AN ANALYSIS OF FACTORS AFFECTING THE GROWTH OF THE AMOUNT OF 1 – MONTH TIME DEPOSIT IN INDONESIA : 2003 : 2 – 2005 :12

A THESIS

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STATEMENT OF PLAGIARISM

Herein I declare the originality of this thesis; there is no other work which has ever presented to obtain any university degree, and in my concern there is neither one else's opinion or published written work, except acknowledgement quotation relevant to the topic of this thesis which have been stated or listed on the thesis references.

If in the future this statement is not proven as it supposed to be, I am willing to accept any sanction complying to the determinate regulation for this sequences.

Yogyakarta, June 27, 2007

Dannia Andasari Ardin

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A BACHELOR DEGREE THESIS

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Dannia Andasari Ardin

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ABSTRACT

Dannia Andasari Ardin (2007), "An Analysis of Factors Affecting the Growth of the Amount of 1 – month Time Deposit in Indonesia : 2003:2 – 2005:12". Faculty of Economics, Developmental Economics Studies, International Program, Islamic University of Indonesia, Yogyakarta.

An economic development needs big amount of funds from inside or outside the country. To achieve such independent economic development, Indonesia does the effort to increase public funds, through savings, deposits, and stock markets. One of them is time deposit as the source of investment device. Since the bank regulation 1983, collecting funds through time deposit became more desired by society. From the point of view of society in this case are portfolio market investors, there are many kinds of portfolio assets that can be chosen, those are bank's financial asset, stock markets asset, and foreign exchange markets financial asset. The relationship between assets of three market are substitutable one another. For the research, the researcher focused on 1 – month time deposit.

This thesis aims analyzing factors affecting the growth of 1 – month time deposit in Indonesia, for the period of February 2003 until December 2005. Factors chosen are the growth of 1 – month Rupiah time deposit interest rate, the growth of 1 – month Dollar time deposit interest rate, the growth of IHSG, the growth of exchange rate Rupiah/Dollar, and the situation affecting the rate of Rupiah depreciation (Dummy). The data being used in this research are in form of the rate of growth naturally the data of those variables have non – stationary problems. Those factors are hypothesized as having positive relationship with the growth of 1 – month time deposit.

The result shows that three of hypotheses are proven and the others are not proven. The factors which are proven to have relationship are the growth of 1 – month Rupiah time deposit interest rate, the growth of IHSG, and the situation affecting the rate of Rupiah depreciation (Dummy). The growth of 1 – month Dollar time deposit interest rate and the growth of exchange rate Rupiah/Dollar are having no impacts on the growth of 1 – month time deposit.

This result suggest that investor in Indonesia portfolio markets have not utilize the substitutability between The growth of 1 – month Dollar time deposit interest rate and the growth of exchange rate Rupiah/Dollar, the nearly choose on the substitutability of the growth 1 – month Rupiah time deposit interest rate, the growth of stock price indexes / IHSG, and the situation affecting the rate of Rupiah depreciation (Dummy), important decision factors in terms of 1 – month time deposit.

ABSTRAK

Dannia Andasari Ardin (2007), "An Analysis of the Factors Affecting the Growth of the Amount of 1 – month Time Deposit in Indonesia : 2003:2 – 2005:12". Fakultas Ekonomi, Ilmu Ekonomi Studi Pembangunan, Program Internasional, Universitas Islam Indonesia, Yogyakarta.

Pembangunan ekonomi memerlukan persediaan dana yang tidak sedikit, dana itu dapat diperoleh dari dalam dan luar negeri. Untuk menciptakan pembangunan ekonomi yang mandiri, Inodonesia berusaha meningkatkan dana dari masyarakat melalui tabungan, deposito, dan pasar saham. Salah satunya adalah deposito berjangka yang dapat digunakan sebagai salah satu sumber dari investasi. Sejak regulasi 1983, pengumpulan dana melalui deposito berjangka digemari oleh masyarakat. Pandangan masyarakat dalam penilitian ini adalah sebagai portofolio pasar investasi, banyak jenis dari portofolio asset yang dapat dipilih, adalah asset keuangan perbankan, asset pasar modal, dan asset keuangan pada pasar vallas. Hubungan dari ketiga asset pasar keuangan tersebut memiliki hubungan yang saling bersubtitusi satu sama lain. Pada penelitian ini, peneliti focus kepada pertumbuhan simpanan berjangka 1 bulan.

Skripsi ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi pertumbuhan deposito bejangka 1 bulan di Indonesia, pada periode Febuari 2003 sampai dengan Desember 2005. Faktor yang dipilih adalah pertumbuhan bunga simpanan berjangka 1 bulan dalam Rupiah, pertumbuhan bunga simpanan berjangka 1 bulan dalam Dollar, pertumbuhan indeks harga saham di Indonesia, pertumbuhan nilai mata uang Rupiah terhadap Dollar, dan situasi dimana nilai Rupiah mengalami depresiasi (dummy). Data yang dipergunakan pada penilitian ini adalah data pertumbuhan disebabkan oleh data dari variabel – variable yang dipergunakan memiliki non – stationary problem. Faktor – faktor tersebut dihipotesiskan memiliki hubungan yang positif terhadap pertumbuhan simpanan berjangka 1 bulan.

Hasil dari penelitian ini menunjukan bahwa tiga dari hipotesis terbukti dan yang lainnya tidak terbukti. Variable yang tebukti memiliki hubungan terhadap pertumbuhan simpanan berjangka 1 bulan adalah pertumbuhan bunga simpanan berjangka 1 bulan dalam Rupiah, pertumbuhan indeks harga saham di Indonesia, dan situasi dimana nilai Rupiah mengalami depresiasi (dummy). Sedangkan, pertumbuhan bunga simpanan berjangka 1 bulan dalam Dollar, dan pertumbuhan nilai mata uang Rupiah terhadap Dollar tidak memiliki hubungan terhadap pertumbuhan simpanan berjangka 1 bulan.

Hasil peniltian tersebut menunjukan bahwa para investor dalam portofolio pasar di Indonesia tidak memiliki hubungan subtuitusi antara pertumbuhan bunga simpanan berjangka 1 bulan dalam Dollar, dan pertumbuhan nilai mata uang Rupiah terhadap Dollar, pilihan terdekat yang dipilih sebagai hubungan subtitusi adalah pertumbuhan bunga simpanan berjangka 1 bulan dalam Rupiah, pertumbuhan indeks harga saham di Indonesia, dan situasi dimana nilai Rupiah mengalami depresiasi (dummy), terhadap faktor – faktor yang mempengaruhi investor dalam mengambil keputusannya pada inevestasi simpanan berkjangka 1 bulan di Indonesia.

CHAPTER I

INTRODUCTION

1.1. Background of the Study

Indonesia is a developing country that needs a huge number of domestic funds to finance its development. Nowadays, among many problems faces by Indonesia, there are two serious problems, one is concerning with the responsibility to pay the foreign debt service and the other are to provide more jobs opportunity to reduce the unemployment.

Based on Banking Act No.10 Year 1998, gathering funds, which mainly come from society saving, are done by commercial banks. These funds are classified as deposit, time deposit, certificate of deposit, saving and other types that have similar function to the ones that mentioned before. From those money accepted by bank, bank can make profit to utilizing those funds as credits to the society. Among the classified society saving bank preferred time deposits because it gives longer time for bank to do their operation. Time deposit has a certain period, there are : 1 month, 3 month, 6 month, 12 month, and >12 month.

Based on stock ownership, commercial bank in Indonesia, it is divided into four types : State banks, private national banks, and regional development banks, and foreign and joint banks. Among those types, state banks and private national banks are dominant in collecting time deposit in society.

Since June 1st 1983, when the government launched bank deregulation program, the banking industry in Indonesia experience very significant progress.

At that time, for the first time the banking industry got more freedom to do their activities. For example, bank can set their own interest rate, even though it has to be set around the rate states by Central Bank of Indonesia. Since that time, bank has rights to decide the time deposit interest rate and credit interest rate. Since this regulation made of all types changes so rapidly. Time deposit becomes so popular to the society as mean of one of portfolio assets.

Among those types of time deposit, 1 – month time deposit is the *primadona*. It can see from the following table that the market share of other types exceeded.

Table 1.1.

Market Share Total 1 – Month Time Deposit in Indonesia

End of Period	1 month	3 month	6 month	12 month	>12 month	Total	Market Share 1 - month
2001	303115	83131	19342	15219	19092	439889	68.9%
2002	298335	80449	21117	24297	21993	446191	66.86%
2003	291886	69822	24509	32500	10116	428833	68.06%
2004	301031	52108	28110	17894	52728	451871	66.61%
2005	439758	69595	21006	28986	5687	565032	86.68%

From the data above it can be concluded that the market share of the total time deposit shows that the market share for 1 – month time deposit has high percentage, which exceed more than 20% average, where annual results shows more than 60%, so it is desired by society.

That market share attracting experts to examine the total 1 – month time deposit that came from the sum of 1 – month time deposit in Rupiah and Dollar. The growth of 1 – month time deposit is the reflection of a market portfolio growth, which is banking assets.

The dominant growth of 1 – month time deposit in Rupiah and Dollar which is 439,758 can be seen in 2005 around 46.08% from the society total saving collected by commercial bank, the growth for 2005 are high because of at that time, interest rate in Rupiah until 11.37% and for Dollar interest rate are 3.60% . Even though in 2002 until 2003 is decreased around -1.58%. The 1 – month time deposit in Dollar tends to increase year by year even though in 2002 – 2003 it decreased, but in 2005 the 1 – month time deposit in foreign currency are 111,199, or around 44.68%.

Table 1.2.

The Growth of 1 – Month Time Deposit in Rupiah and Dollar Currency

End of Period	Time Deposit in Rupiah (Billion Rp)	Time Deposit in Dollar (Billion Rp)	Total	Growth (%)
2001	227687	75428	303115	
2002	241205	57130	298335	-1.58
2003	223796	68090	291886	-2.16
2004	224171	76860	301031	3.13
2005	328559	111199	439758	46.08

Source: Indonesia Bank Statistics, various edition

With policy that freed the bank to set it's own interest, but still following the Central Bank of Indonesia regulation, and with the society's high desire to 1 – month time deposit because can be withdrawn in a relatively short period of time deposit. The growth of 1 – month time deposit also is seen by society through investing their money. This research using the total value of 1 – month time deposit, so the researcher want to see the interest rate effect of dollar currency that dominant used by society in terms of 1 – month time deposit in foreign currency.

Before societies decide to save their fund in the banking institution, there are factors to be considered. The factors can be seen in table 1.3.

Table 1.3.

The Growth of 1 – Month Time Deposit Interest Rate in Rupiah and Dollar

End of Period	Rupiah Time Deposit Interest Rate (%)	Growth (%)	Dollar Time Deposit Interest rate (%)	Growth (%)
2001	15.30		4.03	
2002	12.37	-23.69	2.35	-71.49
2003	6.64	-86.3	1.39	-6.9
2004	6.42	-3.31	2.77	49.82
2005	11.37	43.54	3.60	23.06

Source: Indonesia Bank statistics, various editions.

From the data above, we can see that in 2003, there are significant decreases in the interest rate, because Bank Indonesia decided to control SBI. But,

in 2005, we can see that the interest rate of 1 – month time deposit has a significantly from 6.42% to 11.37%, or with the growth of interest rate equal 43.54%. The interest rate of 1 – month time deposit in Dollar also shows significant point. In 2004, the growth of interest rate increases until 49.82% because at the time the exchange rate between Rupiah and Dollar depreciates until Rp. 9005/$, so the bank wants to get high profit from the interest rate in order to attract society to save their money into Dollar.

Theoretically fluctuation in 1 – month time deposit market might also be caused by fluctuation in other portfolio assets such as stock market and foreign exchange rate market.

Indonesia offers many kinds of portfolio assets to investors. The most important ones, being used in focused in this thesis, are 1 – month time deposit, stock, and foreign exchange rate. In the stock market investors commonly utilize IHSG as indicator whether to buy or sell their stock assets. Increasing IHSG can be using as indicator that demand in stocks market increases, this might mean that investors preferences toward stock assets are improving. Investors with limited resources might take the money out of their 1 – month time deposit and covert it with stock causes decreases in 1 – month time deposit.

Similar fluctuation will happen in the foreign exchange market. Exchange rate Rp to Dollar is commonly used as indicator whether or not investor will buy or sell their foreign exchange assets. A depreciation of Rupiah, which means an appreciation of US Dollar might in use investor to buy more US Dollar. Investors with limited resources might take the money out of their 1 – month time deposit

and covert it to US Dollar, causes a decreases in 1 – month time deposit. We can see from table 1.4. below :

Table 1.4.

The Growth of Stock Price Indexes (IHSG) and Exchange Rate

End of Period	Stock Price Indexes (IHSG)	Growth of IHSG (%)	Exchange Rate of Rp/$ (Par Value)	Growth of Rp/$ (%)
2001	392.03		10475	
2002	424.94	7.74	8973	-14.34
2003	679.3	37.44	8509	-5.45
2004	1000.23	32.09	9005	5.5
2005	1162.63	13.97	10030	10.22

Source: Indonesia Bank statistics, various edition

From the data above, we can see that the IHSG from year 2001 until 2005 are increases. The growth of IHSG shows that in 2003 the growth of IHSG are increases until 37.44% it causes by Central Bank of Indonesia control SBI at that time, even though in 2004 until 2005 the growth are decreases but the IHSG shows increases their indexes . And we can also see that exchange rate of Rp/$ fluctuate from year to year, the growth of exchange rate in 2002 until 2003 shows that the level of Rupiah are appreciation or Dollar depreciation, and for 2004 until 2005, the level of Rupiah depreciation or Dollar appreciation.

From the data point of view it is understood that the quantity of 1 – month time deposit, the 1 – month Rupiah time deposit interest rate, the 1 – month Dollar time deposit interest rate, IHSG, exchange rate between Dollar and Rupiah, are commonly known as data with non – stationary problem. In order to avoid the problem non – stationary of data, this research use data in the form of rate of growth. From that reason this research is titled : **AN ANALYSIS ON FACTORS AFFECTING THE GROWTH OF THE AMOUNT OF 1 - MONTH TIME DEPOSIT IN INDONESIA : 2003 : 2 – 2005 : 12.**

1.2. Problem Identification

This research focuses on factors affecting the growth of 1 – month time deposit in Indonesia. The factors discussed are the growth of 1 – month time deposit, the growth of 1 – month Rupiah time deposit interest rate, the growth of 1 – month Dollar time deposit interest rate, the growth of Stock Price Indexes/IHSG, and the growth of exchange rate between Dollar and Rupiah. A side from those variables, this research also needs to know the effect of situation the rate of Rupiah depreciation as independent variables.

In order to have a clear and bright framework, it is important to identify the main problem of this research as the basis framework of this thesis. Problem identification is important and is the first step in solving the problems discussed in this thesis. The problem identification in this research is analyzing factors that affect the growth of 1 – month time deposit in Indonesia.

1.3. Problem Formulation

Based on above problem identification to be investigate in this research :

1. Does the growth of 1 – month time deposit interest rate in Rupiah affect the growth of 1 – month time deposit in Indonesia?
2. Does the growth of 1 – month time deposit interest rate in Dollar affect the growth of 1 – month time deposit in Indonesia?
3. Does the growth of Stock Price Indexes/IHSG affect the growth of 1 – month time deposit in Indonesia?
4. Does the growth of exchange rate between Rupiah and Dollar affect the growth of 1 – month time deposit in Indonesia?
5. Does the situation affecting the rate of rupiah depreciation (dummy) affect the growth of 1 – month time deposit in Indonesia?

1.4. Problem Limitation

In order to have an effective and focused writing, the writer restricts :

1. That the data of the growth of 1 – month time deposit is the form of the growth of total 1 – month time deposit in Rupiah and Dollar.
2. That the period of the observation covers from February 2003 until December 2005.
3. That the factors affecting the growth of 1 – month time deposit being chosen in this research are only the growth of 1 – month Rupiah time deposit interest rate, the growth of 1 – month Dollar time deposit interest rate, the growth of Stock Price Indexes / IHSG, the growth of exchange

rate between Dollar and Rupiah, and the effect of situation the rate of Rupiah depreciation (Dummy).

1.5. Research Objectives

This research objective is to analyze factors affecting the growth of 1 – month time deposit in Indonesia by using regression analysis so it can obtain the contribution from each independent variable used in this research. The research also wants to prove the portfolio of Indonesian people in investing their money. The objectives are:

1. To analyze the effect of the growth of 1 – month of time deposit interest rate in Rupiah to the growth of 1 – month time deposit in Indonesia.
2. To analyze the effect of the growth of 1 – month of time deposit interest rate in Dollar to the growth of 1 – month time deposit in Indonesia.
3. To analyze the growth effect of stock price indexes / IHSG to the growth of 1 – month time deposit in Indonesia.
4. To analyze the growth effect of exchange rate Dollar to Rupiah to the growth of 1 – month time deposit in Indonesia.
5. To analyze the situation affecting the rate of rupiah depreciation (Dummy) to the growth of 1 – month time deposit in Indonesia.

1.6. Research Contribution

The final result of this research is expected to be useful and contributive for the following parties:

a. For the writer, this research becomes a good opportunity to apply the knowledge and theory that have been studied.
b. To study further about the monetary and its relation with a country's economic growth.
c. To give other researchers temporary data and arguments about the 1 – month time deposit in Indonesia.
d. To show the effect of the growth of 1 – month time deposit in Indonesia on the government balance of economic growth.
e. As additional information to monetary sector, it can increase the government balance of economic growth.
f. As a requirement to have a bachelor degree from the faculty of economics, at Islamic University of Indonesia.

1.7. Definition of Terms

Indonesia offers many kinds of portfolio assets to investors. The most important ones, being used in focused in this thesis, are 1 – month time deposit, stock, and foreign exchange rate. The total 1 – month time deposit used in this research came from the sum of 1 – month time deposit in Rupiah and Dollar. The growth of 1 – month time deposit is the reflection of a market portfolio growth, which is banking assets.

This thesis aims analyzing factors affecting the growth of 1 – month time deposit in Indonesia, for the period of February 2003 until December 2005. Factors chosen are the growth of 1 – month Rupiah time deposit interest rate, the growth of 1 – month Dollar time deposit interest rate, the growth of IHSG, the growth of exchange rate Rupiah/Dollar, and the situation affecting the rate of Rupiah depreciation (Dummy). The data being used in this research are in form of the rate of growth naturally the data of those variables have non – stationary problems.

At the first of this research did not use dummy variable, but the expected result is far away from the truth. So, the writer then do the research scatter plots (see scatter plots in appendices). From the scatter plot, the writer notices that there is not one regression line but two regression line that fit the scatter points. Based on the scatter plot, we can see that at some months the dummy = 1 and some other months the dummy = 0. It shows that when the dummy = 0 at that months the exchange rate situation like Idul Fitri, New years, tuition payment, school holiday affect inflation relatively high caused by the increase in spending of population. Because of population needs more funds, the 1 – month time deposit are decreased because the sharp withdrawn.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1. Literature Review

2.1.1. Sumaryati (1992)

Sumaryati, in her article "Analisis Efisiensi Pengelolaan Dana Perbankan di Indonesia", analyzes the influence of government regulation in financial, monetary, and banking sector at 27 October 1988 (PAKTO 88) about the efficiency funding operational especially in commercial bank. The analysis uses two approaches : microeconomics and macroeconomics. In macro, the estimation uses deposits function, credit function, and incomes function. On the other hand, micro analyzes the efficiency ratio unit of each related bank.

The conclusion of Sumaryati's research is that there is a positive influence on the level of deposit interest rate, number of labor, other expenditure, and the number of assets to the number of deposit being collected by the bank.

2.1.2. Kusdianto (1994)

Kusdianto makes a research on the factor affecting the deposit fund and devise commercial bank credit in Indonesia, before and after Pakto 1988. This research uses an independent variable, deposit interest rate, promotion cost, and total assets. So the conclusion of this research is that

deposit interest rate, promotion cost, and total assets have a significant positive relationship with the number of bank deposit, before and after Pakto 1988.

2.1.3. Prof. Dr. Edy Suandi Hamid, M.Ec. (1999)

Prof. Dr. Edy Suandi Hamid, M.Ec in his research " An Analysis Time deposits in Indonesia by using PAM ", uses quarterly data from 1984 – 1995. The independent variables used are interest rate, reserve requirement, the exchange rate of Rupiah toward dollar AS, and the level of deposits previous year. The conclusion of this research is that the independent variables of nominal interest rate, reserve requirement, exchange rate rupiah toward to dollar AS, and the level of deposits previous year have significant positive relationships with demand deposits in Indonesia.

2.1.4. Wahyu Setyaningsih (2001)

Wahyu Setyaningsih in her research discusses the factors that affect Rupiah time deposit in government. The variables used are the real PDB per capita, time deposits interest rate, and exchange rate between rupiah and dollar. The analytical tool is PAM. The result of this research mentions that real PDB per capita, interest rate, the level of deposits previous year have a significant positive effect on the Rupiah time deposit.

2.1.4. Boediono (2001)

Boediono conducts his research on " faktor – faktor yang mempengaruhi penghimpunan deposito berjangka pada bank umum pemerintah dan bank umum swasta nasuonal di Indonesia", the periods of this research are 1984 – 1996. The Independent variables used are national income, time deposit time deposits in government private bank and private national bank, total assets, inflation rate, and the number of bank. The conclusion of this research is the national income variable and total assets have significant effect on the demand of time deposits. On the other hand, the interest rate of time deposits and the number of bank office have no relationship with the demand of time deposits in government private bank and private national bank

CHAPTER III

THEORETICAL BACKGROUND AND HYPOTHESIS FORMULATION

3.1. Theoretical Background

3.1.1. The Congeniality of Bank and the Function of Bank

The definition of bank according to Act No. 14 / 1967 section 1 about the banking fundamental is " A banking institution has a main duty to give credit and services in the traffic payment and money supply. "

Banking Law 1967 is complied in situation and when the economic condition is different from now. The growth of national and international economy has moved so fast accompanied with the wide challenge of need for national banking to run its responsibility function, especially related to the banking law.

According to Act No. 7 year 1992 concerning with banking, it gives the definition of bank as : " Bank is the effort to collect the fund from the society in the form of saving and channeling of it to the society in order to improve level prosperity of live. "

Based on the definition, it is clear that bank has a relationship with money activity that supports all the society financial activity. Bank is indeed needed fund to be circulated in the society, thereby bank has functions as :

a. An institution that collect the funds from society

b. An institution that makes on commerce transaction and money payment easier.

c. An institution that channels the society funds in the form of credit.

3.1.2. Types of Bank

Act No. 14 / 1967 mentions that based on bank functions, bank is divided into four types[1] are:

a. Central Bank is Bank Indonesia as mentioned in Undang – Undang Dasar 1945 that roles as Central Bank or the leader of the Bank.

b. Commercial Banks are banks function to collect fund especially from saving and demand deposits in the effort to give short term credit

c. Saving Banks are banks that have a function in collecting fund especially by saving and main effort is to give interest

d. Development Banks are banks that the main source of fund comes from saving in the term of deposits or announce deposit in the short and long – term period and the business is giving short and long term credit in the development sector

According to Capital owner, Banks in Indonesia are divided into three :

a. *Government Bank*, are banks owned by government and divided into Commercial Bank, Development Bank, and Saving Bank

[1] Drs. M. Sinungan: 1992; hal 4

b. *National Commercial Banks*, are banks which their capital are owned by national entrepreneur, and consisting of common bank, development bank, and saving bank

c. *Foreign Commercial Banks*, are the branches of foreign banks that the main offices are in foreign countries, and their operational rules are arranged by themselves.

According to determining cash ratio, banks are divided into three categories:

a. Government and Foreign Bank included in first categories

b. Foreign Exchange Bank which is the commercial bank using only foreign payment

c. Non- Foreign Exchange Bank which is the commercial bank with no foreign transfer payment.

The last categories of a bank are according to institution that creates money. There are two categories :

a. *Primary Bank*, are bank which can create a money pass through from society saving in their hand from the liquid moncy saving in term of clearing account. The types of this bank are Public Government Bank and Public National – Foreign Bank.

b. *Secondary Bank*, it is a bank that cannot create money from society saving in their hand and this type of bank usually comes from Cooperative Bank, Market Bank, or other bank similar bank.

3.1.3. The Source of Banking Fund

A bank acquires funds by issuing (selling) liabilities, which are consequently also referred to as source of funds[2]. The funds obtained from issuing liabilities are used to purchase income – earning assets.

As a finance institution, funds are the banking main problem. Without fund, bank can not do anything, or in another word it has no function. Then, in the effort to collecting funds, bank should know where the source of fund is in the society. Therefore it can be concluded that the sources of banking funds used as operational capital come from :

a. Funds from their own capital

   Fund from bank in terms of capital deposited that comes from the stakeholder and from the reserve as well as banking profit that has not been divided to stakeholder

b. Funds from financial institution

   This fund can be from bank or non bank that is usually named as loan.

c. Fund from society is usually in terms of saving namely as clearing account, deposits, and savings.

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[2] Fedric S. Mishkin, "the economic of money, banking, and financial markets 6th edition" : p. 212

3.1.4. Time Deposits

Deposit is a saving from the third parties on bank that the withdrawal in the fixed maturity length is according to the agreement between third parties to the bank itself.

Related to time deposit as mentioned above, if the fixed maturity lengths are finished, the depositor can withdraw the time deposit and it can be extended with certain period. Bank Indonesia guarantees to payback all the time deposit. Time deposits are announced by foreign commercial bank or private national bank, and it is guaranteed not to be sold to the government. The time period can be chosen based on the need such as one, three, six, twelve, or twenty – four month.

Deposits interest rate can follow market development, and it is paid in the month or the year of time deposit when the name of depositors are announced. If we look at the accounting point of view, the time deposits record in banking account process can be classified into two : the deposit that will be expired in the next year or more than a year.

The classification of time deposit when less than a year, it is named as short - term time deposits and should be classified into a group as active debt of bank. While the time deposits expired more than a year is named as long – term time deposits.

Without a correct expired classification, bank will be difficult to manage the duty that should be fulfilled.

The purpose from the classification and presentation in the form of financial report in balance are to present normally short – term and long – term position. This purpose is needed for management responsibility of bank due to inform the time deposits expired date as a background to fulfill the financial responsibility that should be announced by bank.

3.1.5. Certificates of Deposit

The definition of certificate of deposit is a debt instrument sold by a bank to depositors who pays annual interest of a given amount and maturity pays back the original purchase price[3]. The certificate of deposit is announced by Bank Indonesia.

Certificates of deposit are sold and bought in certain time, usually one week, 2 week, or at least less than 1, 3, 6, 12, and 24 month. The interest rate is given as repayment from the bank announcing the certificates of deposit, and it is often different one from another bank. The difference depends on the ability and need from the bank itself over the fund that is withdrawn by the society.

According to the definition above, we can see the difference between the time deposits and certificates of deposit it has a main difference. Certificates of deposit are announced upon the name, while the certificates of deposit are announced by direction. Although the certificates of deposit are announced in expire maturity length, but to get the money it can be

[3] Fedric S. Mishkin, "the economic of money, banking, and financial markets 6th edition" : p. 26

withdrawn not based on expire maturity length, because it can be sold and bought. From the definition it can be concluded that certificates of deposit :

1. Bank Certificates of Deposit are the evidence of money receive announced by bank
2. Expired in maturity length
3. Give repayment usually paid in front when is bought the certificates of deposit
4. Bank announcing certificates of deposit guaranties the wealth of customer
5. Certificates of deposit can be sold or move by transfer
6. The announced certificates of deposit are according to the regulation in Indonesia
7. It can be used as credit guarantee
8. It will be expired after 30 years account from the expired maturity length.

It should be noticed that Commercial Bank, Development Bank, and Bank Perkreditan Rakyat may announce time deposit, but for the announced certificates of deposit it is only done by Commercial Bank, and Development Bank that are permitted, with pre - requirement from Central Bank of Indonesia, after fulfilling the requirement, about the healthy and ability of capital banking.

In terms of deposit that have been noticed above, there are other deposits recognized, namely :

1. Deposits on Call

   Deposits on Call are a kind of saving for permanent save in bank as long as the depositor expect. These deposits are different from time deposit; therefore if the depositors wish to withdraw, it should be announced to the bank. The announcement can be accepted by the bank, for example 16 weeks or 2 month before the expired maturity length.

2. Automatic Roll – Over Deposit

   The deposits that have finished the maturity length but not yet cash will not receive the interest rate.

3. Foreign Currency Time Deposit

   Usually the foreign currency time deposits are in US Dollar or another currency on Jakarta stock exchange. The expired maturity length can be agreed with their need of 1, 3, 6, and 12 month. The tariff of saving gives an attractive requirement and flexible market condition. The interest rates pay back in the expired time.

3.1.6. The Allocation of Banking Funds

When the sources of fund are included in liabilities post in bank, the allocation of all banking funds are included in assets post. According to assets, all of the funds by bank are included on the wealthy of bank itself.

The allocation of bank itself is basically divided into two assets[4], namely :

a. Non Earning Assets, which consist of, first, *primary, reserve* forming cash in the Bank Indonesia account. The funds in Primary Reserve are for the interest of *Cash Ratio* or the banking liquidity position based on the rule of Bank Indonesia as a central bank. Second, the funds investment makes easier for bank effort like building, office tools in manual or modern technology. All of that are to maintain the existence of banking and economic situation. This fund usually comes from early capital and capital reserve of bank.

b. Earning Assets consist of secondary reserve, credit, and long – term investment.

   Earning Assets should be done by bank in all condition. Bank should distribute in terms of credit because it is the main bank's job. The placements of fund in secondary reserve are absolute to doing the liquidity and profit direction. Bank will manage which funds are not productive, because if it happens, it will suffer financial loss. The replacement of funds in terms of wesel, check or bill, and the effects, in certificates of deposit or in Bank Indonesia Certificates or Money Market Certificates, is not an activity that can be avoided by bank, even in main obligation of bank after credit.

[4] M. Sinungan 1990:67

In the framework to look at the collecting of fund and how to allocate it, so there are two theories :

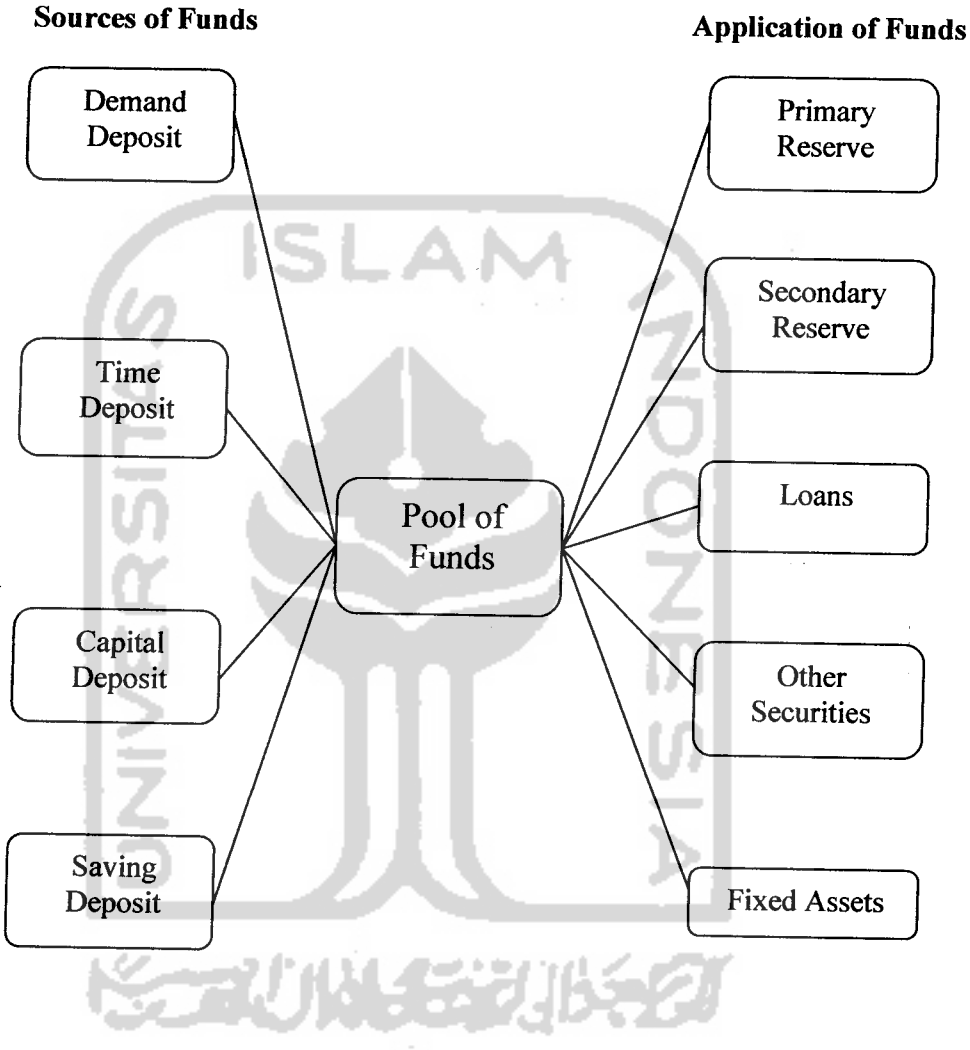
First, is Pool of Funds, by looking at the sources and replacement of the fund, where the money comes from the sources of funds in bank are collecting in pool funds first. Then the source of fund is allocated to many kind of fund utilizing.

Second, is an Assets Allocation Approach, is the replacement of funds in assets. This is related to banking assets management. Where the source of money in bank is not collected but divided first based on the maturity length. It means the storage of fund in the short – term (demand deposit and saving) in bank is not allowed to use long – term period, because the source of fund is for preparation to fulfill the withdrawal fund anytime. While the storage of fund in long - term period (deposit and capital) in bank is allowed to use long – term funds.

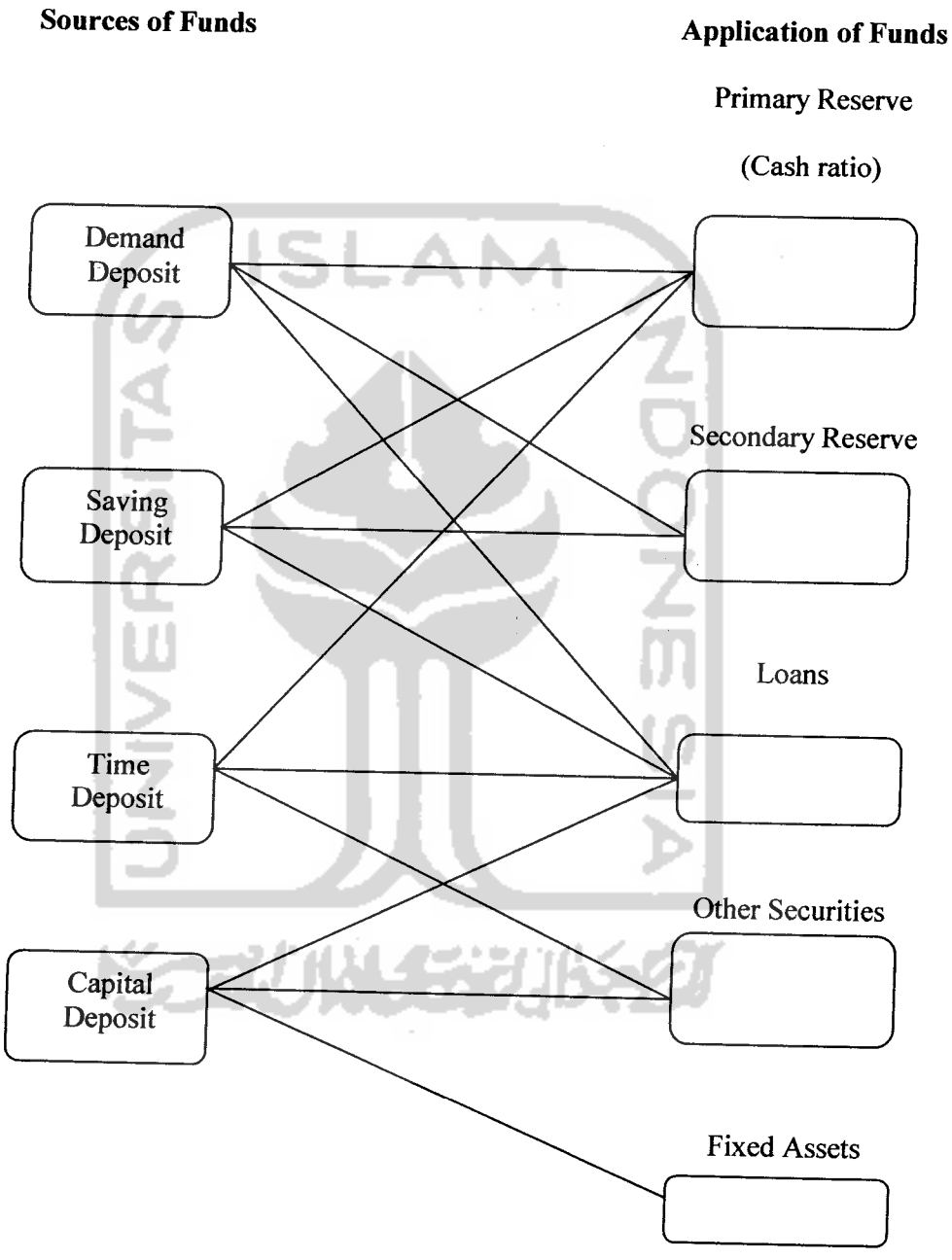
To explain this, there is a graph[5] :

[5] Drs. M. Sinungan "Manajemen Dana Bank" 1992 :p. 72

3.1.6. a. Pool of Funds Approach



3.1.6. b. Assets Allocation Approach



3.1.7. Four Factors affecting the growth of 1 – Month Time Deposit in Indonesia

3.1.7.1. The Interest Rate

3.1.7.1.1. The Interest Rate of Bank Indonesia Certificates

Based on Act No. 13 Year 1968 about central bank, one of Bank Indonesia's duties is serving as monetary authority to help government in managing, controlling and keeping the stability of Rupiah. Bank Indonesia runs its duty by applying some monetary instruments, which consists of reserve requirement, discount facility, open market operation. Bank Indonesia trades Bank Indonesia Certificates in its open market operation. Bank Indonesia Certificates is Bank Indonesia's securities or bonds that are issued by Bank Indonesia as short-term bonds with discount system (Bank Indonesia, 1999).

Bank Indonesia that functions as monetary authority has a duty to control the stability of Rupiah. A common paradigm states that the excess supply of money in society can influence the stability of Rupiah in the economy. Bank Indonesia Certificates are issued to control the money supply in society. The sales of Bank Indonesia Certificates can absorb money from society. This will automatically be able to minimize the excess money supply.

The sales of Bank Indonesia Certificates are done through auction system and targeted to bank parties. However, any individual or other institutions may buy them through appointed banks or brokers. Buyers that

buy Bank Indonesia Certificates will earn discount that is determined by the buyers as the participant in the auction.

When the interest rate of Bank Indonesia Certificates increases, the interest rate of deposit in the bank also increases. Higher interest rate of deposit can attract money from society to be saved in the banks. More people will shift their money to be saved in the banks caused by the higher interest rate. It is more profitable and promising in resulting in return. In addition, money that is deposited in the banks is guaranteed by the government. These are the reasons for people prefer to save their money in the banks compared to other investment vehicles that mostly involve higher risks without guarantee from government.

3.1.7.1.2. The Preferred Market Habit Theory

This theory explains interest rate occurs in loan "group" with certain time fixed by the demand and supply power for the group of fund. If in certain demand condition of fund for one month increases, so the interest rate for loan "group" with the one month period attend will also increase. Interest rates for this group will be much higher than interest rate for three month, six month or for other groups. Each "group" will have "market" itself, and the group of market situation itself which mainly decides the interest rate for group.

This theory does not explain interest rate from a certain group, but it is *only* influenced by the situation of the group, each market is not connected

with another market. This theory recognizes that there is a relationship between the market, the relationship happens and the characteristics which are resemble with the relationship with goods market (for example: rice market) and another goods market (for example : wheat or corn market). The distance of the relation depends on the goods one and whether has other relationship or not, and whether substitution is close or not. For instance one month deposit has a close substitution relationship to two month deposit than a year deposit, so the "market" condition of two month will have more influence than a year deposit "market" toward to interest rate for one month deposit. According to this theory "market", the condition for one month deposit itself shows the most certain interest rate for one month deposit.

These interest rate structures are sources from classical theory. This theory emphasizes on :

1. "Society expectation" contribution concerning with interest rate development system in the future in the decision of interest rate structure, and
2. If there is a "group" market as mentioned on proffered market habit theory, but between one group and another are determined by other market situation (in other word, the substitution between group of fund with another group are closely related).

3.1.7.2. The Stock Market

A stock represents a share of ownership in a corporation. It is a security that is a claim on the earnings and assets of the corporation. Issuing stock and selling it to the public is a way for corporations to raise funds to finance their activities. The stock market, in which claims on the earnings of corporations (shares of stock) are traded, is the most widely followed financial market[6].

The stock market is also an important factor in business investment decisions because the price of shares affects the amount of funds that can be raised by selling newly issued stock to finance investment spending. A higher price of firm's shares means that it can raise a larger amount of funds, which can be used to buy production facilities and equipment.

3.1.7.2.1. IHSG (Stock Market Indexes)

A *stock market index* is a listing of stocks and a statistic reflecting the composite value of its components. It is used as a tool to represent the characteristics of its component stocks, all of which bear some commonality such as trading on the same stock market exchange, belonging to the same industry, or having similar market capitalization. Many indices compiled by news or financial services firms are used to benchmark the performance of portfolios such as mutual funds[7].

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[6] Fedric S. Mishkin, "the economic of money, banking, and financial markets 6th edition" : p. 5
[7] Wikipedia : economic encyclopedia

Indonesian Stock Price Indices is an indicator that reflects the overall stock market transaction taking places in Jakarta Stock Exchange. As one country's economic indicator, the stocks market needs one standard of calculation concerning all transaction occur on the market, in a particular period of time. This calculation will be helpful as main measurement of investment and economic condition of one country. Indonesian Stock Price Indices was being settled as 100 point since August10th 1982. From that moment on, all stocks transaction that occur are based on that point.

This Indonesian Stock Price Indices calculation uses particular computation which is the combination of all exist sectored stocks, that is :

$$\textit{Indonesian Stock Price Indices} = \frac{\Sigma \text{ (closing price in a regular market x total stocks)}}{\text{Basic Value}}$$

$$\text{Basic Value} = \Sigma \text{ (basic price x total stocks)}$$

Because the amount and price of each emitter/sectored is not the same, thus sometimes Indonesian Stock Price Indices does not reflect the real stock fluctuation.

For those stocks that have high value and big volume surely will have a big integrity too. For example, high – value stocks (blue chip) are compared with middle / low class stocks. In high – value stocks, even there are only few stocks transaction happen in the market, it will directly influence Indonesian Stock Price Indices. On the other hand, even there are lots of

transaction occurring in the market, the middle and low – class stocks will not influence the Indonesian Stocks Price Indices directly.

3.1.7.3. The Exchange Rate

Exchange rate is the price of one currency in terms of another[8]. Each country has a currency in which the prices of goods and services are quoted; the dollar in the United States, the Pound sterling in Britain, the Yen in Japan and the Peso in Mexico, to name just a few. Exchange rates play a central role in international trade because they allow us to compare the prices of goods and services produced in different countries[9].

Foreign exchange rates, for the most part, are not fixed over time. Instead, like any other price, they vary from week to week and month to month according to the forces of supply and demand. The foreign exchange market is the market in which currencies of different countries are traded; it is here that foreign exchange rates are determined. Foreign exchange is traded at the retail level in many banks and firms specializing in that business. Organized markets in New York, Tokyo, London, and Zurich trade hundreds of billions of dollars' worth of currencies each day[10].

Exchange rate affects the economy because when the Rupiah become more valuable relative to foreign currencies, for example US. Dollar, Indonesian goods become more expensive and foreign (American) goods

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[8] Mishkin and Eakins, 2000; 331
[9] Krugman and Obstfeld, 1997: 332
[10] Samuelson and Nordhaus, 1995: 668

become cheaper. When the Rupiah falls in value, Indonesian goods become cheaper and American goods become more expensive. In addition, changes in exchange rate have a major impact on financial institution because many of their assets are denominated in foreign currencies, when the value of foreign currencies changes, the market value of financial institutions changes as well[12].

3.1.7.4. The situation affecting the rate of rupiah depreciation (Dummy)

At the first of this research did not use dummy variable, but the expected result is far away from the truth. So, the writer then do the research scatter plots (see scatter plots in appendices). From the scatter plot, the writer notices that there is not one regression line but two regression line that fit the scatter points. Based on the scatter plot, we can see that at some months the dummy = 1 and some other months the dummy = 0. It shows that when the dummy = 0 at that months the exchange rate situation like Idul Fitri, New years, tuition payment, school holiday affect inflation relatively high caused by the increase in spending of population. Because of population needs more funds, the 1 – month time deposit are decreased because the sharp withdrawn.

[12] Mishkin and Eakins, 2000; 331

3.2. Hypotheses

As research guidance this thesis uses the following hypotheses. The research investigates whether the independent variables of this research affect the growth of 1 – month time deposit in Indonesia. The researcher wants to prove the portfolio of Indonesian people in investing their money. The hypotheses in this research are:

1. That Growth of 1 – month Rupiah time deposit interest rate (X1) has positive effect on the growth of 1 – month time deposit. Which means that when the growth of 1 – month Rupiah time deposit interest rate increases, the growth of 1 – month Rupiah time deposit increases also
2. That the growth of 1 – month Dollar time deposit interest rate (X2) has positive effect on the growth of 1 – month time deposit. Which means that when the growth of 1 – month Dollar time deposit interest rate increases, the growth of 1 – month Dollar time deposit increases also
3. That the Growth of IHSG (X3) has negative effect on the growth of 1 – month time deposit. This means that when the growth of 1 – month time deposit in Indonesian decreases caused by the increase the growth of IHSG.
4. That the growth of Exchange rate (X4) has negative effect on the growth of 1 – month time deposit. Which means that when the growth of exchange rate (Rp/$) increases it makes the growth of 1 – month time deposit decreases.

5. That the situation affecting the rate of rupiah depreciation (Dummy) has positive effect on the growth of 1 – month time deposit. It shows that the dummy = 0 at the months when exchange rate situations like Idul Fitri, Christmas, New years, tuition payment, school holiday increase inflation causing Rupiah depreciate or Dollar appreciate, and the market players withdraw their money from 1 – month time deposit.

CHAPTER IV

RESEARCH METHOD

4.1. Research Method

The research method used in this research is quantitative analysis. Quantitative analysis is a characteristic of variables where the mark is stated on the numerical form. The characteristics of the measurement variable make the mark to be placed in interval.

The writer also uses literature study. This literature study uses some sources of the theories that are related to the research.

4.2. Research Subject

The research is concentrated on the growth of 1 – month time deposit in Indonesia. The research shows what variables that have impacts on the growth of 1 – month time deposit.

4.3. Research Setting

The study of this thesis takes three places: on Faculty of Economics Islamic University of Indonesia, Bank Indonesia, Jalan Imam Barjo, Semarang and also BPS (Badan Pusat Statistik) Semarang. The writer does the research through literature and data analysis that are available on the library and the reference room in Economics Faculty of Islamic University of Indonesia and also from Bank Indonesia library.

4.4. Types and Sources of Data

The data used in this research is secondary data obtained from many sources that are competent with the research. In this research the writer uses monthly data since 2003:2 – 2005:12.

The writer obtains the data from many sources that are relevant and representative with the research. The sources of data are:

1. Economic Indicator. Weekly report of Badan Pusat Statistik.
2. Indonesian Monetary Economic Statistics. Year Book report of Bank Indonesia.
3. Indonesia Financial Statistics of Bank Indonesia.
4. Official website of Bank Indonesia. http://www.bi.go.id

4.5. Research Variables

Based on the data used in this research, variables in this thesis are categorized into two variables; dependent variable and independent variables. Both variables are described as follows:

- Dependent variable

  The dependent variable in this research is the growth of 1 – month time deposit Indonesian (Y)

- Independent variable

  The independent variables in this research consist of four variables, they are:

  - The growth of 1 – month Rupiah time deposit interest rate (X1)

- The growth of 1 – month Dollar time deposit interest rate (X2)
- The growth of Stock price indexes / IHSG (X3)
- The growth of Exchange rate Rupiah/ Dollar (X4)
- The situation affecting the rate of rupiah depreciation (Dummy)

4.6. Technique of Data Analysis

This research uses cointegration model, which involves the use of one independent variable and influenced by many dependent variables.

Function of the growth of the amount of 1 – month time deposit in Indonesia can be formed as follows:

$$Y = F \{X1, X2, X3, X4, Dummy\}$$

Where:

Y = The growth of 1 – month time deposit Indonesian (%)

X1 = The growth of 1 – month Rupiah time deposit interest rate (%)

X2 = The growth of 1 – month Dollar time deposit interest rate (%)

X3 = The growth of Stock Price Indexes (IHSG) (%)

X4 = The growth of Exchange rate (dollar/Rp)

Dummy = The situation affecting the rate of rupiah depreciation

To achieve the research objectives, the regression analysis is conducted by using time series data from 2003:2 until 2005:12.

4.7. Method of Data Analysis

4.7.1. Classical Assumption Test

This test basically is to detect the validity of empirical model that is used in the research. In order to interpret the regression result that consists of regression coefficient number. A model becomes valid if it is free from the presence of multicollinearity, autocorrelation and heterocedasticity.

4.7.1.1 Multicollinearity Test

According to Gujarati[13] multicollinearity means the existence of a perfect or exact linear relationship among some or all explanatory variables of regression model. If perfect multicollinearity appears in regression problem, in simple term it can be said that Least Square (LS) solution can not be achieved. In the regression analysis, multicollinearity gives into these several conditions below[14]:

a. Two independent variables having perfect correlation (because of that vectors that show the variables are collinear).

b. Two independent variables almost having perfect correlation (for the example correlation between them is close +1 or -1).

c. Linear combination from several independent variables having perfect correlation (or close to perfect) with other independent variable.

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[13] Gujarati 1995:320

[14] Makridakis,S ;Wheelwright.S.C and McGee.V.E(1999)*Forecasting: Methods and Applications*,2nd.Binarupa Aksara

d. Linear combination from one sub-collection of independent variables having perfect correlations (or close) with one linear combination from other sub-collection of independent variable.

To detect multicollinearity, the correlation method is used. The multicollinearity is predicted to happen when R^2 is high, say in excess of 0.9. If R^2 is high, the F test in most cases will reject the hypothesis that the partial slope coefficients are simultaneously equal to zero.

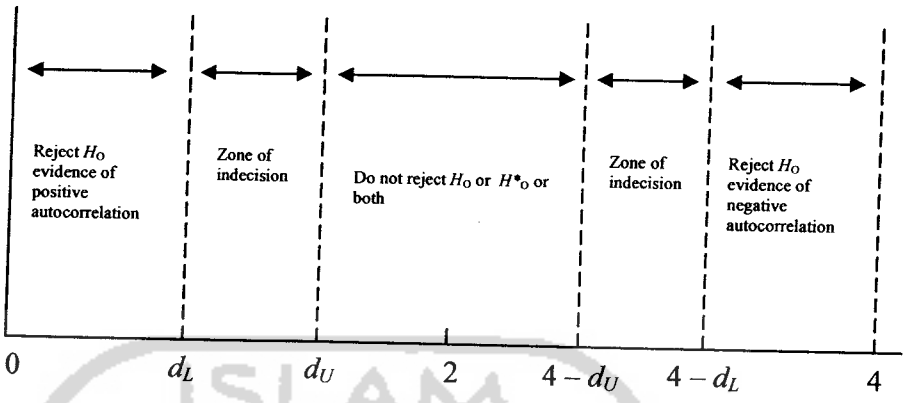
4.7.1.2 Autocorrelation Test

The term autocorrelation may be defined as correlation between members of series of observations ordered in time (as in time series data) or space (as in cross-sectional data)[15]. If there is autocorrelation in the model, it will raise the value of residual and the impact is the number of t-test, f-test and R^2 will decline.

In other words, the presence of autocorrelation on the model makes the data become not valid.

To detect the autocorrelation in the model, the writer uses Durbin Watson *d* statistic

[15] Gujarati, 1995: 400



Legend
H_0 : No positive autocorrelation
H^*_0 : No negative autocorrelation

1) If $0 < d < dL$	Reject null hypothesis No positive autocorrelation
2) If $dL \leq d \leq du$	No decision No positive autocorrelation
3) If $4- dL < d < 4$	Reject null hypothesis No negative correlation
4) If $4-du \leq d \leq 4-dL$	No decision No negative autocorrelation
5) If $du < d < 4-du$	Do not reject null hypothesis No autocorrelation, positive or negative

In testing the autocorrelation is using Lagrange Multiplier test (LM-test). This test uses the level of degree (χ^2) to express that there is no autocorrelation. The rule is when χ^2 statistic is bigger than the value of χ^2 table, hence H_o is denied and also on the contrary.

4.7.1.3 Heterocedasticity Test

Heterocedasticity is a situation when there is a relationship between the values of independent variables and the residual value from the model. To detect the heterocedasticity, the writer uses one of the formal method; that is the White test. The White model is:

$$E^2 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_D X_D + \delta_1 X_1^2 + \delta_2 X_2^2 + \delta_3 X_3^2 + \delta_4 X_4^2 + \delta_D X_D^2 + \delta_6 X_1 X_2 + \delta_7 X_1 X_3 + \delta_8 X_1 X_4 + \delta_9 X_1 X_D + \delta_{10} X_2 X_3 + \delta_{11} X_2 X_4 + \delta_{12} X_2 X_D + \delta_{13} X_3 X_4 + \delta_{14} X_3 X_D + \delta_{15} X_4 X_D + \varepsilon \quad (4.7.1.3\ a)$$

That is, the squared residual from the original regression on the original X and D variable, the squared values, and the cross product of the regressors.

Under the null hypothesis that there is no heterocedasticity, it can be shown that sample size (n) times the R^2 obtained from the regression asymptotically follows the chi-square distribution with df equal to the number of independent variables (excluding the constant term) in the auxiliary regression. That is:

$$n.\ R^2 = X^2\ df \qquad (4.7.1.3\ b)$$

If the chi-square value obtained in (4.7.1.3 b) exceeds the critical chi-squared value at the chosen level of significance, the conclusion is that there is heterocedasticity in the model. If it does not exceed the critical chi-

square value, there is no heterocedasticity, which is to say that in the auxiliary regression (4.7.1.3 a), $\alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 = 0$

4.7.2. T- Statistic Test

T- Stats test is used to know the correlation between the dependent variable and independent variable individually. In this research, the writer used one tail test because this research has a strong theoretical expectation.

- Hypothesis that uses one tail test positive:
  - ☞ Ho : $\beta_i < 0$; i= 1.2....etc

    Individually, the independent variables negatively affect the dependent variable.
  - ☞ Ha : $\beta_i > 0$; i= 1.2....etc

    Individually, the independent variables positively affect the dependent variable.
- Hypothesis that uses one tail test negative:
  - ☑ Ho : $\beta_i > 0$; i= 1.2....etc

    Individually, the independent variables positively affect the dependent variable.
  - ☑ Ha : $\beta_i < 0$; i= 1.2....etc

    Individually, the independent variables negatively affect the dependent variable.

The following hypothesis will be examined individually:

$H_0 : \beta_i = 0$: means that the independent variable individually does not have an impact on the dependent variables.

$H_a : \beta_i > 0$: means that the independent variable individually have impacts on the dependent variable.

The decision will be made with the parameter (α) 5% based on the following rules:

a. When the value of computed t < critical value (t table value), H_o is accepted. In this case the independent variable individually does not influence the dependent variable significantly.

b. When the value of computed t > critical value (t table value), H_o is rejected. In this case the independent variable individually influences the dependent variable significantly.

4.7.3. F- Statistic Test

This test is used to detect the correlation between both dependent variable and independent variables simultaneously. The testing of F test is the same as the testing for t test. Hypothesis is formulated as follows:

- Ho : $\beta_1 = \beta_2 = \beta_3 = 0$

  Hence all independent variables simultaneously do not affect the dependent variable.

- Ho : $\beta_1 \neq \beta_2 \neq \beta_3 = 0$

  Hence all independent variables simultaneously affect the dependent variable.

With using F – stats table:

1. If F-statistic < F-table

   df denominator = (n-k), df numerator = (k-1)

   Ho is accepted and Ha is rejected

2. If F-statistic > F-table

   df denominator = (n-k), df numerator = (k-1)

   Ho is rejected and Ha is accepted

4.7.4. Coefficient of Determination (R^2)

It is an important property of R^2 because it is a non-decreasing function of the number of explanatory variables or regresses present in the model; as the number of regresses increase. R^2 almost invariably increases and never decreases. R^2 is used to detect how far the independent variable influences the dependent variable in the model[16]. R^2 is being a measure of the goodness of fit of a sample least squares linear regression in a body of data. The number of R^2 is between 0 – 1. The closer the number of R^2 to 1 the better the model explains about the relationship between dependent variable and independent variables.

[16] Gujarati, 1995: 207

CHAPTER V

RESEARCH FINDINGS AND DISCUSSION

5.1. Research Description

This chapter described about the research result and secondary testing data collected from many resources to know the factors affecting the growth of 1 - month time deposit in Indonesia in the year of 2003:2 – 2005:12. Analysis descriptions are based on the secondary data collected from many resources. The resources are:

a. International Financial Statistics (IFS), various editions.

b. Statistics year book of Indonesia, various editions.

c. Central bureau of statistics (BPS, Indonesian Banking Statistics).

This analysis provides the data, mean, and deviation standard, on each research variable:

5.1.1. The Growth of 1 – month Time Deposits in Indonesia.

The growth of 1 – month Time Deposits in Indonesia 2003:2 – 2005:12 is:

Table 5.1.

The Growth of 1 – month Time Deposits in Indonesia

(%)

Year	Y	Year	Y	Year	Y
2003:2	2.97	2004:1	4.87	2005:1	4.21
2003:3	3.61	2004:2	1.38	2005:2	3.90
2003:4	5.01	2004:3	5.17	2005:3	6.64
2003:5	2.95	2004:4	7.28	2005:4	9.47
2003:6	3.67	2004:5	7.02	2005:5	5.25
2003:7	5.73	2004:6	7.21	2005:6	6.21
2003:8	3.89	2004:7	6.19	2005:7	8.91
2003:9	3.23	2004:8	5.23	2005:8	9.08
2003:10	6.79	2004:9	5.63	2005:9	8.89
2003:11	6.72	2004:10	3.76	2005:10	9.20
2003:12	3.87	2004:11	4.50	2005:11	7.52
		2004:12	9.72	2005:12	9.59

Source: Indonesian Financial Statistic

From the table 5.1. above, it can be concluded that from 2003:2 until 2005:12 were the growth of 1 - month time deposit, but in the year of 2003:5 until 2004 : 2 the growth of 1 - month time deposit was decreasing. It was decreasing until the lowest amount of 1 – month time deposit that is 1.38% in the year of 2004:2. In the year of 2004:3 amount of 1 – month time deposit increased again, and at the beginning of the year of 2005:1 growth of 1 – month time deposit was increasing again, and steadily increased again at

6.64% in 2005:3. Finally the amount of 1 – month time deposit increased step by step until the year of 2005:12.

5.1.2. The growth of 1 – month Rupiah time deposit interest rate

The growth of 1 – month Rupiah time deposit interest rate of 2003:1 until 2005:12, is in this table 5.2.:

Table 5.2.

The interest rate of 1 – month time deposit in Rupiah

(%)

Year	X1	Year	X1	Year	X1
2003:2	12.89	2004:1	9.91	2005:1	14.41
2003:3	11.02	2004:2	10.08	2005:2	15.97
2003:4	11.68	2004:3	12.73	2005:3	15.59
2003:5	11.20	2004:4	15.17	2005:4	16.60
2003:6	8.41	2004:5	19.40	2005:5	16.94
2003:7	2.82	2004:6	16.44	2005:6	18.43
2003:8	7.54	2004:7	14.90	2005:7	17.76
2003:9	8.84	2004:8	15.10	2005:8	19.51
2003:10	12.01	2004:9	16.16	2005:9	36.02
2003:11	9.02	2004:10	14.78	2005:10	25.21
2003:12	10.56	2004:11	16.53	2005:11	24.65
		2004:12	15.91	2005:12	19.22

Source: International Financial Statistic.

The table 5.2. above, it shows that the growth of 1 – month time deposit interest rate in Rupiah was in the year of 2003:1, it reached 12.89%, and the lowest growth of 1 – month time deposit interest rate in Rupiah occurred in the year of 2003:7 at 2.82%. The fluctuations on the growth of 1 – month time deposit interest rate in Rupiah were so various but it seemed that it was increasing at the year of observation. Finally the growth of 1 – month time deposit interest rate in Rupiah increased step by step until the year of 2005:12.

5.1.3. The growth of 1 – month Dollar time deposit interest rate

The growth of 1 – month Dollar time deposit interest rate of 2003:1 until 2005:12, is in this table 5.3.:

Table 5.3.

The growth of 1 – month time deposit interest rate in Dollar

(%)

Year	X2	Year	X2	Year	X2
2003:2	44.82	2004:1	68.90	2005:1	50.00
2003:3	47.13	2004:2	54.98	2005:2	50.00
2003:4	46.86	2004:3	36.13	2005:3	75.72
2003:5	49.71	2004:4	44.50	2005:4	38.74
2003:6	47.52	2004:5	52.98	2005:5	17.36
2003:7	45.40	2004:6	48.76	2005:6	65.87
2003:8	48.25	2004:7	49.58	2005:7	53.24
2003:9	46.45	2004:8	127.42	2005:8	59.24

2003:10	49.13	2004:9	3.20	2005:9	77.01
2003:11	29.13	2004:10	153.27	2005:10	51.91
2003:12	45.72	2004:11	51.17	2005:11	50.17
		2004:12	50.00	2005:12	52.04

Source: International Financial Statistic.

The table 5.3. above, it shows that the growth of 1 – month time deposit interest rate in Rupiah was in the year of 2004:10, it reached 153.27%, and the lowest growth of 1 – month time deposit interest rate in Dollar occurred in the year of 2004:9 at 3.20%. The fluctuations on the growth of 1 – month time deposit interest rate in Dollar were so various but it seemed that it was increasing at the year of observation.

5.1.4. The growth of Stock Prices Indexes (IHSG)

The growth of IHSG, from the year of 2003:1 until 2005:12, is on this table 5.4. below:

Table 5.4.
The Growth of Stock Prices Indexes
(%)

Year	X3	Year	X3	Year	X3
2003:2	17.78	2004:1	25.84	2005:1	19.52
2003:3	14.69	2004:2	16.08	2005:2	17.72
2003:4	24.31	2004:3	11.66	2005:3	15.59
2003:5	28.73	2004:4	21.49	2005:4	15.00
2003:6	15.61	2004:5	8.69	2005:5	15.74

2003:7	17.19	2004:6	14.78	2005:6	18.14
2003:8	19.36	2004:7	18.36	2005:7	20.34
2003:9	27.99	2004:8	13.65	2005:8	3.82
2003:10	19.87	2004:9	24.78	2005:9	17.78
2003:11	13.10	2004:10	19.94	2005:10	13.05
2003:12	25.08	2004:11	28.65	2005:11	11.17
		2004:12	17.30	2005:12	29.24

Source: Central bureau of statistics

The table 5.4. shows that in the Stock Prices Indexes are increasing step by step.

5.1.5. The Growth of Exchange value of Rupiah to Dollar (Rp/$)

The growth of Exchange values of Rupiah to Dollar, from the year of 2003:2 until 2005:12, can be seen on this table 5.5. below:

Table 5.5.

The Growth of Exchange value of Dollar to Rupiah

(Rp/$)

Year	X4	Year	X4	Year	X4
2003:2	9.02	2004:1	10.76	2005:1	21.72
2003:3	10.03	2004:2	8.50	2005:2	1.11
2003:4	10.26	2004:3	9.96	2005:3	10.92
2003:5	7.41	2004:4	11.56	2005:4	12.54
2003:6	6.10	2004:5	11.28	2005:5	10.45
2003:7	8.90	2004:6	16.74	2005:6	10.00

2003:8	12.85	2004:7	11.29	2005:7	12.43
2003:9	10.04	2004:8	7.08	2005:8	10.37
2003:10	8.84	2004:9	12.69	2005:9	16.68
2003:11	11.55	2004:10	7.70	2005:10	8.56
2003:12	9.93	2004:11	9.34	2005:11	8.54
		2004:12	9.12	2005:12	8.82

Source: Year book of Bank Indonesia

In the table 5.5, the growth of exchange value from month to month was getting higher and higher, reached the top level in the year of 2004:6 at 16.74%, and declined in the year of 2005:2 at 1.11%. The highest fluctuation happened in the year of 2004 until 2005.

5.1.6. The situation affecting the rate of Rupiah depreciation (Dummy)

The situation affecting the rate of Rupiah depreciation (Dummy) 2003:2 – 2005:12 are:

Table 5.6.

The situation affecting the rate of rupiah depreciation

(Dummy)

Year	Y	Year	Y	Year	Y
2003:2	0	2004:1	1	2005:1	0
2003:3	0	2004:2	0	2005:2	0
2003:4	1	2004:3	0	2005:3	0
2003:5	1	2004:4	1	2005:4	1
2003:6	0	2004:5	0	2005:5	0

2003:7	0	2004:6	0	2005:6	1
2003:8	0	2004:7	1	2005:7	1
2003:9	1	2004:8	0	2005:8	0
2003:10	1	2004:9	1	2005:9	0
2003:11	0	2004:10	0	2005:10	1
2003:12	1	2004:11	1	2005:11	0
		2004:12	1	2005:12	1

Source: Indonesian Financial Statistics

From the table 5.6. above, it can be concluded that the decision to place 0 or 1 to the observation in this research is guided by the scatter plots of the data (see scatter plot at the attachments). Based on the scatter plot, we can see that at some months the dummy = 1 and some other months the dummy = 0. It shows that the dummy = 0 at the months when the exchange rate situations like Idul Fitri, New years, tuition payment, school holiday make inflation increase causing rupiah depreciate or Dollar appreciate.

5.2. Research Findings

5.2.1. Regression Results Analysis

The first step to analyze the data is by regressing the data with the assistance of the supported computer package that is competent and representative with the research. The writer uses Eviews 4.0 computer

program in order to make the data estimation easier. Beside, Eviews 4.0 computer program helps the writer avoiding the computation error.

Through this test, we will get line regression equation that is created from series data observation and the level of data influence including all independent variables toward dependent variables.

The result of regression by using Eviews 4.0 program is as follows:

Table 5.7. Regression Result

Dependent Variable: Y
Method: Least Squares
Date: 04/29/06 Time: 21:05
Sample: 2003:02 2005:12
Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.015379	1.503278	3.336294	0.0023
X1	0.161240	0.047803	3.372984	0.0021
X2	-0.000770	0.010553	-0.072995	0.9423
X3	-0.211778	0.059986	-3.530446	0.0014
X4	0.104520	0.078927	1.324261	0.1958
DUMMY	2.737920	0.694865	3.940218	0.0005
R-squared	0.621399	Mean dependent var		5.836286
Adjusted R-squared	0.556123	S.D. dependent var		2.197090
S.E. of regression	1.463792	Akaike info criterion		3.754743
Sum squared resid	62.13793	Schwarz criterion		4.021374
Log likelihood	-59.70800	F-statistic		9.519549
Durbin-Watson stat	1.854235	Prob(F-statistic)		0.000019

The last column shows that probability of drawing t-statistic of the magnitude of the one previous column from a t-distribution. With this information, it can tell at a glance if the data reject or accept the hypothesis that the true coefficient is zero. From the result above, the probability shows of the one tail test. Because not all independent variables have strong theoretical expectation then the researcher's decided to use the t-table that have exactly measures rather than probability, to check the hypothesis is accepted or rejected.[17]

[17] Gujarati, Damodar,(2003). *Basic Econometrics: Fourth Edition*.McGraw-Hill. NewYork.

Based on the result of regression, the writer gets the estimation equation for the growth of mutual fund in Indonesia, that is:

$$Y = 5.015379 + 0.161240X1 - 0.000770X2 - 0.211778X3 + 0.104520X4 + 2.737920 \text{ Dummy} + u$$

Where:

Y = The growth of 1 – month time deposit Indonesian (%)

X1 = The growth of 1 – month time deposit interest rate in Rupiah (%)

X2 = The growth of 1 – month time deposit interest rate in Dollar (%)

X3 = The growth of Stock Price Indexes (IHSG) (%)

X4 = The growth of Exchange rate (dollar/Rp)

Dummy = The situation affecting the rate of rupiah depreciation

5.2.2. Statistical Result Analysis

5.2.2.1. Constant or Intercept

The constant value is 5.015379 indicating that the average level of the growth of 1- month time deposits in Indonesia is 5.015379 when another variable is zero. The sign is positive, meaning that the growth of 1 - month time deposits in Indonesian tends to increase, keep other variables constant

5.2.2.2. T Test

The T - test is done to test the independent variables individually by t statistic. From the regression result gathered, the value of computed t

value for each independent variable will be compared to the value of t table. The way to find the value of t table is:

t table = t α df (n-k)

Where : α : the level of significance

df : degree of freedom

n : the number of data

k : the number of parameter

This research estimates the t table with α 0.05 and df (35-6) that is 29. From the table, it is found that the value of t table is 1.699. If the value of t-statistic or computed t value > t table value; the independent variables impact the dependent variable significantly. Likewise, if the computed t value < t table value; the independent variables do not significantly impact the dependent variable.

This thesis is using one tail t – test hypotheses.

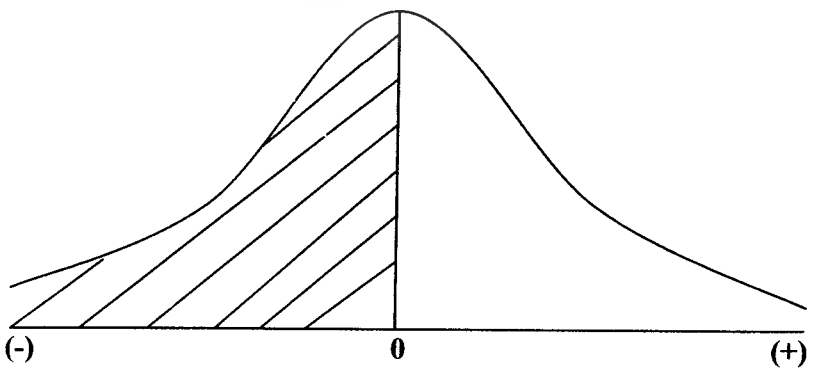


Figure 5.1. One Tail Negative

When the hypothesis one tail negative :

$H_0 : \beta_i < 0$

$H_a : \beta_i > 0$

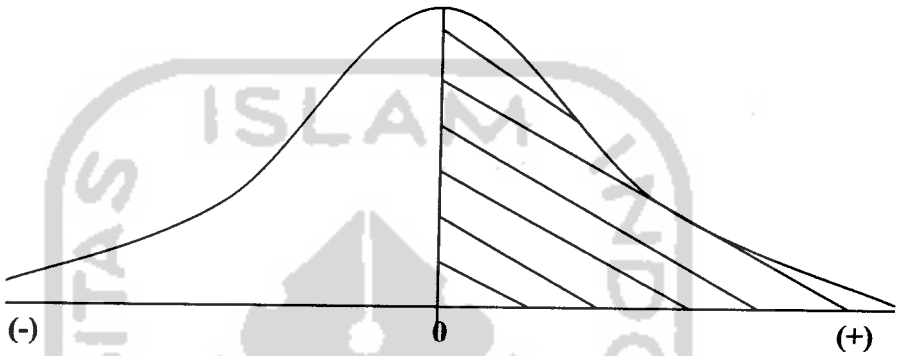


Figure 5.2. One Tail Positive

When the hypothesis one tail Positive :

$H_0 : \beta_i > 0$

$H_a : \beta_i < 0$

From the regression result, the computed t value for each independent variable are found and shown in the following table 5.8.:

Table 5.8
The Comparison Value of t-statistic and t-table

Variable	t-statistic	Hypotheses	Proven/Not Proven
X1	3.372984	One tail, Positive(+)	Proven at α 5% (1.699)
X2	-0.072995	One Tail, Positive(+)	Not Proven

X3	-3.530446	One Tail, Negative(-)	Proven at α 5% (-1.699)
X4	1.324261	One Tail, Negative(-)	Not Proven
Dummy	3.940218	One Tail, Positive(+)	Proven at α 5% (1.699)

5.2.2.3. F-Test

The F – stats consists of the joined effect on the growth of 1 – month Time Deposit Interest Rate in Rupiah, the growth of 1 – month Time Deposit Interest Rate in Dollar, the growth of Exchange value of Dollar to rupiah, the growth of Stock Price Indexes, the situation affecting the rate of rupiah depreciation, toward the growth of 1 – month time deposit in Indonesia.

Hypothesis:

Ho : There is no joined impact on the growth of 1 – month Time Deposit Interest Rate in Rupiah, the growth of 1 – month Time Deposit Interest Rate in Dollar, the growth of Exchange value of Dollar to rupiah, the growth of Stock Price Indexes, toward the growth of 1 – month time deposit in Indonesia, the situation affecting the rate of rupiah depreciation.

Ha : There is joined impact on the growth of 1 – month Time Deposit Interest Rate in Rupiah, the growth of 1 – month Time Deposit Interest Rate in Dollar, the growth of Exchange value of Dollar to rupiah, the growth of Stock Price Indexes, toward the growth of 1 –

month time deposit in Indonesia, the situation affecting the rate of rupiah depreciation.

F- Statistics:

From the test results

F Statistics = 9.519549

F-table (5%; df = 5; 29) = 2.53

Decision criteria :

→ If F > 2.53; p < 0.05; Ho is rejected and Ha is accepted.

→ If F < 2.53, and p > 0.05, Ho is accepted and Ha is rejected.

Visually the area of accepted and rejected on F test hypothesis is shown on the figure 5.3. below:

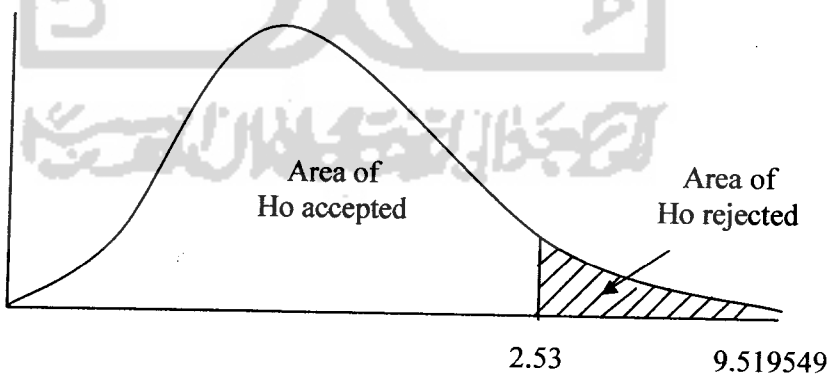


Figure 5.3.

Area of accepted and rejected on F test hypothesis

Conclusion

Because F = 9.519549> F-table = 2.53, and p = 0.000 < 0.05 (5%), so it can be concluded that Ho is rejected and Ha is accepted. It can be said that there is a significant effect joined between the growth of 1 – month Time Deposit Interest Rate in Rupiah, the growth of 1 – month Time Deposit Interest Rate in Dollar, the growth of Exchange value of Dollar to rupiah, the growth of Stock Price Indexes, and the situation affecting the rate of rupiah depreciation toward the growth of 1 – month time deposit in Indonesia.

5.2.3. Goodness of Fit (R^2)

Based on the result of the regression run by the writer, the resulted value of coefficient determination (R^2) is 0.621399. This value shows a relative high measure for independent variables to explain its impact on dependent variable in the model. It means that the variation of the dependent variable can be explained by the independent variables about 62.1399%, while the rest 37.8601% are explained by factors outside the model.

5.2.4. Classical Assumption

5.2.4.1. Autocorrelation Test.

The term autocorrelation may be defined as correlation between residual of one observation ordered in time (as in time series data) or space (in cross

sectional data)[18]. If there is autocorrelation in the model, it will raise the value of residual and the impact is the number of t test, f test and R^2 will decline.

1) If $0 < d < dL$	Reject null hypothesis
	Positive autocorrelation
2) If $dL < d < du$	No decision
	No positive autocorrelation
3) If $4- dL < d < 4$	Reject null hypothesis
	Negative correlation
4) If $4-du < d < 4-dL$	No decision
	No negative autocorrelation
5) If $du < d < 4-du$	Do not reject null hypothesis
	No autocorrelation, positive or negative

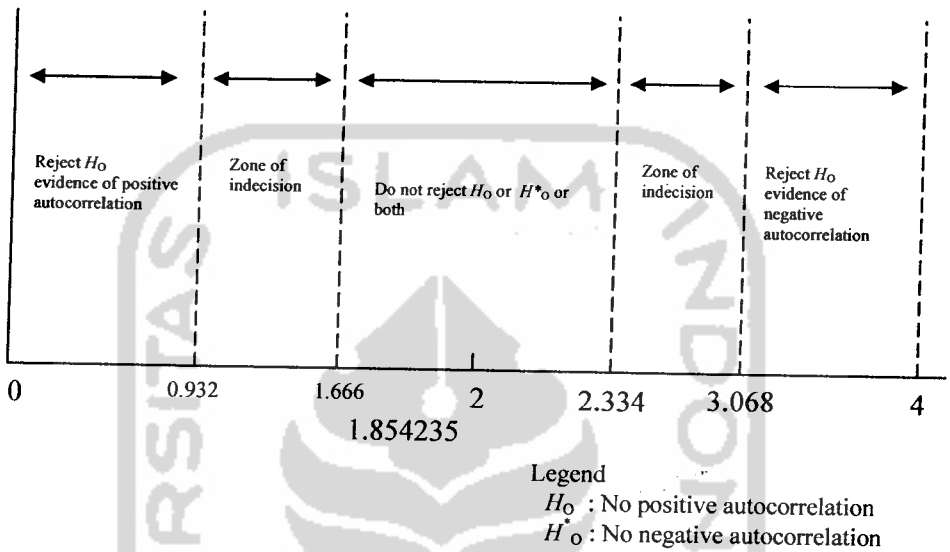
Criteria of autocorrelation testing with = 6; n = 35, and $\alpha = 5\%$ are shown on the graph below:

[18] Gujarati 1978, related edition

Figure 5.4.

Accepted and unaccepted hypothesis for autocorrelation testing

On α = 5%



In figure 5.4. above, shows that the value of D-W = 1.854235 is on the area of Do not reject null hypothesis . So, on α = 5% there are No positive or negative autocorrelation on the model.

5.2.4.2. Multicollinearity Test

Multicollinearity refers to the existence of more than one exact linear relationship or a linear relationship among some or all explanatory variables X1, X2, X3, X4, Dummy. There are several sources of multicollinearity. Multicollinearity may due to the following factors:

1. The data collection method employed, for example, sampling over a limited range of the values taken by the regression in population.
2. Constrains on the model or in the population being sampled.
3. Model specification.
4. An over determinate model.

Multicollinearity refers to the existence of more than one exact linear relationship among some or all explanatory variables. In this research, the researcher uses the *Correlation matrix* in understanding whether the model used has serious multicollinearity problem or not. If there is a problem, a healing utility is required to obtain a good result.

The way to detect Multicollinearity:

- If (r) > 0.90 → Multicollinearity
- If (r) < 0.90 → No Multicollinearity

Results as complete as showed at tables 5.9.

Table 5.9.

Multicollinierity test with Correlation matrix

	Y	X1	X2	X3	X4	DUMMY
Y	1.000000	0.607454	-0.065672	-0.268073	0.242099	0.265900
X1	0.607454	1.000000	0.152184	-0.239913	0.220467	0.008064
X2	-0.065672	0.152184	1.000000	-0.066853	-0.168093	-0.211675
X3	-0.268073	-0.239913	-0.066853	1.000000	-0.018712	0.641163
X4	0.242099	0.220467	-0.168093	-0.018712	1.000000	-0.041263
DUMMY	0.265900	0.008064	-0.211675	0.641163	-0.041263	1.000000

From the result at the table 5.9 above all of independent variables have r more than 0.90 it means there is No Multicollinearity.

5.2.4.3. Heterocedasticity Test

To detect whether there is heterocedasticity or not, the writer uses *White Heterocedasticity Test (cross term).*

The decisions are as follow:

If the Obs*R-squared is greater than *X*-table at level = 5%, df = (k-1), there is heterocedasticity in variance disturbance term in this model; otherwise, there is no heterocedasticity

Table 5.10.
White Heterocedasticity Test

White Heteroskedasticity Test:

F-statistic	1.321049	Probability	0.295138
Obs*R-squared	21.90771	Probability	0.288873

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 04/29/06 Time: 23:59
Sample: 2003:02 2005:12
Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.856069	29.04267	0.132773	0.8961
X1	-1.756423	0.751145	-2.338326	0.0336
X1^2	0.056547	0.026267	2.152740	0.0480
X1*X2	-0.027463	0.017850	-1.538563	0.1447
X1*X3	0.126926	0.048614	2.610879	0.0197
X1*X4	-0.085619	0.080435	-1.064443	0.3040
X1*DUMMY	-0.144669	0.537990	-0.268906	0.7917
X2	0.501702	0.590692	0.849346	0.4090
X2^2	-0.000359	0.001962	-0.183057	0.8572
X2*X3	-0.005371	0.014149	-0.379604	0.7096
X2*X4	0.009179	0.054488	0.168461	0.8685
X2*DUMMY	-0.022218	0.141589	-0.156918	0.8774
X3	-1.776222	2.115265	-0.839716	0.4143
X3^2	0.027458	0.040212	0.682841	0.5051
X3*X4	-0.087781	0.096916	-0.905743	0.3794
X3*DUMMY	-0.088148	0.946728	-0.093108	0.9270
X4	2.421629	2.522242	0.960110	0.3522
X4^2	0.001682	0.035522	0.047350	0.9629
X4*DUMMY	-0.286042	0.763130	-0.374828	0.7130
DUMMY	9.236029	23.90379	0.386383	0.7046

R-squared	0.625935	Mean dependent var	1.775369
Adjusted R-squared	0.152118	S.D. dependent var	3.243705
S.E. of regression	2.986820	Akaike info criterion	5.321855
Sum squared resid	133.8164	Schwarz criterion	6.210625
Log likelihood	-73.13245	F-statistic	1.321049
Durbin-Watson stat	2.639929	Prob(F-statistic)	0.295138

Table 5.11.

Result of White Heterocedasticity Test

Test	X^2 stat	$X^2_{(19)\ 0,05}$ table	Result
Obs*R-squared	21.9071	30.1435	No Heterocedasticity

The results at the tables 5.11 above shows that there is *No heterocedasticity* problem.

5.3. Research Discussion

The discussion in this part aims to have a deep and advanced discussion related to the model.

5.3.1. The Growth of 1 – month Time Deposit Interest Rate in Rupiah

The growth of 1 – month Time Deposit Interest Rate in Rupiah by using interest rate as the factor to analyze is very important because interest rate highly affects the growth of 1 – month time deposit in Indonesia itself.

The hypothesis for this variable is the growth of 1 – month Time Deposit Interest Rate in Rupiah influences the growth of 1 – month time deposit in Indonesia positively. It means that an increase in the growth of 1 – month Time Deposit Interest Rate in Rupiah makes growth of 1 – month time deposit in Indonesia increase.

The statistical test supports this hypothesis correctly. The resulted coefficient from the regression for the growth of 1 – month Time Deposit Interest Rate in Rupiah is 3.372984. The value shows the impact of the growth of 1 – month Time Deposit Interest Rate in Rupiah on the growth of 1 – month time deposit in Indonesia. When the growth of 1 – month Time Deposit Interest Rate in Rupiah increases by 1%, the growth of 1 – month time deposit in Indonesia increases by 3.372984% holding all variables constant. This statistical result fits the previous hypothesis stated a positive relationship between the growth of 1 – month Time Deposit Interest Rate in Rupiah and the growth of 1 – month time deposit in Indonesia

5.3.2. The Growth of 1 – month Time Deposit Interest Rate in Dollar

The Growth of 1 – month Time Deposit Interest Rate in Dollar by using interest rate as the factor to analyze is very important because interest rate in Dollar negatively affects the growth of 1 – month time deposit in Indonesia itself.

The hypothesis for this variable is the growth of 1 – month Time Deposit Interest Rate in Dollar influences the growth of 1 – month time deposit in Indonesia positively. It means that an increase in the growth of 1 – month Time Deposit Interest Rate in Dollar makes growth of 1 – month time deposit in Indonesia increase.

The statistical test does not support this hypothesis. The resulted coefficient from the regression for the growth of 1 – month Time Deposit Interest Rate in Dollar is -0.072995. The value shows the impact of the growth of 1 – month Time Deposit Interest Rate in Dollar on the growth of 1 – month time deposit in Indonesia. The Growth of 1 – month Time Deposit Interest Rate in Dollar increases by 1%, the growth of 1 – month time deposit in Indonesia decreases by 0.072995% holding all variables constant. This statistical result does not fit the previous hypothesis stated a positive relationship between the growth of 1 – month Time Deposit Interest Rate in Dollar and the growth of 1 – month time deposit in Indonesia

5.3.3. The Growth of Stock Price Indexes (IHSG)

The other factor used in this research is the growth of Stock Price Indexes (IHSG). Using Stock Price Indexes (IHSG) as the factor to be analyzed is important because Stock Price Indexes (IHSG) is representing investment in the stocks market in Indonesia.

In this research Stock Price Indexes (IHSG) is one variable that negatively affects on the growth of 1 – month time deposit in Indonesia because the growth of Stock Price Indexes (IHSG) represents investment.

According to statistical test, the coefficient value of the growth of Stock Price Indexes (IHSG) variable is -3.530446. This value represents that when the growth of Stock Price Indexes (IHSG) increases by 1% the growth of 1 – month time deposit in Indonesia decreases by 3.530446% holding all variable constant. It agrees with the previous hypothesis in this research about the negative relationship between both variables the growth of Stock Price Indexes (IHSG) and the growth of 1 – month time deposit in Indonesia.

5.3.4. The Growth Exchange Rate (Rp/USD)

Another factor used in this research is the growth of exchange rate between the two countries, in this case between Indonesia and the United States of America. Using exchange rate as the factor to analyze is very important because exchange rate has a strong relation with price.

According to statistical test, the coefficient value of the growth of exchange rate is 1.324261. The values of the test do not affect to the growth of 1 – month time deposit in Indonesia. This value represents that when the growth of exchange rate increase by 1% the growth of 1 – month time deposit in Indonesia increases by 1.324261% holding all variables constant. It does not agree with the previous hypothesis in this research about the negative relationship between both variables the growth of exchange rate and the growth of 1 – month time deposit in Indonesia.

5.3.5. The situation affecting the rate of rupiah depreciation (Dummy)

Another factor used in this research is the situation affecting the rate of rupiah depreciation (Dummy). Using exchange rate as the factor to be analyzed is very important because exchange rate has a strong relation with price especially in special events like Idul Fitri, New Year, and Tuition payment, school holiday. This makes the inflation relatively high caused by the increase in spending of the population.

According to statistical test, the coefficient value of the situation affecting the rate of the rupiah depreciation (Dummy) is 3.940218. The value shows the impact of the Dummy on the growth of 1 – month time deposit in Indonesia. The Dummy increases by 1%, the growth of 1 – month time deposit in Indonesia increases by 3.940218% holding all variables held constant.

CHAPTER VI

CONCLUSIONS AND IMPLICATIONS

Based on the result of the analysis and discussion of the previous chapters, several conclusions and implication are outlined as followed:

6.1. Conclusions

1. The regression model of this research fits the true economic model of the effects of factors x1, x2, x3, x4, Dummy on Y. It is shown by the size of the coefficient of determination R-squared is 0.621399. It means that about 62.1399% of the growth of 1 – month Time Deposit in Indonesia can be explained by variation in the explanatory variables that are the growth of 1 – month Time Deposit Interest Rate in Rupiah, the growth of 1 – month Time Deposit Interest Rate in Dollar, the growth of Exchange value of Dollar to rupiah, the growth of Stock Price Indexes, and of the situation affecting the rate of rupiah depreciation (Dummy). Meanwhile, the rest which is around 37.8601% may be explained by the outside factors of this model. And the significant of the F-test value of this research is greater than the F table value (F = 9.519549> F-table = 2.53, and p = 0.000 < 0.05 (5%)); meaning that those independent variables (X1, X2, X3, X4 and Dummy) affect the growth of 1 – month time deposit in Indonesia .

2. Since the thesis uses one tail t – test hypotheses, so the decision whether the hypotheses are proven or not proven are based on the sign of the statistical result. When the sign of the statistical result is the same as the sign of the hypothesis it is said that the hypothesis is proven, and when the sign of the statistic result is not same as the sign of the hypothesis it is said that the hypothesis is not proven

   From the results, it can be concluding that hypothesis concerning X1, X3, and Dummy is proven. And the hypothesis concerning X2 and X4 has no influence on Y.

3. The growth of 1 – month Rupiah Time Deposit Interest Rate in affects the growth of 1 – month time deposit are positively at α = 5%. This means that when The 1 – month of Rupiah Time Deposit Interest Rate increase, the amount of 1 – month Rupiah time deposit increase also
4. The growth of 1 – month USD Time Deposit Interest Rate has no relationship with the growth of 1 – month time deposit
5. The growth of Stock Price Indexes (IHSG) affects the growth of 1 – month time deposit in Indonesia are negatively at α = 5%. This means that stock portfolio and bank portfolio has substitute relationship
6. The growth of exchange rate (Rp/USD) has no relationship with the growth of 1 – month time deposit
7. The Dummy Variable affects the growth of 1 – month time deposit are positively at ⇨ = 5%. This means that foreign exchange rate portfolio and portfolio player does not regard to foreign exchange rate, but only in

special events like Idul Fitri, New Year, tution payment, and school holliday

8. There are no heterocedasticity, autocorrelation, and multicollinearity. It means that all independent variables (the growth of 1 – month Time Deposit Interest Rate in Rupiah, the growth of 1 – month Time Deposit Interest Rate in Dollar, the growth of Exchange value of Dollar to rupiah, the growth of Stock Price Indexes, the situation affecting the rate of the rupiah depreciation) affect the dependent variable (the growth of 1 – month time deposit in Indonesia) significantly

6.2. Implication

The results of this analysis might be useful for anyone who is interested in the effect of fluctuations or stabilization in the portfolio market, for both the players and the policy makers concerning portfolio market.

For example:

When the stock price index increases, portfolio players will reduce their 1 – month time deposit in order to convert it with stock. We know that the relationship between 1 – month time deposit and stock are substitute one to another. On the other hand, during the special events that causes Rupiah depreciation or Dollar appreciation policy maker could increase interest rate of 1 – month Rupiah time deposit to avoid sharp withdrawal of 1 – month time deposit, since the result shows positive relationships between Dummy and the growth of 1 – month time deposit.

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APPENDICES

RESEARCH DATA

The Growth of 1 – month Time Deposits in Indonesia

(%)

Year	Y	Year	Y	Year	Y
2003:2	2.97	2004:1	4.87	2005:1	4.21
2003:3	3.61	2004:2	1.38	2005:2	3.90
2003:4	5.01	2004:3	5.17	2005:3	6.64
2003:5	2.95	2004:4	7.28	2005:4	9.47
2003:6	3.67	2004:5	7.02	2005:5	5.25
2003:7	5.73	2004:6	7.21	2005:6	6.21
2003:8	3.89	2004:7	6.19	2005:7	8.91
2003:9	3.23	2004:8	5.23	2005:8	9.08
2003:10	6.79	2004:9	5.63	2005:9	8.89
2003:11	6.72	2004:10	3.76	2005:10	9.20
2003:12	3.87	2004:11	4.50	2005:11	7.52
		2004:12	9.72	2005:12	9.59

Source: Indonesian Financial Statistic

The Growth of 1 – month Rupiah time deposit interest rate

(%)

Year	X1	Year	X1	Year	X1
2003:2	12.89	2004:1	9.91	2005:1	14.41
2003:3	11.02	2004:2	10.08	2005:2	15.97
2003:4	11.68	2004:3	12.73	2005:3	15.59
2003:5	11.20	2004:4	15.17	2005:4	16.60
2003:6	8.41	2004:5	19.40	2005:5	16.94
2003:7	2.82	2004:6	16.44	2005:6	18.43
2003:8	7.54	2004:7	14.90	2005:7	17.76
2003:9	8.84	2004:8	15.10	2005:8	19.51
2003:10	12.01	2004:9	16.16	2005:9	36.02
2003:11	9.02	2004:10	14.78	2005:10	25.21
2003:12	10.56	2004:11	16.53	2005:11	24.65
		2004:12	15.91	2005:12	19.22

Source: International Financial Statistic.

The growth of Dollar 1 – month time deposit interest rate

(%)

Year	X2	Year	X2	Year	X2
2003:2	44.82	2004:1	68.90	2005:1	50.00
2003:3	47.13	2004:2	54.98	2005:2	50.00
2003:4	46.86	2004:3	36.13	2005:3	75.72
2003:5	49.71	2004:4	44.50	2005:4	38.74
2003:6	47.52	2004:5	52.98	2005:5	17.36
2003:7	45.40	2004:6	48.76	2005:6	65.87
2003:8	48.25	2004:7	49.58	2005:7	53.24
2003:9	46.45	2004:8	127.42	2005:8	59.24
2003:10	49.13	2004:9	3.20	2005:9	77.01
2003:11	29.13	2004:10	153.27	2005:10	51.91
2003:12	45.72	2004:11	51.17	2005:11	50.17
		2004:12	*50.00*	*2005:12*	*52.04*

Source: International Financial Statistic.

The Growth of Stock Prices Indexes (IHSG)

(%)

Year	X3	Year	X3	Year	X3
2003:2	17.78	2004:1	25.84	2005:1	19.52
2003:3	14.69	2004:2	16.08	2005:2	17.72
2003:4	24.31	2004:3	11.66	2005:3	15.59
2003:5	28.73	2004:4	21.49	2005:4	15.00
2003:6	15.61	2004:5	8.69	2005:5	15.74
2003:7	17.19	2004:6	14.78	2005:6	18.14
2003:8	19.36	2004:7	18.36	2005:7	20.34
2003:9	27.99	2004:8	13.65	2005:8	3.82
2003:10	19.87	2004:9	24.78	2005:9	17.78
2003:11	13.10	2004:10	19.94	2005:10	13.05
2003:12	25.08	2004:11	28.65	2005:11	11.17
		2004:12	17.30	2005:12	29.24

Source: Central bureau of statistics

The Growth of Exchange value of Rupiah to Dollar

(%)

Year	X4	Year	X4	Year	X4
2003:2	9.02	2004:1	10.76	2005:1	21.72
2003:3	10.03	2004:2	8.50	2005:2	1.11
2003:4	10.26	2004:3	9.96	2005:3	10.92
2003:5	7.41	2004:4	11.56	2005:4	12.54
2003:6	6.10	2004:5	11.28	2005:5	10.45
2003:7	8.90	2004:6	16.74	2005:6	10.00
2003:8	12.85	2004:7	11.29	2005:7	12.43
2003:9	10.04	2004:8	7.08	2005:8	10.37
2003:10	8.84	2004:9	12.69	2005:9	16.68
2003:11	11.55	2004:10	7.70	2005:10	8.56
2003:12	9.93	2004:11	9.34	2005:11	8.54
		2004:12	9.12	2005:12	8.82

Source: Year book of Bank Indonesia

The situation affecting the rate of rupiah depreciation

(Dummy)

Year	Y	Year	Y	Year	Y
2003:2	0	2004:1	1	2005:1	0
2003:3	0	2004:2	0	2005:2	0
2003:4	1	2004:3	0	2005:3	0
2003:5	1	2004:4	1	2005:4	1
2003:6	0	2004:5	0	2005:5	0
2003:7	0	2004:6	0	2005:6	1
2003:8	0	2004:7	1	2005:7	1
2003:9	1	2004:8	0	2005:8	0
2003:10	1	2004:9	1	2005:9	0
2003:11	0	2004:10	0	2005:10	1
2003:12	1	2004:11	1	2005:11	0
		2004:12	1	2005:12	1

Source: Indonesian Financial Statistic

REGRERESSION RESULT

Dependent Variable: Y
Method: Least Squares
Date: 04/29/06 Time: 21:05
Sample: 2003:02 2005:12
Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.015379	1.503278	3.336294	0.0023
X1	0.161240	0.047803	3.372984	0.0021
X2	-0.000770	0.010553	-0.072995	0.9423
X3	-0.211778	0.059986	-3.530446	0.0014
X4	0.104520	0.078927	1.324261	0.1958
DUMMY	2.737920	0.694865	3.940218	0.0005

R-squared	0.621399	Mean dependent var	5.836286
Adjusted R-squared	0.556123	S.D. dependent var	2.197090
S.E. of regression	1.463792	Akaike info criterion	3.754743
Sum squared resid	62.13793	Schwarz criterion	4.021374
Log likelihood	-59.70800	F-statistic	9.519549
Durbin-Watson stat	1.854235	Prob(F-statistic)	0.000019

The Comparison Value of t-statistic and t-table

Variable	t-statistic	α	t-table	Result
X1	3.372984	5%	1.699	Significant
X2	-0.072995	5%	-1.699	Not Significant
X3	-3.530446	5%	-1.699	Significant
X4	1.324261	5%	1.699	Not Significant
Dummy	3.940218	5%	1.699	Significant

Multicollinierity Test

Correlation matrix

	Y	X1	X2	X3	X4	DUMMY
Y	1.000000	0.607454	-0.065672	-0.268073	0.242099	0.265900
X1	0.607454	1.000000	0.152184	-0.239913	0.220467	0.008064
X2	-0.065672	0.152184	1.000000	-0.066853	-0.168093	-0.211675
X3	-0.268073	-0.239913	-0.066853	1.000000	-0.018712	0.641163
X4	0.242099	0.220467	-0.168093	-0.018712	1.000000	-0.041263
DUMMY	0.265900	0.008064	-0.211675	0.641163	-0.041263	1.000000

White Heterocedasticity Test

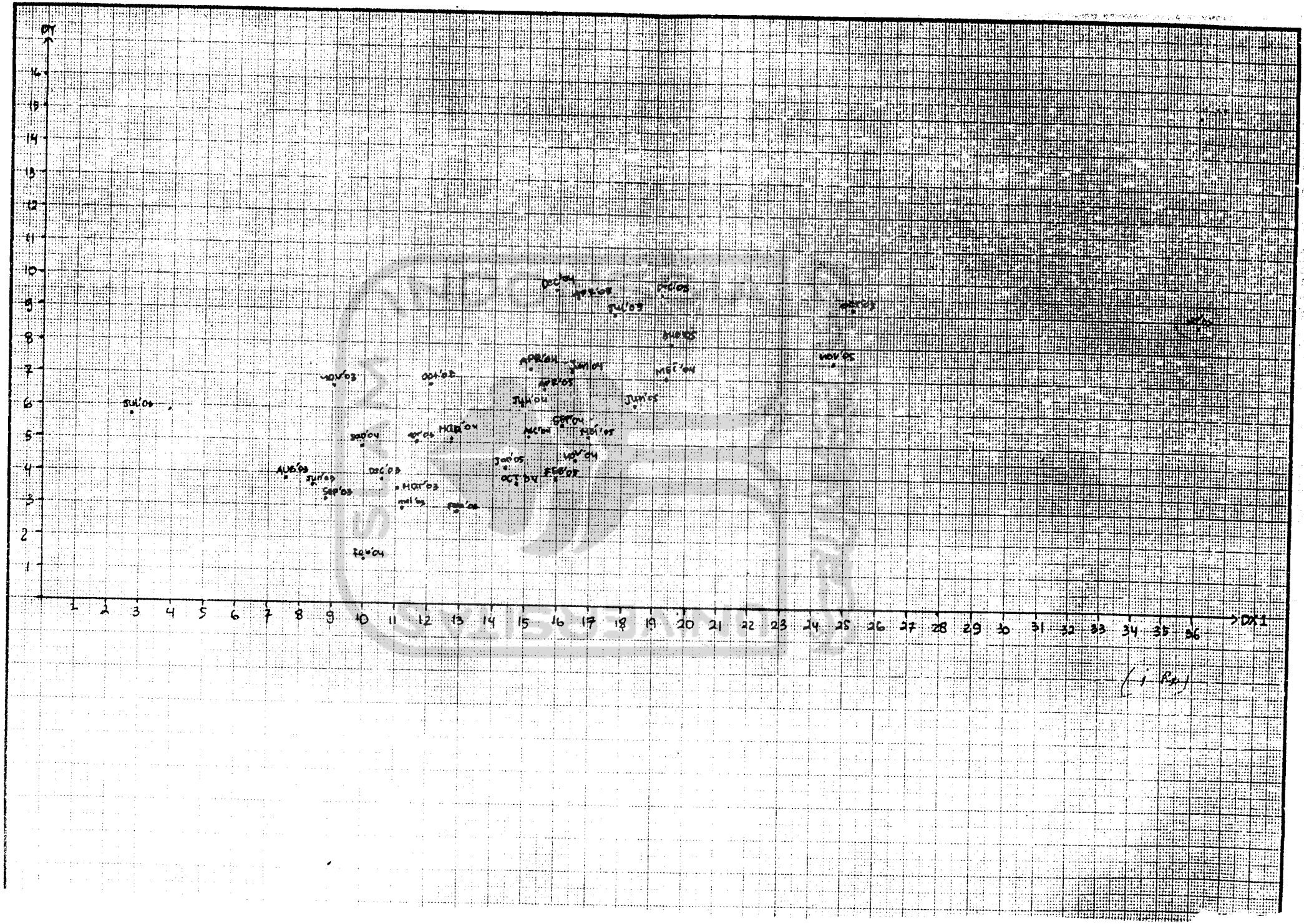
White Heteroskedasticity Test:

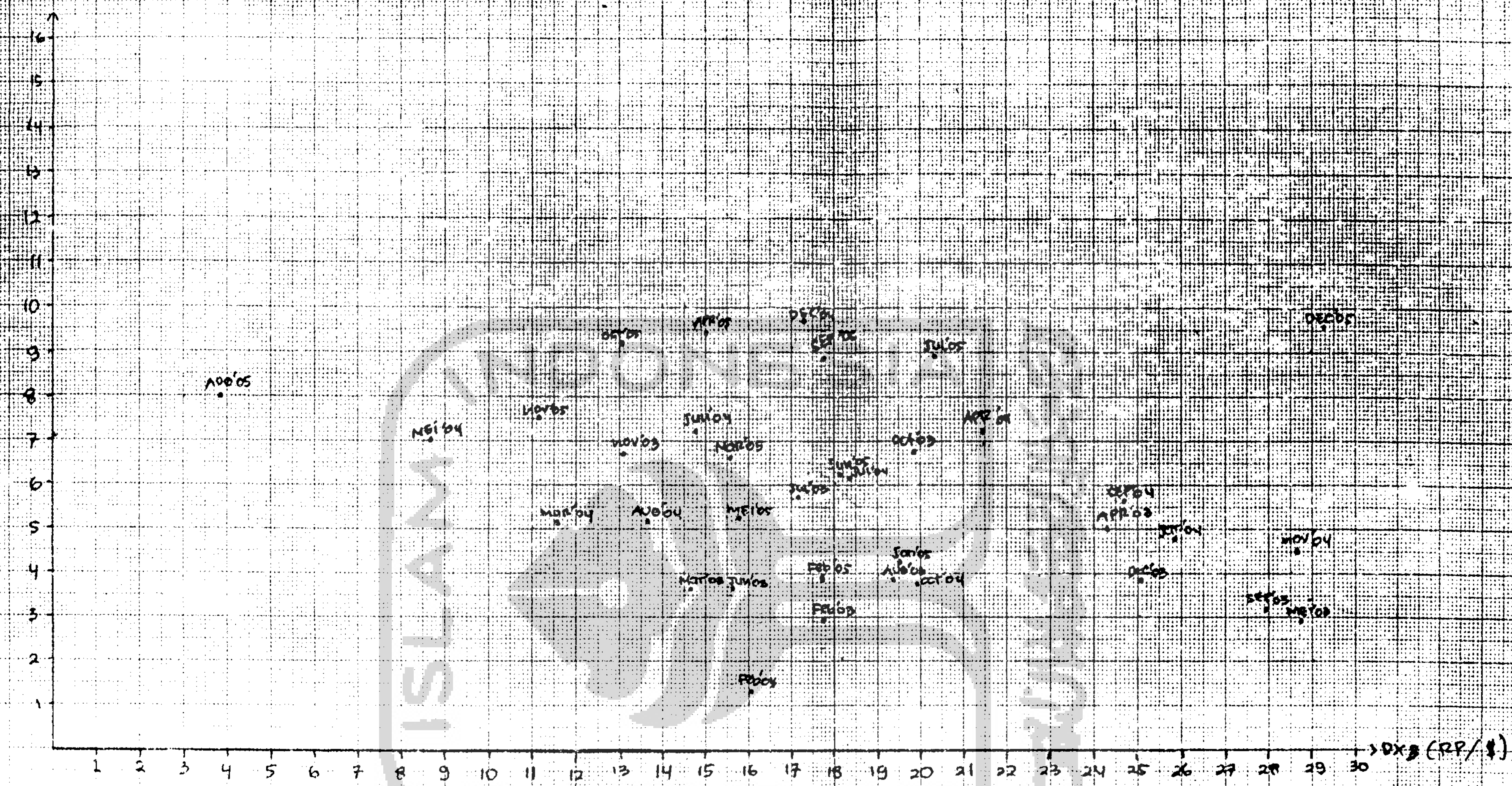
F-statistic	1.321049	Probability	0.295138
Obs*R-squared	21.90771	Probability	0.288873

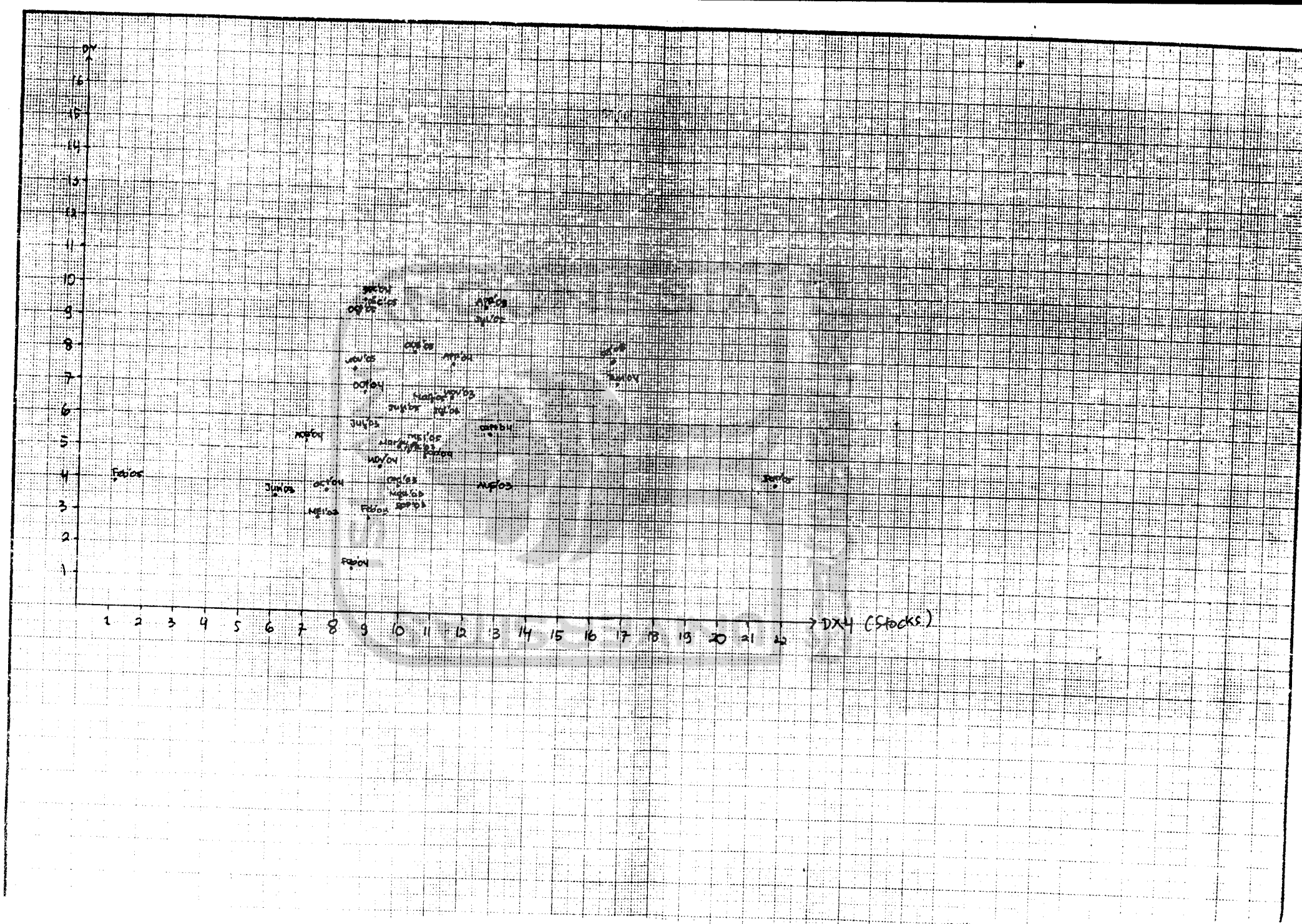
Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 04/29/06 Time: 21:15
Sample: 2003:02 2005:12
Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.856069	29.04267	0.132773	0.8961
X1	-1.756423	0.751145	-2.338326	0.0336
X1^2	0.056547	0.026267	2.152740	0.0480
X1*X2	-0.027463	0.017850	-1.538563	0.1447
X1*X3	0.126926	0.048614	2.610879	0.0197
X1*X4	-0.085619	0.080435	-1.064443	0.3040
X1*DUMMY	-0.144669	0.537990	-0.268906	0.7917
X2	0.501702	0.590692	0.849346	0.4090
X2^2	-0.000359	0.001962	-0.183057	0.8572
X2*X3	-0.005371	0.014149	-0.379604	0.7096
X2*X4	0.009179	0.054488	0.168461	0.8685
X2*DUMMY	-0.022218	0.141589	-0.156918	0.8774
X3	-1.776222	2.115265	-0.839716	0.4143
X3^2	0.027458	0.040212	0.682841	0.5051
X3*X4	-0.087781	0.096916	-0.905743	0.3794
X3*DUMMY	-0.088148	0.946728	-0.093108	0.9270
X4	2.421629	2.522242	0.960110	0.3522
X4^2	0.001682	0.035522	0.047350	0.9629
X4*DUMMY	-0.286042	0.763130	-0.374828	0.7130
DUMMY	9.236029	23.90379	0.386383	0.7046

R-squared	0.625935	Mean dependent var	1.775369
Adjusted R-squared	0.152118	S.D. dependent var	3.243705
S.E. of regression	2.986820	Akaike info criterion	5.321855
Sum squared resid	133.8164	Schwarz criterion	6.210625
Log likelihood	-73.13245	F-statistic	1.321049
Durbin-Watson stat	2.639929	Prob(F-statistic)	0.295138


DY
DX1


DX$ (RP/$)


DY
DX4 (Stocks.)