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INTEREST RATES AND FINANCIAL STRUCTURE OF TURKISH BANKING SYSTEM UNDER INFLATIONARY CONDITIONS

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I. INTRODUCTION

The system which activites and channels in an economy, millions of savings from fund suppliers to fund users by using various techniques and means is called financial markets.

Basic functions of financial markets are by linking savings and investments, to chanel the funds into most beneficial investment projects, to distribute them effectively between consumers and investment projects, and to contribute to the creation of wealth.

Financial markets compose of three main elements such as fund suppliers, fund users, and financial institutions and means. One of the most important of these means is financial institutions.

Since the majority of the items on the assets side of the balance sheet compose of cash, receivables, comman stocks and bonds, activities of financial institutions concentrate an financial assets. Basicly, their incomes cover transactions related to financial means. On this respect, Trading Banks come the first.

In Turkiye, Trading Banks, as in the western countries, are institutions that transfer to individuals or associations funds such as

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time and deposit accounts, rediscound and advance transactions of the central bank, acceptance and capital.

In an economy, increases in general price levels, that is, inflation, inflvence these institutious negatively as well. Moreover, these institutions are affected more compared to industrial ones. Likewise, as mensioned above, since the ratio of financial assets in their total assets relatively high, loss in purchasing power and gains may be greater.

The purpose of this articles to examine and define the effects of inflation which has been prevailing in our country in recent years on interest rates and banking system.

II. SCOPE OF THE RESEACH

This research covers the years 1975-1988 and twentyfive trading banks (1) which have the authority of collecting savings. In order to be able to get better and healthy comparesons in terms of years, and to investigate the develapments before and after the 1980 period, the number of banks was kept limited. The banks founded after 1980 period were not included.

III. THE EFFECTS OF İNFLATION ON BANKİNG SYSTEM

Inflation which is defined as a general increase in general level of prices, in other words, a steady decrease in purchesing pover, has in micro level important effects on business enterprises in terms of prodiction, marketing, personnel and finance, and on policies and accounting (2) related with these fonctions.

Of cource, banks also got their share from these negative effects. We can study the effects of inflation an banks in two categories:

(1) Because of the caharateristies of their business administration banks such as Sümerbank, Etibank; and Denizcilik Bankası were left out of the scope of this research.

(2) In order to eliminate the effects of inflation on the financial statements some approaches were developed such as General Price Level Accounting, Current Cost Accounting and Replacement Cost accounting.

A- Effects of inflation on interest rates.

B- Effects of inflation on bank equities.

A- In the view of banking, the effects of inflation on interes rates can be divided into two catagories as effective interest rates on loans and effective interest rates on deposits.

1- Effective Interest Rates on Loans

Interest rate is obtained by dividing interest and commissions by the total of credits. By correcting these rates by inflation rate, Effective Interest Rate on loans is obtained. This rate, in real terms, that is, taking into consideration the decreases in the purchasing power, shows effective real interest rate obtained from loans.

2- Effective Real Interest Rate is Derived From

This Formula:

$$ir - \frac{100 + i^{o}}{100 + d} - 1^{o}$$

ir- interest rate

i_o- nominal rate

d- index increase within period

3- Effective Interest Rates on Deposits

This is the rate obtained by dividing interest rates on deposits and commissions by the total of deposits. By the correction of this rate by inflation rate Effective Real Interest Rate an Deposits is obtained. This rate shows effective real ınterest rate on deposits, that is, the real interest given to deposit owners.

TABLE I shows the Effective Real Interest Rates on Loan and Deposite in Turkish Banking system during 1975-1988 period.

As will be seen from TABLE I, before the 1980 period, effective interest rate on loans is positive in 1975. But, in other years, it is negative. This means that in 1975 banks obtained about 3 % real interest income out of the credits they had given. But the real interests obtained during the years 1976-1980 are negative. In this period banks suffered a real loss an the credits they made availabe for the users. Furthermore, negative interest rates showed an increase year by year and in 1980 reades the highest point, -43.88 %. This situation showed a decrease with the application of free and high Intrest policies withind the framework of February 24- economic stability program. Effective real interest rates showed positive realization in some years and negative in others. But it was also observed that they, having returned to negative again, showed an increasing trend.

TABLE I : Effective Real Interest Rates On Commercial Bank OPERATIONS In Türkiye

	Effective Average Nominal Interest		Changes in wholesale Price Index within period	Effective Interes Rate Deflated by Wholesale Prise Index	
Years	On Bank Loans	On Deposits		On Loans	On Deposits
1975	10.385	4.743	10.1	.286	— 4.87
1976	10.856	4.893	15.6	— 4.10	— 9.26
1977	11.389	5.235	24.1	—10.228	—15.187
1978	12.506	7.293	52.6	—26.273	—29.689
1979	12.445	6.040	63.9	—31.393	—35.301
1980	16.90	8.950	107.2	—43.58	—47.42
1981	33.76	15.050	36.8	— 2.22	—15.90
1982	31.46	20.50	25.2	5.00	— 3.75
1983	34.50	22.58	30.6	2.99	— 6.14
1984	42.50	24.17	52.0	— 6.25	—18.31
1985	48.79	26.66	40.0	6.25	— 9.57
1986	31.26	21.25	26.6	3.60	— 4.30
1987	29.91	19.04	39.0	— 6.54	—14.36
1988	35.35	23.59	60.8	—15.83	—23.14

SOURCE: AYDIN, Davut, Effects of liberal policies on banks' financial and economic indicator and the distribution of these Indicators.

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As for the Effective Real Interest rates on deposits, these rates were always negative for in years through 1975-1988. This situation proves that the banks in fact obtained real income out of deposits. In other words, owners of deposits continually suffered a loss on year 1980, these purchasing-power losses went up from year to year paralel to inflation, reaching the highest point in 1980, 47,42 %. With the introduction of free and high-interest rate policies in 1980, this situation acquired a trend of inclination. In 1983 this come down to the lowest level of 4.6 %. The percentage rising to 17 % in 1984, went down again in 1985 and 1986 but acquired a trend of increase in 1987 and 1988.

The data obtained from the banks included in the research and the interest rate on deposits were also given comparatively in Figure-1.

As seen from Figure 1, the loss of saving owners constitute the earnings of banks and credit users. The difference between effective interest rates on loans and effective interest rates on deposits (spread) remains in the banks. This is called Real Markup Margin.

Real Markup margin is the positive or negative difference between the real effective interest rate on loans and the real effective interest of turning deposits into credits. In fact, this is the net real increment acquired after the losses in the purchasing power of money have been eliminated.

Real markup margin is a measure of activity. If can be used as an indicater of how effectively banks realized their financial intermediary role. The margin is expected to narraw as the activities increase.

In the bank covered in this research, the real markup margin which was around 7 % before 1980, acquired a rising trend after the period of 1980. Real incomes of the banks have increased. In the years following 1985, the rates showed a decline. As of 1985, the banks' real markup margins decreased and thus their activities have incrcased.

B- The Effect of Inflation on the Banks' Equity

One problem arising in countries suffering from inflation when assets and liabilities are exposed to capital erosion, is that net

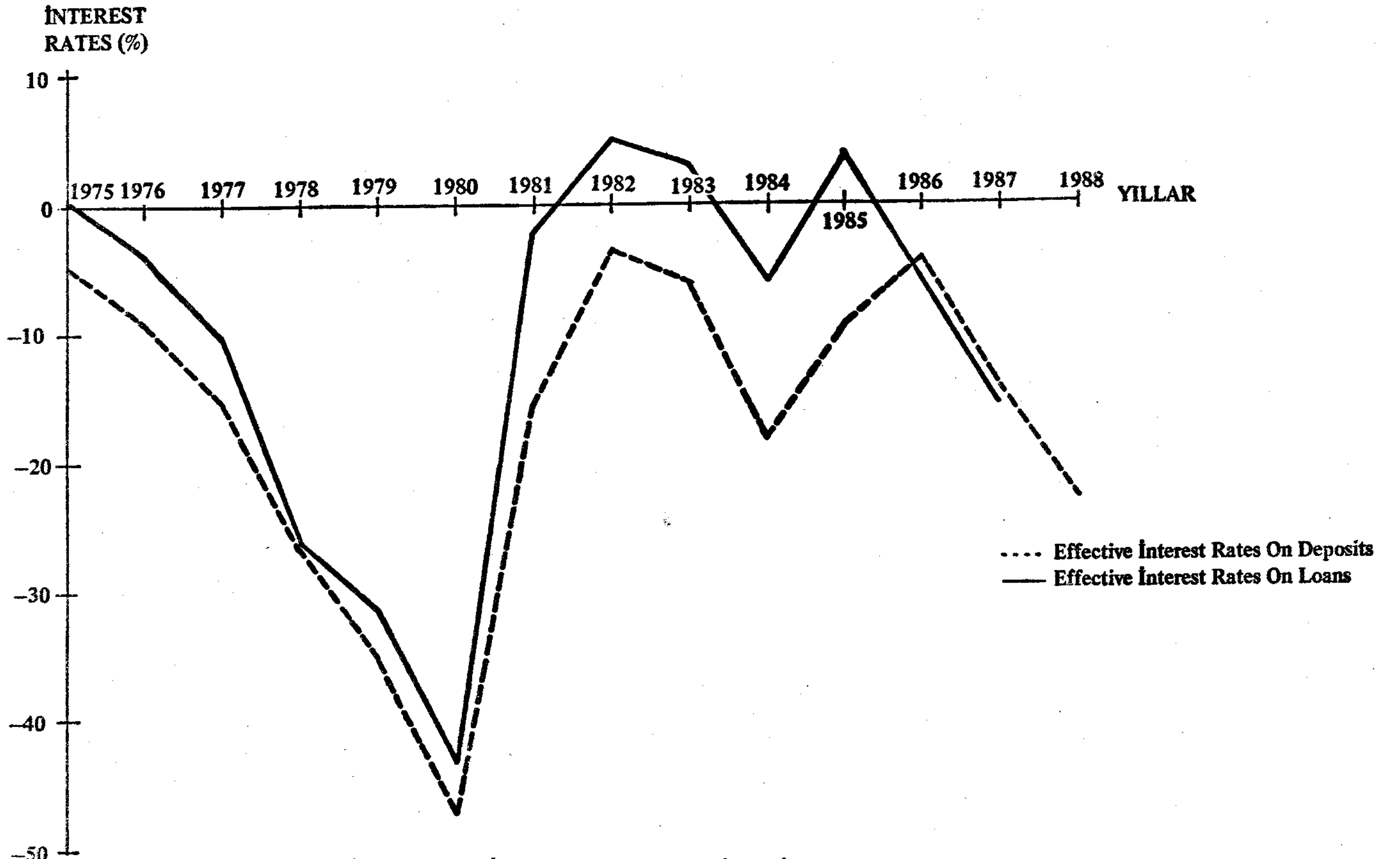

FİGURE -I EFFECTİVE İNTEREST RATES

earnings are effected by the necessary to transfer to reserves enough to maintan the value of the bank's equity. While many enterprises in other sectors may be able to find protection through increasing their real assets relative to their financial assets, bank's possibly find it difficult to hedge assets than outstanding liabilities. Thus, capital erosion be relatively much more important on the asset side and as a result the equity or net worth position is olsa liable to suffer (4).

The composition of the items on the assets and liabilities side of the banks' consolidated balance sheets in shown in the Table II below.

When the asset composition of the before- 1980 period is examined, it is evident that the share of earning assets, which has the greatest proportion within the total of assets, shows a decreasing trend from year to year. However, in the period after 1980, with the January 24 th Package of Economic Measures, showing its effect as of 1983, it led to an increase in earning assets. While the proportion of earning assets in total assets was 67 % in 1983, in the following years, showing an increase from year to year, it reached to 90 % in 1988. This is an extremely positive improvement. In western countries, this proportain is about 88 % (5).

As for the composition of liabilities, in the before-1980 period, deposits hold the first rate among financial sources. In the second rate comes the item of commitments. On the other hand, the share of equity within the composition of liabilities shows a decreasing trend through the years. While the proportion of net worth against the total of liabilities was 3.8 % in 1975, it fell down to 2.9 % at the and of 1979.

But in the period after 1989, striking increases were observed in the ratio of net worth against the total of liabilities. The proportion equity which was 3-8 % in 1980, showed a great incrcase in 1981, reaching the level of 6 %. While the percentage ratio in 1983,

(3) CRISTOFFERSON, Leif E., Interest Rates and Sturucture of A Commercial Banking System Under Inflationary Conditions,' A Case of Brazil: 102 D.C. Working paper.

(4) For detanled information see: Federal Deposit Insurance Corporation, 1976-1977 Bank Operating statisties, Washington D.C.

TABLE II : Percentage Compositin of Assets and Liabilities in Banking Group

ASSETS	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Cash	4.3	3.8	4.1	4.0	5.1	4.7	7.9	7.6	7.4	5.8	6.2	5.8	7.0	5.4
Central Bank	1.4	3.9	10.2	12.8	11.3	6.5	.5	.8	.9	.75	.50	.07	—	.4
Earning assets	84.8	82.4	76.2	71.8	74.1	77.4	75.5	73.0	67.2	70.1	75.0	81.0	79.8	91.4
Other assets	9.5	9.9	9.5	11.4	9.5	11.4	16.1	18.6	24.5	23.35	18.0	11.7	13.2	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
LIABILITIES														
Equity	3.8	3.8	3.3	2.9	2.7	3.8	6.0	6.7	7.3	7.0	7.1	5.7	7.2	9.1
Commitments	13.4	16.4	23.1	23.6	23.2	23.2	2.1	.80	.70	.2	.4	5.1	13.3	9.5
Deposits	69.6	67.4	60.6	58.6	60.5	58.7	69.2	73.2	69.8	66.2	74.0	73.5	65.8	68.5
Other liabilities	13.2	12.4	13.0	14.9	13.6	14.3	22.7	18.8	22.2	26.6	18.5	15.7	13.7	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source : AYDIN, Davut, ibid 84.

1989, and 1985 were around 7 %, it fell down to 5.7 %. But it acquired an increasing trend again in 1987 and 1988. The average ratio of equity against total liabilities is about 8 % (6).

In the group of banks, growth percentages, which are calculated every year, were given comparative to inflation rates in Table III.

In the before-1980 period, percentages of equity growth continuously staged behind inflation rates except 1975-1976 period. In other words, except 1975-1976 period, the rate of increase in the general level of prices is grates than the rate of increase in bank equities. This situation, except the 1975-1976 period, proves that Inflation has eroded the equities of the group of banks. Bank equities, in terms of not being able to maintain their purwesing power, have undergone erosion.

TABLE III : Equity Growth Percentages and Inflation Rates in the Group of Banks

Years	Equity Growth Percontages (%)	Enflation Rates (%)
1975—1976	35.6	15.53
1976—1977	22.7	24.08
1977—1978	18.3	52.60
1978—1979	36.9	63.90
1979—1980	136.5	107.2
1980—1981	175.0	36.8
1981—1982	60.5	25.2
1982—1983	52.3	30.6
1983—1984	63.5	52.0
1984—1985	47.9	40.0
1985—1986	47.5	26.7
1986—1987	101.3	39.0
1987—1988	99.5	60.8

(5) İbid 5.

In the period after 1980, however, in contrast to the preceding period, growth percentages in equity always staged over the inflation rates. The greatest increase in bank equities realized in 1980-1981 period as 175 %. This situation shows that bank equties have been preserved. Under these positive improvement lie a senes of financial and economic policies that have been practised in this period.

IV- CONCLUSIONS

The findings obtained from this research can be summarized as follows:

— Deposit owners have always suffered from loss of purchasing power. These losses, though greately decreased in pre-1980 period, still continue.

— Operations in the banking system began to increase since 1985 That the real contribution bargin narrowed is an obvious evidence to this. But real contribution margins still continue to be high compared to the western standarts.

— Because of inflation there occured a great erosion in the bank equities in the pre-1980 period. However, in the period following 1980, bank equities have been continually preserved against inflation.

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