL 1963.1 - 1988.4
.04 Observations
,S // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.6596208	0.1766041	-3.7350254	0.000
GRY	-0.0002260	6.935D-05	-3.2584635	0.002
RREAL2	0.0989606	0.0078216	12.652197	0.000
LNPER	0.0838021	0.0219550	3.8169975	0.000
TDY(-4)	0.7727318	0.0454173	17.014030	0.000

R-squared	0.943608	Mean of dependent var	0.067066
Adjusted R-squared	0.941330	S.D. of dependent var	0.041060
S.E. of regression	0.009946	Sum of squared resid	0.009792
Durbin-Watson stat	0.736624	F-statistic	414.1431
Log likelihood	334.4983		

TABLE IX

Time and Saving Deposits (TSQ/GNP) for Turkey over the period 1963.1-1988.4.

	C	GRY1	GRY2	GRY4	R1	R2	R4	RREAL1	RREAL2	RREAL4	LNPER	SMA(1)	R2	F
1	-0.539	0.008			0.149						0.069	0.928	0.88	189
	(0.067)	(0.002)			(0.010)						(0.008)	(0.100)		
2	-0.732	0.006				0.148					0.094	0.941	0.88	187
	(0.062)	(0.002)				(0.010)					(0.007)	(0.101)		
3	-1.071	0.003					0.155				0.137	0.962	0.88	193
	(0.056)	(0.002)					(0.010)				(0.007)	(0.101)		
4	-0.583	0.008						0.139			0.075	0.888	0.87	172
	(0.070)	(0.002)						(0.010)			(0.008)	(0.101)		
5	-0.783	0.006							0.138		0.100	0.940	0.87	169
	(0.064)	(0.002)							(0.010)		(0.008)	(0.100)		
6	-0.735		0.003			0.147					0.094	0.941	0.88	186
	(0.062)		(0.001)			(0.010)					(0.007)	(0.101)		
7	-0.596		0.005					0.138			0.076	0.886	0.87	175
	(0.069)		(0.001)					(0.010)			(0.008)	(0.101)		
8	-0.793		0.003						0.137		0.101	0.940	0.87	170
	(0.064)		(0.001)						(0.010)		(0.008)	(0.100)		
9	-1.137		0.003							0.132	0.145	0.957	0.85	147
	(0.063)		(0.001)							(0.011)	(0.008)	(0.100)		
10	-0.749			0.002		0.145					0.095	0.941	0.88	188
	0.062			(0.000)		(0.010)					(0.007)	(0.101)		
11	-0.619			0.003				0.138			0.078	0.879	0.88	184
	(0.067)			(0.000)				(0.010)			(0.008)	(0.102)		
12	-0.820			0.002					0.135		0.104	0.939	0.87	178
	(0.063)			(0.001)					(0.010)		(0.007)	(0.101)		
13	-1.158			0.002						0.129	0.147	0.957	0.85	152
	(0.063)			(0.001)						(0.011)	(0.007)	(0.101)		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5673580	0.0915235	-6.1990415	0.000
GRY1	0.0087477	0.0022990	3.8050015	0.000
LNPER	0.0725370	0.0109520	6.6231943	0.000
R1	0.1447296	0.0129445	11.180744	0.000

R-squared	0.783871	Mean of dependent var	0.067066
Adjusted R-squared	0.777387	S.D. of dependent var	0.041060
S.E. of regression	0.019373	Sum of squared resid	0.037531
Durbin-Watson stat	0.397259	F-statistic	120.8954
Log likelihood	264.6336		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 19 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5388047	0.0673455	-8.0006069	0.000
GRY1	0.0081167	0.0016913	4.7991917	0.000
LNPER	0.0691730	0.0080585	8.5838609	0.000
R1	0.1488937	0.0095256	15.630935	0.000
MA(1)	0.9275392	0.1003558	9.2425068	0.000

R-squared	0.884390	Mean of dependent var	0.067066
Adjusted R-squared	0.879719	S.D. of dependent var	0.041060
S.E. of regression	0.014240	Sum of squared resid	0.020076
Durbin-Watson stat	1.996225	F-statistic	189.3311
Log likelihood	297.1674		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7564743	0.0846399	-8.9375580	0.000
GRY1	0.0070833	0.0023513	3.0124383	0.003
LNPER	0.0965460	0.0100522	9.6044453	0.000
R2	0.1437735	0.0131026	10.972920	0.000

R-squared	0.779356	Mean of dependent var	0.067066
Adjusted R-squared	0.772737	S.D. of dependent var	0.041060
S.E. of regression	0.019574	Sum of squared resid	0.038315
Durbin-Watson stat	0.393245	F-statistic	117.7396
Log likelihood	263.5585		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 19 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7316777	0.0619570	-11.809445	0.000
GRY1	0.0063567	0.0017214	3.6927927	0.000
LNPER	0.0936682	0.0073580	12.730127	0.000
R2	0.1478573	0.0095923	15.414127	0.000
SMA(1)	0.9405280	0.1005950	9.3496454	0.000

R-squared	0.883166	Mean of dependent var	0.067066
Adjusted R-squared	0.878445	S.D. of dependent var	0.041060
S.E. of regression	0.014315	Sum of squared resid	0.020288
Durbin-Watson stat	1.990206	F-statistic	187.0885
Log likelihood	296.6198		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.0843253	0.0778395	-13.930262	0.000
GRY1	0.0044509	0.0024072	1.8490474	0.068
LNPER	0.1381632	0.0092228	14.980661	0.000
R4	0.1521696	0.0137965	11.029617	0.000

R-squared	0.780598	Mean of dependent var	0.067066
Adjusted R-squared	0.774016	S.D. of dependent var	0.041060
S.E. of regression	0.019519	Sum of squared resid	0.038099
Durbin-Watson stat	0.211632	F-statistic	118.5947
Log likelihood	263.8520		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 18 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.0709778	0.0563626	-19.001560	0.000
GRY1	0.0033798	0.0017460	1.9357048	0.056
LNPER	0.1367661	0.0066776	20.481181	0.000
R4	0.1548252	0.0099906	15.497044	0.000
SMA(1)	0.9621035	0.1006128	9.5624397	0.000

R-squared	0.886186	Mean of dependent var	0.067066
Adjusted R-squared	0.881588	S.D. of dependent var	0.041060
S.E. of regression	0.014129	Sum of squared resid	0.019764
Durbin-Watson stat	1.993186	F-statistic	192.7102
Log likelihood	297.9818		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5886418	0.0921619	-6.3870392	0.000
GRY1	0.0084441	0.0023382	3.6114363	0.001
LNPER	0.0751918	0.0110219	6.8220116	0.000
RREAL1	0.1419870	0.0130440	10.885196	0.000

R-squared	0.777420	Mean of dependent var	0.067066
Adjusted R-squared	0.770742	S.D. of dependent var	0.041060
S.E. of regression	0.019660	Sum of squared resid	0.038651
Durbin-Watson stat	0.363153	F-statistic	116.4253
Log likelihood	263.1042		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 4 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5825578	0.0696308	-8.3663792	0.000
GRY1	0.0080022	0.0017668	4.5292108	0.000
LNPER	0.0745556	0.0083273	8.9531518	0.000
RREAL1	0.1394094	0.0098586	14.140862	0.000
SMA(1)	0.8876644	0.1013219	8.7608308	0.000

R-squared	0.874229	Mean of dependent var	0.067066
Adjusted R-squared	0.869147	S.D. of dependent var	0.041060
S.E. of regression	0.014853	Sum of squared resid	0.021840
Durbin-Watson stat	1.984527	F-statistic	172.0362
Log likelihood	292.7871		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8030421	0.0872267	-9.2063774	0.000
GRY1	0.0063528	0.0024785	2.5631252	0.012
LNPER	0.1023576	0.0103485	9.8910242	0.000
RREAL2	0.1361976	0.0134908	10.095589	0.000

R-squared	0.759158	Mean of dependent var	0.067066
Adjusted R-squared	0.751933	S.D. of dependent var	0.041060
S.E. of regression	0.020450	Sum of squared resid	0.041822
Durbin-Watson stat	0.297044	F-statistic	105.0700
Log likelihood	259.0038		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 8 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7831384	0.0638349	-12.268178	0.000
GRY1	0.0060856	0.0018131	3.3564278	0.001
LNPER	0.1000077	0.0075733	13.205274	0.000
RREAL2	0.1384196	0.0098706	14.023397	0.000
SMA(1)	0.9402062	0.1003676	9.3676310	0.000

R-squared	0.872431	Mean of dependent var	0.067066
Adjusted R-squared	0.867277	S.D. of dependent var	0.041060
S.E. of regression	0.014959	Sum of squared resid	0.022152
Durbin-Watson stat	2.002140	F-statistic	169.2632
Log likelihood	292.0491		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7571915	0.0851017	-8.8974854	0.000
GRY2	0.0036241	0.0012334	2.9382997	0.004
LNPER	0.0965895	0.0100971	9.5660678	0.000
R2	0.1434199	0.0131705	10.889457	0.000

R-squared	0.778460	Mean of dependent var	0.067066
Adjusted R-squared	0.771814	S.D. of dependent var	0.041060
S.E. of regression	0.019614	Sum of squared resid	0.038470
Durbin-Watson stat	0.382320	F-statistic	117.1286
Log likelihood	263.3478		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 17 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7351507	0.0622775	-11.804432	0.000
GRY2	0.0032834	0.0009027	3.6373322	0.000
LNPER	0.0940353	0.0073888	12.726711	0.000
R2	0.1470038	0.0096389	15.251071	0.000
SMA(1)	0.9412241	0.1006780	9.3488586	0.000

R-squared	0.882711	Mean of dependent var	0.067066
Adjusted R-squared	0.877972	S.D. of dependent var	0.041060
S.E. of regression	0.014343	Sum of squared resid	0.020367
Durbin-Watson stat	1.990023	F-statistic	186.2665
Log likelihood	296.4176		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5937408	0.0915478	-6.4855851	0.000
GRY2	0.0046183	0.0012104	3.8155106	0.000
LNPER	0.0756518	0.0109420	6.9139107	0.000
RREAL1	0.1420262	0.0129395	10.976138	0.000

R-squared	0.780364	Mean of dependent var	0.067066
Adjusted R-squared	0.773775	S.D. of dependent var	0.041060
S.E. of regression	0.019529	Sum of squared resid	0.038140
Durbin-Watson stat	0.350953	F-statistic	118.4332
Log likelihood	263.7967		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 4 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.5956094	0.0690966	-8.6199461	0.000
GRY2	0.0045561	0.0009135	4.9872614	0.000
LNPER	0.0759281	0.0082586	9.1938360	0.000
RREAL1	0.1384480	0.0097743	14.164497	0.000
SMA(1)	0.8862180	0.1014025	8.7396064	0.000

R-squared	0.876134	Mean of dependent var	0.067066
Adjusted R-squared	0.871130	S.D. of dependent var	0.041060
S.E. of regression	0.014740	Sum of squared resid	0.021509
Durbin-Watson stat	1.969369	F-statistic	175.0632
Log likelihood	293.5809		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8072283	0.0870814	-9.2698160	0.000
GRY2	0.0034589	0.0012886	2.6842066	0.009
LNPER	0.1027528	0.0103229	9.9538491	0.000
RREAL2	0.1359198	0.0134409	10.112428	0.000

R-squared	0.760585	Mean of dependent var	0.067066
Adjusted R-squared	0.753403	S.D. of dependent var	0.041060
S.E. of regression	0.020390	Sum of squared resid	0.041574
Durbin-Watson stat	0.294068	F-statistic	105.8952
Log likelihood	259.3129		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 8 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7926664	0.0637291	-12.438057	0.000
GRY2	0.0034365	0.0009428	3.6450181	0.000
LNPER	0.1010100	0.0075547	13.370461	0.000
RREAL2	0.1371229	0.0098346	13.942909	0.000
SMA(1)	0.9402375	0.1004944	9.3561209	0.000

R-squared	0.873125	Mean of dependent var	0.067066
Adjusted R-squared	0.867999	S.D. of dependent var	0.041060
S.E. of regression	0.014918	Sum of squared resid	0.022032
Durbin-Watson stat	1.997058	F-statistic	170.3244
Log likelihood	292.3328		

'L 1963.1 - 1988.4
Observations
// Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.1404820	0.0874303	-13.044467	0.000
GRY2	0.0024578	0.0014271	1.7221901	0.089
LNPER	0.1449103	0.0103690	13.975315	0.000
RREAL4	0.1300459	0.0149873	8.6770842	0.000

quared	0.723750	Mean of dependent var	0.067066
usted R-squared	0.715463	S.D. of dependent var	0.041060
. of regression	0.021902	Sum of squared resid	0.047971
bin-Watson stat	0.147853	F-statistic	87.33051
likelihood	251.8713		

L 1963.1 - 1988.4
Observations
// Dependent Variable is TDY
vergence achieved after 15 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.1372371	0.0633859	-17.941487	0.000
GRY2	0.0025126	0.0010346	2.4285010	0.017
LNPER	0.1445260	0.0075174	19.225502	0.000
RREAL4	0.1321369	0.0108676	12.158764	0.000
SMA(1)	0.9572934	0.1004642	9.5286978	0.000

quared	0.856257	Mean of dependent var	0.067066
usted R-squared	0.850450	S.D. of dependent var	0.041060
. of regression	0.015879	Sum of squared resid	0.024961
bin-Watson stat	1.996433	F-statistic	147.4328
likelihood	285.8419		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7659770	0.0851378	-8.9969125	0.000
GRY4	0.0021151	0.0006787	3.1163758	0.003
LNPER	0.0974136	0.0100798	9.6642468	0.000
R2	0.1427577	0.0131183	10.882308	0.000

R-squared	0.780637	Mean of dependent var	0.067066
Adjusted R-squared	0.774056	S.D. of dependent var	0.041060
S.E. of regression	0.019517	Sum of squared resid	0.038092
Durbin-Watson stat	0.383856	F-statistic	118.6219
Log likelihood	263.8613		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 18 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7491471	0.0622709	-12.030454	0.000
GRY4	0.0020213	0.0004963	4.0726933	0.000
LNPER	0.0954408	0.0073724	12.945622	0.000
R2	0.1453426	0.0095949	15.147898	0.000
SMA(1)	0.9413847	0.1006269	9.3551951	0.000

R-squared	0.883918	Mean of dependent var	0.067066
Adjusted R-squared	0.879228	S.D. of dependent var	0.041060
S.E. of regression	0.014269	Sum of squared resid	0.020158
Durbin-Watson stat	1.989457	F-statistic	188.4608
Log likelihood	296.9556		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.6089721	0.0888227	-6.8560448	0.000
GRY4	0.0029703	0.0006468	4.5921410	0.000
LNPER	0.0769827	0.0106041	7.2597318	0.000
RREAL1	0.1430305	0.0125163	11.427503	0.000

R-squared	0.792208	Mean of dependent var	0.067066
Adjusted R-squared	0.785975	S.D. of dependent var	0.041060
S.E. of regression	0.018996	Sum of squared resid	0.036083
Durbin-Watson stat	0.370666	F-statistic	127.0837
Log likelihood	266.6793		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 4 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.6187457	0.0674306	-9.1760337	0.000
GRY4	0.0030307	0.0004911	6.1717628	0.000
LNPER	0.0781633	0.0080502	9.7095116	0.000
RREAL1	0.1381122	0.0095162	14.513401	0.000
SMA(1)	0.8794021	0.1015012	8.6639555	0.000

R-squared	0.881473	Mean of dependent var	0.067066
Adjusted R-squared	0.876684	S.D. of dependent var	0.041060
S.E. of regression	0.014419	Sum of squared resid	0.020582
Durbin-Watson stat	1.977248	F-statistic	184.0630
Log likelihood	295.8718		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8258177	0.0853335	-9.6775293	0.000
GRY4	0.0023487	0.0006909	3.3994872	0.001
LNPER	0.1045388	0.0101002	10.350202	0.000
RREAL2	0.1357178	0.0130441	10.404535	0.000

R-squared	0.769924	Mean of dependent var	0.067066
Adjusted R-squared	0.763022	S.D. of dependent var	0.041060
S.E. of regression	0.019988	Sum of squared resid	0.039953
Durbin-Watson stat	0.300061	F-statistic	111.5466
Log likelihood	261.3819		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 9 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8196083	0.0625051	-13.112662	0.000
GRY4	0.0024639	0.0005062	4.8675851	0.000
LNPER	0.1037211	0.0073983	14.019644	0.000
RREAL2	0.1352762	0.0095541	14.158933	0.000
SMA(1)	0.9387973	0.1005566	9.3360131	0.000

R-squared	0.877806	Mean of dependent var	0.067066
Adjusted R-squared	0.872869	S.D. of dependent var	0.041060
S.E. of regression	0.014640	Sum of squared resid	0.021219
Durbin-Watson stat	1.996415	F-statistic	177.7964
Log likelihood	294.2873		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.1576659	0.0866777	-13.355983	0.000
GRY4	0.0018258	0.0007657	2.3845370	0.019
LNPER	0.1465378	0.0102620	14.279693	0.000
RREAL4	0.1285720	0.0145554	8.8333157	0.000

R-squared	0.730860	Mean of dependent var	0.067066
Adjusted R-squared	0.722786	S.D. of dependent var	0.041060
S.E. of regression	0.021619	Sum of squared resid	0.046736
Durbin-Watson stat	0.154984	F-statistic	90.51812
Log likelihood	253.2272		

SMPL 1963.1 - 1988.4
104 Observations
LS // Dependent Variable is TDY
Convergence achieved after 14 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.1581747	0.0628524	-18.426910	0.000
GRY4	0.0019823	0.0005555	3.5687463	0.001
LNPER	0.1465017	0.0074412	19.687826	0.000
RREAL4	0.1289416	0.0105545	12.216688	0.000
SMA(1)	0.9569911	0.1005011	9.5221910	0.000

R-squared	0.859899	Mean of dependent var	0.067066
Adjusted R-squared	0.854238	S.D. of dependent var	0.041060
S.E. of regression	0.015676	Sum of squared resid	0.024328
Durbin-Watson stat	1.995660	F-statistic	151.9084
Log likelihood	287.1763		

APPENDIX FOR CHAPTER VI

TABLE X

Time and Saving Deposits (TSQ/GNP) for Turkey: 1980-1988

	C	GRY4	R1	R2	R4	RReal1	RReal2	RREAL4	LNPER	SMA(1)	R2	F
1	-1.056	0.008		0.071					0.131	1.007	0.86	54
	(0.367)	(0.002)		(0.019)					(0.043)	(0.180)		
2	-1.339	0.006			0.085				0.167	1.008	0.87	59
	(0.369)	(0.002)			(0.019)				(0.044)	(0.180)		
3	-0.844	0.010				0.067			0.104	0.986	0.86	53
	(0.365)	(0.001)				(0.023)			(0.043)	(0.181)		
4	-1.205	0.009					0.079		0.147	1.002	0.86	56
	(0.378)	(0.001)					(0.022)		(0.045)	(0.180)		
5	-1.542	0.009						0.078	0.189	1.003	0.86	54
	(0.443)	(0.001)						(0.023)	(0.052)	(0.180)		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.0367828	0.5126862	-2.0222561	0.052
GRY4	0.0082081	0.0021475	3.8221649	0.001
LNPER	0.1284224	0.0605075	2.1224216	0.042
R2	0.0618337	0.0270936	2.2822249	0.029

R-squared	0.747027	Mean of dependent var	0.110874
Adjusted R-squared	0.723311	S.D. of dependent var	0.040383
S.E. of regression	0.021242	Sum of squared resid	0.014439
Durbin-Watson stat	0.318011	F-statistic	31.49859
Log likelihood	89.70243		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY
Convergence achieved after 16 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.0558821	0.3671602	-2.8758075	0.007
GRY4	0.0078394	0.0015392	5.0931917	0.000
LNPER	0.1306555	0.0433324	3.0151922	0.005
R2	0.0707372	0.0194618	3.6346707	0.001
SMA(1)	1.0070011	0.1802138	5.5878147	0.000

R-squared	0.874333	Mean of dependent var	0.110874
Adjusted R-squared	0.858118	S.D. of dependent var	0.040383
S.E. of regression	0.015211	Sum of squared resid	0.007173
Durbin-Watson stat	1.960319	F-statistic	53.92091
Log likelihood	102.2961		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.2777202	0.5134887	-2.4883122	0.018
GRY4	0.0062542	0.0023795	2.6283359	0.013
LNPER	0.1590779	0.0609048	2.6119100	0.014
R4	0.0771925	0.0269294	2.8664777	0.007

R-squared	0.765949	Mean of dependent var	0.110874
Adjusted R-squared	0.744007	S.D. of dependent var	0.040383
S.E. of regression	0.020432	Sum of squared resid	0.013359
Durbin-Watson stat	0.273790	F-statistic	34.90746
Log likelihood	91.10181		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY
Convergence achieved after 19 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.3388885	0.3687515	-3.6308696	0.001
GRY4	0.0057264	0.0017106	3.3476815	0.002
LNPER	0.1665202	0.0437386	3.8071700	0.001
R4	0.0846488	0.0193743	4.3691218	0.000
SMA(1)	1.0075618	0.1801941	5.5915347	0.000

R-squared	0.883179	Mean of dependent var	0.110874
Adjusted R-squared	0.868106	S.D. of dependent var	0.040383
S.E. of regression	0.014666	Sum of squared resid	0.006668
Durbin-Watson stat	1.996570	F-statistic	58.59092
Log likelihood	103.6100		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.9992469	0.5004760	-1.9965933	0.054
GRY4	0.0087837	0.0019425	4.5218893	0.000
LNPER	0.1223159	0.0589119	2.0762512	0.046
RREAL1	0.0767155	0.0311745	2.4608443	0.019

R-squared	0.752659	Mean of dependent var	0.110874
Adjusted R-squared	0.729471	S.D. of dependent var	0.040383
S.E. of regression	0.021004	Sum of squared resid	0.014118
Durbin-Watson stat	0.359809	F-statistic	32.45865
Log likelihood	90.10768		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY
Convergence achieved after 11 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8436620	0.3653853	-2.3089654	0.028
GRY4	0.0096176	0.0014220	6.7634284	0.000
LNPER	0.1040296	0.0430099	2.4187366	0.022
RREAL1	0.0665024	0.0227651	2.9212404	0.006
SMA(1)	0.9855592	0.1811370	5.4409614	0.000

R-squared	0.873032	Mean of dependent var	0.110874
Adjusted R-squared	0.856649	S.D. of dependent var	0.040383
S.E. of regression	0.015290	Sum of squared resid	0.007247
Durbin-Watson stat	2.000477	F-statistic	53.28916
Log likelihood	102.1107		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.2633041	0.5269731	-2.3972837	0.023
GRY4	0.0083367	0.0019902	4.1888009	0.000
LNPER	0.1543622	0.0620607	2.4872768	0.018
RREAL2	0.0795185	0.0304644	2.6102061	0.014

R-squared	0.757486	Mean of dependent var	0.110874
Adjusted R-squared	0.734750	S.D. of dependent var	0.040383
S.E. of regression	0.020798	Sum of squared resid	0.013842
Durbin-Watson stat	0.306873	F-statistic	33.31697
Log likelihood	90.46241		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY
Convergence achieved after 18 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.2047282	0.3783206	-3.1844112	0.003
GRY4	0.0086700	0.0014295	6.0650639	0.000
LNPER	0.1473510	0.0445547	3.3071922	0.002
RREAL2	0.0787766	0.0218629	3.6032103	0.001
SMA(1)	1.0017414	0.1798105	5.5710952	0.000

R-squared	0.879006	Mean of dependent var	0.110874
Adjusted R-squared	0.863394	S.D. of dependent var	0.040383
S.E. of regression	0.014926	Sum of squared resid	0.006906
Durbin-Watson stat	1.993495	F-statistic	56.30290
Log likelihood	102.9782		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.5958664	0.6152935	-2.5936667	0.014
GRY4	0.0083164	0.0020746	4.0086314	0.000
LNPER	0.1951177	0.0727635	2.6815303	0.011
RREAL4	0.0764631	0.0320043	2.3891473	0.023

R-squared	0.750378	Mean of dependent var	0.110874
Adjusted R-squared	0.726976	S.D. of dependent var	0.040383
S.E. of regression	0.021101	Sum of squared resid	0.014248
Durbin-Watson stat	0.278478	F-statistic	32.06460
Log likelihood	89.94245		

SMPL 1980.1 - 1988.4
36 Observations
LS // Dependent Variable is TDY
Convergence achieved after 10 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.5421129	0.4428685	-3.4821014	0.002
GRY4	0.0087218	0.0014946	5.8356541	0.000
LNPER	0.1886023	0.0523734	3.6011116	0.001
RREAL4	0.0780667	0.0230341	3.3891839	0.002
SMA(1)	1.0034540	0.1798935	5.5780459	0.000

R-squared	0.874758	Mean of dependent var	0.110874
Adjusted R-squared	0.858597	S.D. of dependent var	0.040383
S.E. of regression	0.015185	Sum of squared resid	0.007148
Durbin-Watson stat	2.011346	F-statistic	54.12999
Log likelihood	102.3570		

TABLE XI

Time and Saving Deposits (TSQ/GNP) for Turkey: 1970-1988

	C	GRY4	R1	R2	R4	RReal1	RReal2	RREAL4	LNPER	SMA(1)	R2	F
1	-0.674 (0.149)	0.005 (0.001)	0.146 (0.011)						0.083 (0.018)	0.918 (0.118)	0.87	131
2	-0.882 (0.148)	0.003 (0.001)		0.142 (0.012)					0.110 (0.017)	0.941 (0.119)	0.86	118
3	-1.221 (0.142)	0.002 (0.0007)			0.147 (0.013)				0.154 (0.017)	0.971 (0.119)	0.85	107
4	-0.754 (0.153)	0.005 (0.001)				0.136 (0.011)			0.093 (0.018)	0.859 (0.120)	0.86	120
5	-1.038 (0.146)	0.004 (0.001)					0.130 (0.011)		0.128 (0.017)	0.937 (0.119)	0.86	113
6	-1.507 (0.145)	0.004 (0.0007)						0.116 (0.012)	0.186 (0.017)	0.963 (0.119)	0.83	92

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.6638520	0.2016257	-3.2924962	0.002
GRY4	0.0045789	0.0008407	5.4463467	0.000
LNPER	0.0823740	0.0238302	3.4567137	0.001
R1	0.1448623	0.0147494	9.8215508	0.000

R-squared	0.779637	Mean of dependent var	0.078945
Adjusted R-squared	0.770455	S.D. of dependent var	0.041847
S.E. of regression	0.020049	Sum of squared resid	0.028942
Durbin-Watson stat	0.414150	F-statistic	84.91120
Log likelihood	191.3427		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY
Convergence achieved after 18 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.6735366	0.1491871	-4.5147102	0.000
GRY4	0.0045899	0.0006221	7.3785443	0.000
LNPER	0.0834869	0.0176324	4.7348559	0.000
R1	0.1456364	0.0109135	13.344624	0.000
SMA(1)	0.9175811	0.1184279	7.7480122	0.000

R-squared	0.881039	Mean of dependent var	0.078945
Adjusted R-squared	0.874337	S.D. of dependent var	0.041847
S.E. of regression	0.014834	Sum of squared resid	0.015624
Durbin-Watson stat	1.997043	F-statistic	131.4584
Log likelihood	214.7689		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.9033484	0.2017559	-4.4774319	0.000
GRY4	0.0035598	0.0009215	3.8629792	0.000
LNPER	0.1127418	0.0237106	4.7549166	0.000
R2	0.1400697	0.0158165	8.8559027	0.000

R-squared	0.753216	Mean of dependent var	0.078945
Adjusted R-squared	0.742933	S.D. of dependent var	0.041847
S.E. of regression	0.021217	Sum of squared resid	0.032412
Durbin-Watson stat	0.334296	F-statistic	73.25103
Log likelihood	187.0397		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY
Convergence achieved after 16 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.8815314	0.1478237	-5.9633971	0.000
GRY4	0.0034887	0.0006751	5.1674815	0.000
LNPER	0.1101775	0.0173724	6.3421020	0.000
R2	0.1421971	0.0115896	12.269334	0.000
SMA(1)	0.9408664	0.1188049	7.9194209	0.000

R-squared	0.869404	Mean of dependent var	0.078945
Adjusted R-squared	0.862047	S.D. of dependent var	0.041847
S.E. of regression	0.015543	Sum of squared resid	0.017152
Durbin-Watson stat	1.982151	F-statistic	118.1656
Log likelihood	211.2231		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.2495358	0.1972162	-6.3358692	0.000
GRY4	0.0018331	0.0010771	1.7019310	0.094
LNPER	0.1570886	0.0230046	6.8285682	0.000
R4	0.1450023	0.0184223	7.8710388	0.000

R-squared	0.722866	Mean of dependent var	0.078945
Adjusted R-squared	0.711319	S.D. of dependent var	0.041847
S.E. of regression	0.022484	Sum of squared resid	0.036398
Durbin-Watson stat	0.185762	F-statistic	62.60075
Log likelihood	182.6322		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY
Convergence achieved after 13 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.2211626	0.1423449	-8.5788978	0.000
GRY4	0.0015986	0.0007777	2.0555920	0.044
LNPER	0.1539130	0.0166037	9.2698146	0.000
R4	0.1471548	0.0132953	11.068166	0.000
SMA(1)	0.9705057	0.1186993	8.1761686	0.000

R-squared	0.857715	Mean of dependent var	0.078945
Adjusted R-squared	0.849699	S.D. of dependent var	0.041847
S.E. of regression	0.016223	Sum of squared resid	0.018687
Durbin-Watson stat	1.973801	F-statistic	106.9995
Log likelihood	207.9655		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7200136	0.1990108	-3.6179618	0.001
GRY4	0.0047124	0.0008406	5.6060592	0.000
LNPER	0.0890086	0.0235169	3.7848791	0.000
RREAL1	0.1420913	0.0145376	9.7740257	0.000

R-squared	0.778412	Mean of dependent var	0.078945
Adjusted R-squared	0.769179	S.D. of dependent var	0.041847
S.E. of regression	0.020105	Sum of squared resid	0.029102
Durbin-Watson stat	0.390869	F-statistic	84.30913
Log likelihood	191.1320		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY
Convergence achieved after 5 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.7540081	0.1527475	-4.9363053	0.000
GRY4	0.0048573	0.0006452	7.5284163	0.000
LNPER	0.0930115	0.0180499	5.1530112	0.000
RREAL1	0.1363933	0.0111804	12.199270	0.000
SMA(1)	0.8586402	0.1198340	7.1652487	0.000

R-squared	0.871404	Mean of dependent var	0.078945
Adjusted R-squared	0.864159	S.D. of dependent var	0.041847
S.E. of regression	0.015423	Sum of squared resid	0.016889
Durbin-Watson stat	1.985764	F-statistic	120.2791
Log likelihood	211.8095		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.0438017	0.1981975	-5.2664719	0.000
GRY4	0.0040353	0.0009230	4.3720405	0.000
LNPER	0.1292231	0.0232924	5.5478680	0.000
RREAL2	0.1309199	0.0153005	8.5565673	0.000

R-squared	0.744358	Mean of dependent var	0.078945
Adjusted R-squared	0.733706	S.D. of dependent var	0.041847
S.E. of regression	0.021594	Sum of squared resid	0.033575
Durbin-Watson stat	0.279677	F-statistic	69.88136
Log likelihood	185.6997		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY
Convergence achieved after 14 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.0380536	0.1455447	-7.1321965	0.000
GRY4	0.0041201	0.0006779	6.0781894	0.000
LNPER	0.1284860	0.0171046	7.5117765	0.000
RREAL2	0.1302578	0.0112360	11.592922	0.000
SMA(1)	0.9369670	0.1188943	7.8806715	0.000

R-squared	0.864061	Mean of dependent var	0.078945
Adjusted R-squared	0.856403	S.D. of dependent var	0.041847
S.E. of regression	0.015857	Sum of squared resid	0.017854
Durbin-Watson stat	1.986297	F-statistic	112.8235
Log likelihood	209.6994		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.5020754	0.2000546	-7.5083253	0.000
GRY4	0.0036490	0.0010489	3.4789471	0.001
LNPER	0.1858707	0.0234112	7.9394107	0.000
RREAL4	0.1160702	0.0169494	6.8480263	0.000

R-squared	0.687768	Mean of dependent var	0.078945
Adjusted R-squared	0.674758	S.D. of dependent var	0.041847
S.E. of regression	0.023865	Sum of squared resid	0.041007
Durbin-Watson stat	0.152425	F-statistic	52.86589
Log likelihood	178.1008		

SMPL 1970.1 - 1988.4
76 Observations
LS // Dependent Variable is TDY
Convergence achieved after 12 iterations

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-1.5072328	0.1449208	-10.400388	0.000
GRY4	0.0037581	0.0007599	4.9453358	0.000
LNPER	0.1864043	0.0169591	10.991371	0.000
RREAL4	0.1155887	0.0122783	9.4140616	0.000
SMA(1)	0.9628232	0.1187032	8.1111800	0.000

R-squared	0.838430	Mean of dependent var	0.078945
Adjusted R-squared	0.829328	S.D. of dependent var	0.041847
S.E. of regression	0.017288	Sum of squared resid	0.021220
Durbin-Watson stat	1.976061	F-statistic	92.10977
Log likelihood	203.1356		