

/FINANCIAL STRUCTURE AND MONETARY POLICY
IN KOREA/

207

by

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CHAPTER I

INTRODUCTION

The Korean financial sector has supplied adequate finances to the real sector at the sacrifice of its development. Accordingly, the financial sector is underdeveloped relative to the real sector, and the scope of monetary policy is very limited.

This report consists of two parts such as: financial structure and monetary policy in Korea. I will attempt to describe the general nature of the financial structure in the first part.

First, I will attempt to examine the composition of the Korean financial market and structures of institutional financial markets. Especially, non-bank financial institutions, the commercial paper market, and the securities market will be examined.

Second, I will examine the non-institutional financial market, unorganized financial market in development economics. An attempt to describe the Kye market and curb market will be made. And, government policies to absorb the non-institutional market into institutional market will be examined.

In the second part, I will try to describe several characteristics of Korean monetary policy. Korean monetary policy heavily depends on the reserve requirements policy and direct control because of the underdevelopment of the financial market.

First, I will try to describe the evolution of Korean monetary policy.

Second, I will describe the instruments of monetary policy such as interest rate policy, open market operations, reserve requirements and direct control. An attempt to examine the lack of market instruments in open market operations and high reserve requirement policy will be made.

Third, I will attempt to examine the characteristics of money supply and demand for money in Korea. Especially, an attempt to examine the intermediate target and income elasticity of demand for money by using a model incorporating time lags will be made.

Fourth, I will describe the interest rate policy. An attempt to describe the arguments for a high interest rate policy and a low interest rate policy will be made. Especially, the effects of the high interest rate policy during 1965 to 1970 will be examined.

Finally, I will try to describe the selective credit policy. Especially, an attempt to describe the selective credit policy to support the export and basic industries will be made.

CHAPTER II

FINANCIAL STRUCTURE IN KOREA

The Korean financial structure is characterized by a dualistic structure. The legal institutional financial sector coexists with the illegal non-institutional money market, the unorganized financial market in development economics. Another characteristic of the Korean financial market is underdevelopment of the capital market which causes business firms to rely heavily on the external finance. Almost all of it is provided by the commercial banks. In addition, due to high reserve requirement ratio and low interest rate policy, there exists a chronic shortage of loanable funds, and the commercial banking sector has heavily relied on the central bank.

Composition of Korean Financial Market

The Korean financial market consists of bank, non-bank financial institutions, securities market, curb market, government financing, and foreign capital market (see Table 1).

Because the Korean corporate sector has a weak financial position and huge demand for working funds and equipment funds, the main source of the external funds is financial institutions which consist of banks and non-bank financial institutions. The share of the securities market, which has been developed considerably due to the government's promotion measures, has risen.

The share of the foreign capital was big until the first half of the 1970s, but it has shrunk.

The share of curb market, non-institutional financial market, is small in Table 1. However, the active size of it is much bigger because the calculation of the Bank of Korea is based on the official tax data and it is very difficult to approximate the size of the non-institutional financial market. The results of research are as follows. The amount which is estimated by Sogang University in 1970 was about 17 percent of the composition of the Korean financial market,¹ one estimated by the Institute of Developing Economies in Tokyo in 1982 was about 10 percent of that.²

Relative Underdevelopment of the Financial Sector

In Korea, the financial sector has grown rapidly during the last two decades. The types of financial institutions have been diversified and the real stock of financial assets has increased remarkably. But the financial sector in Korea is underdeveloped relative to real sector.

Banking Sector

The most important role of the financial sector in Korea is to supply adequate finances for economic development. In Korea, the level of development of capital markets was very low and the banking sector played a major role in mobilizing domestic savings.

Because the banking sector was important in mobilizing domestic savings and allocating it, commercial banks were controlled by the Korean government which was the major single share holder in the five nation-wide commercial banks. This facilitated channeling funds into the priority sectors considered important and contributed to the economic

Table 1. Composition of Korean Financial Market

	In Percent				
	1965- 1969 ¹	1970- 1974 ¹	1975- 1979 ¹	1980	1981
Financial Institutions	56.9	63.6	63.5	66.4	69.6
Loans	52.7	60.4	54.8	57.2	59.9
Banks	43.7	47.3	36.4	35.5	37.3
Non-Banks	9.0	13.1	18.4	21.7	22.6
Purchase of Securities	4.3	3.2	8.7	9.1	9.7
Government Financing	1.8	3.1	3.4	2.3	3.7
Commercial Paper Market	--	0.8	1.9	5.2	8.0
Securities Market	4.3	9.5	12.5	7.3	10.1
Non-institutional Market (Curb Market)	5.1	0.1	0.6	0.0	0.0
Foreign Capital Market	31.9	22.9	18.1	18.8	8.6
Total	100.0	100.0	100.0	100.0	100.0

Note: ¹ is annual average

Source: Bank of Korea

growth. The direct government control of the banking sector, however, caused the underdevelopment of the banking sector. For example, the ratio of M2 to GNP is much less than in other countries. In addition, the annual growth rate of total deposits at commercial banks was 31.4 percent, while that of manufacturing industry was 38.6 percent³ (see Tables 2 and 3).

Table 2. Ratio of M2 to GNP

	Korea	Japan	Taiwan
1975	0.39	0.98	0.56
1980	0.46	1.03	0.66

Source: Bank of Korea

Table 3. Growth of Banks and Manufacturing Industries

	1970	1975	1977	1980
Total Deposits at Commercial Banks (A)	100	381	687	1,534
Manufacturing Industries Sales (B)	100	589	1,074	2,625
(A) / (B) (%)	100	64.7	64.0	58.4

Note: 1970 = 100

Source: Bank of Korea

Non-banking Sector

One of the characteristics of the Korean financial economy is the underdevelopment of the non-banking sector. Especially in the latter half of 1960, due to the rise in bank interest rates, the size of the non-bank intermediation market decreased to about 10 percent. Even if the portion of it became greater than 20 percent at the end of the 1970s, the growth of the end of the 1970s was due to government protection. So,

it is dubious that they can compete with the other financial sectors under the same conditions.

Korean Financial Institutions

One of the characteristics of the Korean banking system is that special banks and commercial banks coexist. The Korean banking system is a dual-structured banking system. To meet the demand for funds by key industries and the special purpose needed by government, special banks were established by special law, and were supervised and directed by the Korean government.

Bank of Korea

The Bank of Korea, which was established in 1950, exercises the central bank functions. The Monetary Board, the Bank of Korea's highest policy-making organ, has responsibilities for the formulation of monetary policy and the supervision and regulation of the operations of the Bank of Korea.

The major functions of the Bank of Korea are as follows. The Bank of Korea has the exclusive right to issue notes and coins, and makes loans to, and receives deposits from banking institutions. In addition, it engages in loan and deposit transactions with the government. For example, it works as the official depository of the government and performs business related to the issue, sale or redemption of securities representing government obligations. And the Bank of Korea handles business related to the foreign exchange under the Regulations on Handling Foreign Exchange Control.

Deposit Money Banks

According to legal status and banking business sphere, deposit banks are divided into commercial banks and special banks.

Commercial Banks. Commercial banks have played a major role in the nation's financial market, and have largely engaged in short-term banking operations. The characteristic of Korean commercial banks is that they have depended heavily on borrowing from the Bank of Korea because of the chronic shortages in their own loanable funds. For example, about 20 percent of the commercial banks' total loans and discounts have been financed by borrowing from the Bank of Korea (see Table 4).

Special Banks. In Korea, there are six special banks which have their own specially defined financial purpose.

1. Korea Exchange Bank. The major function of it is to handle foreign exchange business and finance for foreign trade. The major financial resources of it consist of deposits from the public, foreign current deposit from the Bank of Korea and borrowing from foreign banks.
2. Korea Housing Bank. The bank makes loans to household and small- and medium-sized firms in order to facilitate the construction and purchase of houses. The major financial resources are the issuing of National Housing Bonds, borrowing from the government, and housing installment deposits.

Table 4. Principal Accounts of Commercial Banks

In Billion Won			
Assets		Liabilities and Net Worth	
Cash and Checks	5,649.9	Deposits	17,072.1
Due from Bank of Korea	1,517.1	Demand	7,392.8
Banks and NIF Securities	2,660.3	Time and Savings	9,402.6
Loans and Discounts	16,199.7	Banks	276.6
Loans in Foreign Currency	2,413.5	Deposits in Foreign Currency	491.0
Personal and Real Estate	1,308.3	Borrowings from Bank of Korea	5,710.9
Foreign Assets	3,429.5	Foreign Liabilities	7,245.5
Customer's Liabilities on Acceptances and Guarantees	14,620.1	Acceptances and Guarantees	14,620.1
Others	3,114.9	Others	4,000.8
		Paid-in Capital	1,051.8
		Reserves	472.9
		Profit or Loss	248.0
Total	50,913.1		50,913.1

Note: As of the end of 1984

Source: Bank of Korea

3. Small and Medium Industry Bank. The bank extends loans and discounts to small and medium entrepreneurs and handles medium industry funds of the government. The financial resource of it consists of deposits from the public and borrowing from the government, Bank of Korea and from abroad.
4. Citizens National Bank. The aim of the bank is to serve the households and small scale business firms. Its major financial resource is deposits from the public.

In addition, there are the National Agricultural Cooperatives Federation for agricultural and forestry loans, and the Central Federation of Fisheries Cooperatives for fishery loans.

Non-bank Financial Institutions

There are four kinds of non-bank financial institutions in Korea. These non-bank financial institutions have supplied a big portion of the funds to business firms during the last two decades.⁴

Development Institutions. Development Institutions consist of the Korea Development Bank, the Export-Import Bank of Korea, the National Investment Fund, the Land Bank of Korea, and the Korea Development Finance Corporation.

1. Korea Development Bank. The major function of the bank is to supply long-term credit for key industries. The main financial resources of the bank are borrowing from the government, international financial institutions, foreign banks and the

National Investment Fund, and issuance of Industrial Finance Debentures.

2. National Investment Fund. The National Investment Fund was instituted to supplement the existing financial system by channeling the flow of domestic savings toward investment in the heavy, chemical and other major industries.⁵ The funds mainly consist of financial resources raised from the savings funds of the member of the National Savings Associations.
3. Export-Import Bank of Korea. The main business of the bank is to finance export-import transactions, overseas investment and major resource development projects abroad.

In addition, there are the Land Bank of Korea for purchasing land, and the Korea Development Finance Corporation for providing medium and long-term industrial financing.

Savings Institutions. Savings Institutions were introduced to absorb the non-institutional financial market into the institutional financial market, and supply short-term funds to business firms and households. It consists of Mutual Savings and Finance Companies and Credit Unions.

Investment Companies. Investment Companies include investment and finance companies, merchant banking corporations, Investment Trust Companies, and the Korea Securities Finance Corporation.

1. Merchant Banking Corporations. Because there was the need to diversify the sources of foreign capital, the Korean government established the merchant banks similar to the investment banks of foreign countries for the exclusive purpose of attracting

private foreign loans and investment. There are six merchant banking corporations in Korea including the Korea Merchant Banking Corporation, the Korea Kuwait Banking Corporation, the Saehan Merchant Banking Corporation, the Korea French Banking Corporation, the Asian Banking Corporation, and the Korea International Merchant Bank. These are joint ventures (see Table 5).

Table 5. Joint Venture Merchant Banks in Korea

	In Percent					
	KMBC	KKBC	SMBC	KFBC	ABC	KMB
Domestic Shareholders	50	50	50	50	50	50
Foreign Shareholders	50	50	50	50	50	50
U.K.	50	10	20.5			
Kuwait		40				
France			7.5	50		
Japan			22			
Saudi Arabia					50	
Hong Kong						30
W. Germany						20

Note: End of July 1980

Source: Monthly Review of Korea Exchange Bank, August 1980

The important service of merchant banks is to operate the short-term financing by discounting the short-term notes of their corporate customers and selling their own notes to investors. In addition, the merchant banks are expected to act as effective channels of foreign currency financing from other sources (see Table 6).

Table 6. Merchant Bank's Foreign Capital Inducement

	Thousand Dollars	
	Direct Foreign Capital Inducement	Arrangement of Foreign Finance for Customers
KMBC	21,000	50,000
SMBC	22,000	100,000
KKBC	25,000	82,000
KFBC	29,676	---
ABC	5,100	---
KIMB	36,109	---

Note: January 1979-June 1980

Source: Monthly Review of Korea Exchange Bank, August 1980

Life Insurance Companies. Life insurance companies were established about 60 years ago, but remain in an infant stage because of political and social instability. The life insurance business is dominated by six companies and is not quantitatively important.

Commercial Paper Market

The commercial paper market was introduced in the early 1970s in order to alleviate the shortage of short-term working funds in business firms and to absorb non-institutional financial market loans. Commercial paper is purchased mainly by Investment and Finance Companies.

The introduction of the commercial paper market has greatly contributed to alleviating the chronic shortage of working funds for business firms. As indicated in Table 7, the commercial paper market has increased rapidly. However, as the interest on commercial paper is set uniformly, the commercial paper market is not sufficient to prevent the non-institutional financial market loans. But, if the determination of the interest rate on commercial paper depends on the market power, the commercial paper issued by large companies may crowd out those issued by weak and small companies.

Table 7. Discount and Sales of Commercial Paper

	1974	1975	1976	1977	1978	1979	1980
Commercial Paper	173.2 ¹	267.3	443.1	627.0	937.8	1409.1	2083.3
Discount	(86.8) ²	(54.3)	(65.8)	(41.5)	(49.6)	(50.3)	(47.8)

Note: ¹Unit is billion won

²Figures in parentheses indicate rate of increase as compared to previous year

Source: Bank of Korea

The Commercial paper market has expanded rapidly but has several problems such as: First, as we see in Table 8, Investment and Finance Companies' own paper, which are a substitute for banks deposit, is still a large portion of total sales. The increase in Investment and Finance Companies' own paper may be a switch in the form in which savings are mobilized rather than a stimulus to raising the level of savings.

Table 8. Sales of Commercial Paper

Unit: Billion Won			
	Sales of IFCs' Own Paper (A)	Sales of Industrial Own Paper (B)	Total Sales (A + B)
1974	119 (73.5)	43 (26.5)	162 (100)
1975	181 (71.3)	73 (28.7)	254 (100)
1976	290 (67.9)	137 (32.1)	427 (100)
1977	386 (63.0)	227 (37.0)	613 (100)
1978	543 (66.0)	280 (34.0)	823 (100)
1979	711 (59.7)	480 (40.3)	1,191 (100)
1980	902 (46.8)	1,026 (53.2)	1,928 (100)

Note: Figures in parentheses show the share of total sales.
IFC is abbreviation of Investment and Finance Company.

Source: Bank of Korea

Secondly, as we see in Table 9, medium or small-sized firms are in most need of funds, but the trade in commercial paper has mainly centered on discounting bills of large firms.

Table 9. Trade in Commercial Paper

	Unit: Billion Won			
	1977	1978	1979	1980
IFCs' Total C.P. Discount (A)	580	813	1,244	1,899
C.P. Discount for Small and Medium Businesses (B)	138	205	326	598
(B) / (A) (%)	23.8	25.2	26.2	31.5

Note: C.P. is abbreviation of commercial paper.

Source: Bank of Korea

Securities Market

The Korea Stock Exchange was established as the nation's securities trading market in 1956, but the new issue market has been active since 1968. Until 1961, government bonds issued during the Korean War was the main trading item. From late 1961 to February 1963, the trading of stocks was very active. However, in early 1963, the Korea Stock Exchange was shut down because of speculation and manipulation of stock prices. During this process, the innocent public participating in the securities market was hurt. Due to this episode, the trading of stocks was inactive.⁶

Since 1967, the Korean government has taken various measures to promote the securities market. The first measure is the introduction of the Corporate Income Tax Law. By this law, the publicly-held

corporations, which are defined as those domestic legal entities whose stock is listed on the Korea Stock Exchange or whose capital was raised publicly either for the establishment of the corporation or for capital increase, got various privileges. Among those privileges, the important one was a favorable Corporate Income Tax schedule. For example, the tax rate of the publicly-held corporations whose taxable income is more than five million won was 27 percent while that of other corporations was 40 percent. That is, the object of this law was to increase the supply of corporate equities.

In addition, the Law for Promotion of the Capital Market in 1968 and the Law of Inducing Business Corporations to Go Public in 1972, were introduced. The object of these two laws is summarized as follows.⁷

. . . . encouraging privately-held corporations to go public, facilitating domestic resource mobilization, helping improve the corporate financial structure, and encouraging the public's participation in business enterprises for the national goal of economic development. . .

As we see in Table 10, the Korean securities market greatly expanded due to the strong government support since the 1970s.

Korean securities institutions consist of the Security Exchange Commission, the Securities Supervisory Board, the Korea Stock Exchange, the Korean Securities Finance Corporation and securities companies.

The major role of the Securities and Exchange Commission and the Security Supervisory Board, which were established in 1977, is to review and decide matters about the issuance and regulation of securities, fair and equitable trading of securities and supervision and inspection of securities companies. Especially, the Security Supervisory Board, which is the executive body of the Securities and Exchange Commission, performs

Table 10. Transactions in Securities

	Security Transactions			
	Stocks		Bonds	
	Volume	Value	Face Value	Value
1973	118.2	149.1	8.6	7.4
1975	310.2	333.4	16.4	13.3
1977	1,271.5	1,375.3	135.9	130.5
1979	1,560.6	1,327.8	547.1	523.3
1971	3,074.6	2,534.2	1,425.2	1,410.5
1984	4,350.3	3,118.2	2,393.2	2,520.0

Note: Volume in million shares; value in billion won

Source: Bank of Korea

functions such as: 1) registration of securities and guidance of companies, 2) supervision of securities institutions, 3) trading regulations, 4) approval of large acquisition of stocks, 5) regulation of securities credit, and 6) recommendations to the government concerning securities policies.⁸

The Korea Stock Exchange, which was established in 1956, has provided a national market place where the general public can buy and sell securities.

The major activities of the Korean Securities Finance Corporation, which was established in 1955, are to channel necessary funds for

clearing broker's trading on margin, to make underwriting loans to underwriters, and to lend money or securities to securities companies and individuals keeping securities as collateral.⁹

The major business of securities companies are as follows: 1) buying and selling securities for their own accounts or on consignment, 2) buying and selling securities as a broker or agent, 3) underwriting securities, and 4) making arrangements for public offerings.

However, in spite of the government's continued effort to develop the security market, the market is still in its infant stage. That is, the security market has played a minor role in mobilizing financial resources because security markets are undeveloped and securities investment tended to earn lower returns than other investments.

Non-institutional Financial Market

The most important feature of the Korean financial sector is the dichotomy between the institutional sector and non-institutional sector. Korea, like many developing countries, has a dualistic financial structure. The non-institutional sector, which is insulated from government control and operates in secrecy, is characterized by a pattern of high interest rates on loans, short maturity of loans and absence of normal collateral. The non-institutional financial market may be divided into two sectors in Korea: the Kye and the curb market. However, because the loanable funds flow each other, it is realistic to say that they are linked to each other.

Kye¹⁰

The Kyes are financial intermediaries. A Kye is defined as an informal association of individuals for pooling savings and making loans available. That is, the Kyes are financial intermediaries to enable borrowers and lenders to adjust the terms of loan contracts in order to facilitate the lending of money.¹¹

Though the origin is not clear, Kyes are mentioned in historical records hundreds of years old. The essence of Kye is to pool individuals' savings to make large funds when the savings of each individual separately is too small to utilize profitably. Then, the large funds made of small individual savings are loaned to one member of Kye at the monthly meetings. In The Finance and Capital Mobilization in Korea, Professor Lee concluded the following.¹²

The early primitive Kyes have transformed into modern financial intermediaries. . . . 43.7 percent of Korean households are members of various Kyes. Kyes are organized among close friends, particularly among housewives. The low middle income classes participate in Kyes relatively more frequently. . . . The average life of the Kye is 13.7 months.

There are two kinds of Kye: Sequence Kye and Auction Kye.

Sequence Kye. The essence of Sequence Kye is that the Kye meets once a month at which occasion the member whose turn comes up receives the predetermined Kye fund or loan. The procedure of Sequence Kye is as follows. The first position goes automatically to the organizer. So, the first position is a pure borrower, the last position is pure lender, and the intermediate positions combine the borrowing and lending

characteristics. The size of monthly payments specific to each position is a decreasing function of sequence position for given size of Kye fund (see Table 11).

Table 11. Example of Eleven Person Sequence Kye's Monthly Payments for 100,000 Won

Unit: Won		
Position of Member	Monthly Deposit Before Receiving the Kitty	Monthly Installment Payment After Receiving the Kitty
1	--	12,600
2	12,800	12,600
3	12,600	12,400
4	12,400	12,200
5	12,200	11,100
6	11,100	10,000
7	10,000	9,000
8	9,000	8,000
9	8,000	6,500
10	6,500	5,500
11	5,500	--

Note: The total amount collected monthly is 100,000 for the first month and 99,900 for the other months.

Source: Campbell, C.D. and Ahn, C.S., "Kyes and Mujins" Economic Development and Cultural Change, October 1962.

Auction Kye. The essence of the Auction Kye is that there is no predetermined sequence of borrowing Kye funds for each member and the organizer recruits members by offering membership to bid for the Kye funds. The procedure of the Auction Kye is as follows. At the first meeting, the fund is loaned automatically to the organizer. From the second meeting, any member who has not borrowed Kye funds can bid for the fund. Once a borrower is selected by the Auction, the exact amount of the fund to be loaned is made up by monthly payments (see Table 12).

Institutionalization of Kye Markets

In 1972, the Korean government announced the Mutual Savings and Finance Company Act in order to absorb Kye market money and to extend unsecured loans. Many Mutual Savings and Finance Companies were established by the act. The main business of these companies is to engage in mutual installment savings. The interest rates of these companies are much higher than bank interest rates. The main financial resources of these companies are deposits and borrowings from individuals (see Table 13).

In addition, the Credit Union Act in 1972 has encouraged the credit union to be established. The main business of this union is to accept the deposits and to make loans for members through absorbing the Kye market money.

Table 12. 200,000 Won -- 15 Person Auction Kye's Monthly Payments

Unit: Won					
Month	Par Value	Discount	Actual Fund	Monthly Previous Borrower	Payment of Non-Borrower
1	200,000	--	200,000	--	14,286
2	200,000	57,450	142,550	200,000	9,427
3	200,000	47,400	152,650	200,000	9,383
4	200,000	42,350	157,650	200,000	8,877
5	200,000	46,000	154,000	200,000	7,400
6	200,000	36,000	164,000	200,000	7,111
7	200,000	42,000	158,000	200,000	4,800
8	200,000	33,250	166,750	200,000	3,821
9	200,000	30,900	169,100	200,000	1,517
10	200,000	20,000	180,000	200,000	0
11	200,000	18,000	182,000	18,200	0
12	200,000	15,000	185,000	16,820	0
13	200,000	12,000	188,000	15,667	0
14	200,000	7,500	192,500	14,808	0
15	200,000	--	200,000	14,286	--

Source: Oh, K.C., The Economics of Kye (Ph.D. dissertation, Vanderbilt University, 1972)

Table 13. Accounts of Mutual Savings and Finance Companies

Billion Won			
Assets		Liabilities and Net Worth	
Cash and Due from Bank	161.7	Deposits	805.1
Securities	72.2	Borrowings	1,321.0
Loans	2,105.4	Others	51.9
Fixed Assets	121.8	Capital Accounts	351.9
Others	68.4		
Total	2,529.6		2,529.6

Notes: As of the end of 1984

Source: Bank of Korea

Curb Market

The origin of the curb market relates to Korea's socio-economic structure. Korean villages were isolated. As there were no banking institutions in the old days, female members of the family controlled the savings and lent them to worthy businessmen in the village who were so well known that there was little default risk.

Reasons for the Existence of the Curb Market. There are several reasons for curb markets to flourish. First, as the Korean economy started to expand very rapidly, the existing financial and economic structure could not support the demand for loans, and a chronic excess demand for loans has existed. Second, because the Korean government has

allocated 60 percent of all bank lending funds to strategic sectors, it is very difficult for companies to get short-term working capital. It is natural that business firms resort to the curb market. Third, as Korean business firms are undercapitalized and have difficulty in maintaining a smooth cash flow, they have borrowed the short-term working capital from the curb market in order to overcome the immediate cash flow problems. Fourth, as we see in Table 14, the interest rates of the non-institutional financial market are much higher than that of the institutional financial market. In addition, the exemption of tax at the absence of government intervention is an important factor encouraging curb market investment.

Size and Operation of the Curb Market. The size of the curb market is not known and there is no way to accurately measure it. However, several analysts estimate total curb market funds as about 1.5 trillion won (about US \$ 2 billion), and by Citizens National Bank survey, more than 28,000 small and medium-sized companies borrowed 375 billion won in 1981 from the curb market.¹³

Curb markets are like specialized small banks and specialize in several particular industries. After the specialized groups of brokers and dealers analyzed the credit worthiness of the firms, they decide the interest rates. In addition, some bank employees also double as curb market brokers. When they can not satisfy all loan requests, they can work as a broker of curb markets. One example follows.¹⁴

Table 14. Interest Rates in the Bank and Non-institutional Financial Markets

Unit: Percent					
	I. Interest Rate of Time Deposit		II. Interest Rate in Non-institutional Financial Market		II/I
	Nominal Rate of Interest	Real Rate of Interest	Nominal Rate of Interest	Real Rate of Interest	Ratio Nominal Rate Interest
1963	15.0	-14.3	52.56	23.26	3.50
1964	15.0	-15.0	61.8	31.8	4.12
1965	30.0	23.8	58.92	52.72	1.96
1966	30.0	15.5	58.68	44.18	1.95
1967	30.0	14.4	56.52	40.92	1.88
1968	25.2	9.1	56.04	39.94	2.22
1969	22.8	8.0	51.36	36.56	2.25
1970	22.8	7.2	50.16	34.56	2.20
1971	21.3	6.5	46.44	32.54	2.18
1972	16.8	0.7	39.0	22.9	2.32
1973	12.6	- 0.5	33.24	19.84	2.63
1974	15.0	-17.5	40.56	11.06	2.70
1975	15.0	-10.7	47.88	22.18	3.19
1976	15.0	- 5.7	40.47	19.77	2.69
1977	15.0	- 0.7	38.07	22.37	2.53
1978	18.6	- 3.3	41.7	19.8	2.24
1979	18.6	- 2.6	42.4	21.2	2.28
1980	24.0	- 1.6	44.9	19.3	1.87

Notes: The real interest rates are calculated by subtracting the rate of change the GNP deflator from nominal interest rate.

Source: Bank of Korea, Economic Statistics Yearbook (various issues)

. . . curb market dealers deposit a certain amount of money in the name of a potential borrower in a particular branch as a compensatory balance, but on the condition that the bank provide the loan, the bank charges the standard rate for the loan, but the curb market dealers separately charge the differential directly to the borrower. A portion of the interest is given to the bank for a service well rendered. . .

To eliminate the curb markets, the Korean government announced the Presidential Emergency Decree on August 3, 1972. In addition, financial institutions were established to absorb the curb markets' funds. However, total elimination of the curb markets might be impossible before the financial structure in Korea structurally changed.

Institutionalization of Curb Markets

The low interest rate policy in Korea results in a chronic excess demand for funds. In addition, as bank credit policy gives priority to medium and long-term finance, the shortage of short-term funds has been particularly marked. It caused the development of large scale non-institutional curb markets outside the institutional financial system. As the interest rates of non-institutional curb markets are much higher than that of financial institutions, the high loan rate worsened the financial structure of Korean firms and hindered the money market in Korea. And, because the amount of the non-institutional curb markets' loans was little known, it provides the limit to the governmental monetary policy.

Since 1972, the Korean government has tried to establish the necessary framework to induce the non-institutional curb market loans through institutional financial sectors. Under this situation,

Investment and Finance Companies were founded and have played a main role in the formation of the short-term money market.

The first Investment and Finance Company (IFC) was founded in September, 1972. At the end of 1980, 18 IFCs were established. The main service of IFCs is to serve as short-term financing companies. And, because they are engaged in raising funds through the issue of their own paper and in the capital market business, they have progressed rapidly. For example, as we see in Table 15, the deposits and credits of IFCs grew more than those of deposit money banks from 1974 to 1980. The average annual rates of deposit balances and credit balances of IFCs were 51.1 percent and 49.0 percent, respectively while those of deposit money banks were 34.2 percent and 30.9 percent, respectively. In addition, as they can exercise greater discretion in allocating credit than any other financial institution, the average annual increase rate in net profit was higher than that of deposit money banks. The main financial resources of the IFCs are deposit and borrowings from deposit money banks. The IFCs promoted the flow of short-term funds from the private loans or the non-institutional market to institutional financial markets. They also rationalized business firms' financial structure by filling a gap for short-term funds and reducing the interest burden. However, the IFCs have still several problems. First, as the interest rates in non-institutional financial markets are much higher than those offered by IFCs, the curb market is still very active. Second, IFCs' businesses overlap with those of the commercial banks rather than supplement them. Third, the financial support for medium and small-sized business firms is smaller than expected.

Table 15. IFCs' Deposits and Credits

	Billion Won, Percent			
	1974	1977	1980	Annual Increasing Rate
Deposits				
IFCs (A)	162.1	613.0	1,927.8	51.1%
Deposit Money Banks (B)	2,152.3	5,508.9	12,575.7	34.2%
(A) / (B)	7.5	11.1	15.3	
Credit				
IFCs (A)	173.6	579.4	1,898.9	49.0%
Deposit Money Banks (B)	2,427.8	4,709.0	12,204.4	30.9%
(A) / (B)	7.2	12.3	15.6	

Source: Bank of Korea

Recent Changes in Korean Financial Structure

In recent years, the environment of the financial sector has changed rapidly. For example, bank denationalization, greater management autonomy for banks, diversification of bank business and changes in interest rate structures have been taken by the Korean government since 1980.¹⁵ The main objective of recent changes is to maximize the mobilization of domestic resources by enhancing efficiency.

Bank Denationalization and Greater Management Autonomy

From 1981, when the Korean government emphasized the role of the private sector in economic development, bank denationalization was accelerated. The Korean government transferred ownership of nationwide commercial banks to the private sector. The government's share of Hanil Bank, Korea First Bank, Choheung Bank and Bank of Seoul and Trust Company was sold to the general public during 1981 to 1983.

The Korean government has reduced its intervention in bank management. The major changes are as follows. The bank autonomy in maximum permissible maturity of loans and allocation of financial resources was strengthened. And, the government interventions in commercial banks' budget, personnel management and organizational structures were abolished.

Diversification of Banks' Business

The examples of diversification of bank businesses are as follows. The commercial banks have been permitted to handle the sale of commercial bills and sales of government and public bonds repurchase agreements since 1982. In addition, commercial banks have engaged in the mutual installment deposit and remuneration business.

The main objective of diversification of banks' business is to encourage the general public to make greater use of banks by meeting the changing demands of the general public. That is, the hope of government which promotes the diversification of banks' business is as follows. It will enhance the efficiency and promote the introduction of modern banking techniques by increasing the competition in financial markets.

Expansion of Commercial Paper Market and Corporate Bond Market

The share of commercial paper in total fund source composition of corporations was 10 percent in 1983 while this was three percent at the end of the 1970s (see Table 16). The growth of the corporate bond market has accelerated since 1980 when the monetary authorities began to tighten the bank credit supply. And, as the institutional investors increase the demand for corporate bonds, the corporate bond market has expanded.¹⁶

Table 16. Total Fund Source Composition of Corporations

	In Percent				
	1971- 1975	1976- 1980	1981	1981	1983
Borrowings from Banking and Non-bank Financial Institution	69.7	64.0	58.6	57.0	48.7
Commercial Papers	1.8	4.6	12.2	7.9	10.2
Others	28.5	31.4	29.2	35.1	41.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Bank of Korea

Increase in the Number of Financial Institutions

Two new commercial banks, Shinhan Bank and Koran Bank, were established in 1982 and 1983. In addition, the number of Investment and Finance Companies has increased from 18 in 1980 to 32 in 1983, and the number of Mutual Savings Finance Companies has increased from 193 in 1980 to 334 in 1983 (see Table 17).

Table 17. Increase in the Office Number of Financial Institutions

	1976	1980	1981	1982	1983
Deposit Money Banks	1,497	1,826	1,959	2,157	2,293
Mutual Savings and Finance Companies	211	193	191	200	334
Investment and Finance Companies	10	18	20	26	32
Merchant Banking Companies	1	6	6	6	6
Investment Trust Companies	12	25	29	42	53

Source: Bank of Korea

The main objectives of Korean government are to induce funds away from the non-institutional financial market into the institutional financial market and expand the base of savings.

As we see above, recent changes are intended to induce the Korean financial market to be more competitive and efficient.

Notes

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CHAPTER III

MONETARY POLICY IN KOREA

Evolution of Monetary Policy in Korea

Monetary Policy from 1961 to 1964

In 1961, the Korean military government deprived the large private shareholders of their commercial banks' stocks and took control over commercial banks. In the same year, the Citizens National Bank, the Small and Medium Industry Bank, and the Agricultural Cooperatives were established, and the function of the Korean Development Bank was strengthened.

Because the total money supply increased sharply in 1961 and the military government needed to secure investment funds for First Five-Year Economic Plan, the government carried out monetary reform in June 1962.

In these periods, the government pursued growth oriented monetary policies and the annual average growth rate of the money supply (M2) was 30 percent.

Monetary Policy from 1965 to 1970

In September 1965, the government undertook interest rate reform because the government needed to mobilize the domestic financial resources to accomplish the Economic Development Plan. According to the reform, the interest rate on time deposits was raised from 15 percent to 30 percent per annum, and the interest rate on general loans was set at 26 percent per annum. The Korean Exchange Bank, the Korea Housing Bank, the Korea Trust Bank, the Korea Investment Development Corporation, and several local banks were established. However, because the interest rate

on general loans was four percentage points lower than the deposit interest rate, much illegal behavior existed.

In this period, loan ceilings in the financial sector were abandoned, and rediscount policy, open market operations, and reserve requirements policy were adopted. This period is characterized by financial liberalization.

Monetary Policy from 1971 to 1979

To arrange debts in the non-institutional financial market, the government declared the Presidential Emergency Decree in August 1972. According to the decree, the government asked creditors and debtor firms to declare their debts in the non-institutional financial market.

The oil crisis of 1973 reduced Korea's exports and sharply increased the total value of imports. The balance of trade worsened, and domestic inflation increased. To solve these difficulties, the government pronounced a Presidential Emergency Decree on the Stability of the National Economy in January 1974. In addition, the government strengthened the selective credits policy, controlled the money supply strictly, and lowered the interest rate.

In these periods, monetary policy is characterized by a stricter financial repression.

Monetary Policy from 1980 to Now

Since 1980, the new government increased the bank management autonomy, diversified activities of financial institutions and tried to increase the competition in financial sector to increase the efficiency

in banking sector. For example, several banks were denationalized and new banks were established.

Instruments and Characteristics of Monetary Policy in Korea

Monetary Policy in Korea is a responsibility of the central bank, the Bank of Korea. The monetary policy of the Bank of Korea is exercised primarily through three instruments: open market operations in designated securities, rediscounts and changes in reserve requirement ratios.

Interest Rate Policy

The interest rate policy of the Bank of Korea has emphasized inducing financial savings on the one hand, and lowering the interest burden of business firms on the other hand.

The Monetary Board sets the upper limits of interest rates, and the actual rates are agreed upon by the Banker's Association within the limits. But, because a chronic shortage of bank operating funds relative to the very strong demand exists, there is some rigidity in the discretionary expansion or contraction of loans by using interest rate policy. In other words, official interest rates have lost their important function as a major parameter of the economy and do not reflect the real cost of funds. The mechanism for interest rate policy--the assumption that changes in the central bank rates ultimately affect the demand for credit through corresponding changes in the interest rates of the banking institutions--has not functioned well in Korea.

Open Market Operations

The Bank of Korea may sell or buy in the open market, securities representing obligations of government, other securities fully guaranteed by the government, and Bank of Korea Monetary Stabilization Bonds which were introduced in 1961 as a special negotiable obligation of the Bank of Korea. Monetary Stabilization Bonds have played a major role in regulating the liquidity positions of the banking institutions. The maximum amount of the bonds in issue is restricted to 10 percent of the money supply, and the terms and conditions of their issuance are determined by the Monetary Board.

To finance the growing deficit in the Grain Management Fund owing to the adoption of dual prices for food grains, the Korean government issues Grain Bills. This will help increase marketable instruments and contribute to the proper functioning of open market operations.

As a complementary instrument to control the temporary excess liquidity positions of the banks, a monetary stabilization account has been established in the Bank of Korea since 1967. Funds deposited in this account are subject to a special interest rate of five percent per annum.

However, as we see in Table 18, the size of government bonds is 7.5 percent of total national financial assets. That is, because of a shortage of marketable instruments, open market operations have not so far been regarded as an important policy instrument in controlling financial market conditions (see Table 18).

Table 18. Composition of Total National Financial Assets

Assets		
Money	3,807.0	(13.5%)
Currency	1,856.4	(6.6%)
Demand Deposits	1,950.6	(6.9%)
Time and Savings Deposits	9,677.3	(34.2%)
Insurance	918.8	(3.2%)
Trust	1,036.9	(3.7%)
Deposits with Investment and Finance	987.6	(3.5%)
Companies		
Securities	11,846.6	(41.9%)
Government Bonds	2,131.8	(7.5%)
Financial Debentures	753.0	(2.7%)
Debentures	1,911.7	(6.8%)
Stocks	6,384.2	(22.6%)
Beneficiary Certificates	665.9	(2.4%)
Total	28,274.2	(100.0%)

Note: at the end of 1980
billion of won (%)

Source: Bank of Korea

Reserve Requirements

The Bank of Korea can alter the minimum reserve requirement ratios and the ratios may not exceed 50 percent. But, in the period of inflation, the Bank of Korea can impose marginal reserve requirements up

to 100 percent of any increase in deposits. The reserve requirement ratios are, in principle, applied uniformly to all deposit money banks and Korea Development Bank, but deposits with the Agricultural Cooperatives and Fisheries Cooperatives are subject to lower ratios to give the underdeveloped industrial sectors financial support.

Up to 25 percent of the reserve requirement may be held in vault cash. In a case where the reserves fall short of the required reserve amount, that bank must pay the Bank of Korea a penalty of one percent of the amount of the average deficiency during that half-month period.

In addition to this reserve requirement, the Monetary Board can require each banking institution to hold special reserve assets.

Because the functions of the rediscount policy and open market operations have been limited, the Bank of Korea has heavily depended on changes in the reserve requirement ratio, and this has brought about a high level of reserve requirement ratios (see Table 19).

Table 19. Reserve Requirement Ratio

	In Percent			
	Korea	Japan	United States	U.K.
1979	22.0	2.6	7.1	4.8
1980	5.4	2.4	5.3	2.8

Note: $\text{ratio (\%)} = \frac{\text{reserves}}{\text{DMB deposits}}$

Source: Bank of Korea

Because banks are faced with a chronic excessive demand for their loans, they have increasingly borrowed from the Bank of Korea to meet their reserve deficiencies. This undermined the grounds for maintaining high reserve requirement ratios. The Monetary Board takes this fact into consideration and has lowered the reserve requirement ratio since 1980 (see Table 20).

Table 20. Average Reserve Requirement Ratio

	In Percent						
	1966	1970	1974	1978	1979	1980	1981
Demand Deposit	27.5	32.0	20.5	25.5	27.0	17.0	7.7
Time & Savings Deposit	17.5	18.0	16.5	18.5	20.0	10.5	6.3

Note: simple arithmetic average of ratio applied during the year

Source: Bank of Korea, Monthly Statistical Bulletin

Direct Control

There are several kinds of direct control in Korea. Fixing credit ceilings, which has been widely used to repress the inflation, is the major direct control. In periods of galloping inflation, it is required that all applications for loans in excess of specified amounts be submitted to the Monetary Board for prior approval. In addition, the Monetary Board is obliged to restrict new credit extensions by banking institutions, and to contract the volume of credit outstanding in periods of inflation.¹

Money Supply Policy in Korea

The Characteristics of Money Supply in Korea

The money supply process in Korea has some peculiar characteristics.

First, it is very difficult to control the money stock. Because there is a large fiscal deficit in order to meet the demands for new development investment, and the Korean government is short of marketable instruments, the Korean government depends largely on borrowing from the Bank of Korea which accelerates the money growth. In addition, erratic changes in the foreign sector, which is an important part of the Korean economy, makes it more difficult to control the money stock.²

Second, the growth rate of money in Korea is very high. From 1970 to 1979, the average yearly growth rate was 29.6 percent. It was much higher than the other Asian countries from 1961 to 1976 (see Table 21).

Table 21. Growth Rate of Money Supply

	In Percent			
	1961-1965	1966-1970	1971-1972	1973-1976
Korea	22.9	35.9	26.6	32.9
Malaysia	4.9	6.2	10.7	12.7
Philippines	8.7	11.0	16.6	19.2
Taiwan	21.7	17.7	24.1	24.9

Note: annual average increase in M1

Source: World Inflation and the Developing Countries, the Brookings Institution, 1981.

Third, the money multiplier is very low and has less effect on money supply changes than the monetary base³ (see Table 22). The most important reason for the low money multiplier is that Korea has cash preference and the required reserve ratios are set at a high level in order to limit the excessive increases in the money supply caused by the increase in monetary base.

Fourth, the foreign sector plays a relatively greater role in influencing the monetary base in Korea. Because economic activity in Korea relies heavily on the condition of the export market for domestic output and import of intermediate capital goods, the foreign sector in Korea is very large. Thus, the Bank of Korea has difficulty in controlling the money supply. For example, when the Bank of Korea adjusts the monetary base in order to offset the changes in the foreign exchange flow resulting from fluctuations in the foreign sector, the business sector will suffer from extreme financial shortages.

Determinants of Money Supply in Korea

The money supply in a country can be expressed as the product of two fundamental variables. One is the monetary base and the other is a money supply multiplier. So, the quantity of money is jointly determined by four variables such as: high powered money, currency ratio, reserve ratio and time-demand deposit ratio. The quantity of high powered money is measured in the nominal currency unit, and real value of a given nominal quantity is inversely proportional to price. On the other hand, the other three determinants are measured as pure numbers and vary from zero to unity.⁴

Table 22. Monetary Base and Money Multiplier

	In Percent				
	Percentage Change in				
	M1	M2	Monetary Base	M1 Money Multiplier	M2 Money Multiplier
1963	6.3	7.4	- 6.4	13.6	14.7
1964	16.7	14.8	17.2	- 0.5	- 2.1
1965	34.2	52.7	48.0	- 9.3	15.0
1966	29.7	61.6	65.7	-21.7	- 2.5
1967	44.5	61.8	38.3	4.5	17.0
1968	44.6	72.0	40.8	3.0	22.1
1969	41.7	61.4	38.3	2.8	14.3
1970	22.1	27.4	38.8	-12.0	- 8.2
1971	16.4	20.8	- 3.8	21.0	25.6
1972	45.1	33.8	48.3	- 2.2	10.8
1973	40.6	35.9	46.0	- 3.7	6.9
1974	29.5	23.4	24.2	4.3	- 0.6
1975	25.0	28.0	39.0	-10.1	- 7.9
1976	30.7	32.6	33.5	- 2.1	- 0.7
1977	40.7	39.3	44.1	- 2.3	- 3.3
1978	24.9	34.7	35.3	- 7.6	0.4
1979	20.7	24.6	23.8	- 2.6	2.9
1980	16.3	27.9	- 6.5	24.4	35.6

Source: Bank of Korea

The reserve ratio and high powered money are subject to the direct control of the monetary authorities, while changes in currency ratio can be offset by appropriate open market operations of the central bank. However, because open market operations has little effect in Korea, the currency ratio has important implications in an understanding of the determinants of the money supply.⁵

The behavior of the central bank, the private banking sector and the foreign sector determine the supply of the monetary base in Korea. That is, the main sources of monetary base growth consists of credit to the government and government agents, credit to the private banking sector, and inflows of net foreign assets. And, the Korean monetary authorities offset movements in the uncontrolled component of the monetary base by using the controlled component.⁶

Private Sector. Because business firms in Korea depend heavily on the commercial bank sector, which heavily relies on borrowing from the Bank of Korea for loanable funds, the private sector is relatively flexible. Thus, credit to the private banking sector may be used as a major policy instrument to neutralize the effects from other sectors. For example, the increase of the price of imported intermediate goods, which are one of the major factors used in the production process, raises the pressure for accommodation, which would accelerate the growth of the monetary base. Unless it is accommodated, this will cause the export and growth rate to decline. So, in this case, it can be accommodated by using credits to the private sector.

Government Sector and Foreign Sector. In Korea, the budget deficit is the major determinant of credit to the government. The budget deficit is financed largely by borrowing from the Bank of Korea because the capital market is underdeveloped and government instruments for open market operations are limited. And, because the independence of the central bank is weak, the budget deficit in Korea is more likely to be accommodated than in advanced countries.

In the Korean economy, which highly depends on the foreign economy, the foreign reserve flows significantly influence the growth of the monetary base.

Currency Ratio. As we see in Table 23, the currency ratio in Korea is very high. The reasons why the currency ratio is high are as follows. As the financial market is underdeveloped relative to real sector and the bank interest rate is fixed at a low level in Korea, the public tends to use a sizable amount of currency as the store of wealth. And, we can consider some illegal activities as another reason. Some examples are tax evasion, black market operations, and smuggling operations. These illegal activities increase the demand for currency to conceal transactions. For example, in Korea, prevalence of accounting records and reliability has not been maintained in an honest fashion in order to escape the tax and conceal a taxable transaction. Accordingly, these have been transacted in currency.⁷ I will examine the demand for currency related to income later.

Table 23. Currency Ratio in Korea

1971	1974	1978	1981	1984
0.453	0.434	0.503	0.509	0.456

Source: Bank of Korea

Intermediate Targets in Korea

From the 1970s, major countries have begun to place greater emphasis on monetary aggregates instead of interest rates as an intermediate target of monetary policy.⁸ The changes resulted from the following reason. In order to prevent the increase of nominal interest rates, the monetary authority increased the money supply. This resulted in the excess supply of money and acceleration of inflation. And, in the 1970s, the financial assets of non-bank financial intermediaries increased.

In addition, the financial assets provided by non-bank financial institutions increased and were highly substitutable for the narrowly defined money. So, the narrowly defined monetary stock could not represent the whole liquidity of the economy and the broadly defined monetary aggregate was widely used in the 1970s (see Table 24).

In Korea, because the interest rate has been fixed and unresponsive to market conditions, monetary aggregates have been used as the main intermediate target to achieve major final goals such as economic growth, price stability, full employment, and balance of payments (see Figure 1). That is, monetary aggregates such as a narrow money (M1), broad money (M2), reserve base, and domestic credit, have been used as

Table 24. Main Intermediate Targets in Major Countries

U.S.A.	$M2 = M1 + \text{Overnight RP's} + \text{Overnight Eurodollars (issued to U.S. residents by foreign branches of U.S. banks)} + \text{Savings and Small Denomination Time Deposits} + \text{General Purpose and Broker/Dealer MMMF.}$
U.K.	$\text{Sterling } M3 = M1 + \text{Private Sector Sterling Time Deposits (including private sector holdings of sterling CD)} + \text{Public Sector Sterling Deposits.}$
Japan	$M2 + CD = M1 + (\text{total of private deposits, public deposits and installment of Sogo banks demand deposits with financial institutions}) + CD$

Source: Bank of Korea

operational targets of intermediate targets in Korea.⁹

The intermediate target in Korea has been changed in accordance with the economic and financial structural changes and agreements with the I.M.F. From 1957 to 1968, price stability was the major objective of Korean monetary policy because through the 1950s and the 1960s, Korea suffered from inflation. So, Korean monetary authorities used the narrowly defined money (M1), which was thought to be closely related to the price level, as an intermediate target.

In 1969, the intermediate target changed from narrowly defined money to the reserve base because Korean monetary authorities wanted to reduce the inefficiency due to the direct credit control.

Figure 1. Transmission Mechanism of Monetary Policy in Korea

INSTRUMENTS OF MONETARY POLICY

1. Open Market Operations
2. Reserve Requirement Policy
3. Rediscount Policy
4. Credit Ceiling (Direct Control)

↓

OPERATIONAL TARGET

1. Reserve Base
2. Domestic Credit

↓

INTERMEDIATE TARGET

1. M1
2. M2

↓

FINAL GOALS

1. Full Employment
 2. Price Level Stability
 3. Economic Growth
 4. Balance of Payments Equilibrium
-

Source: Lee, S.M., The Controllability of the Money Supply in a Developing Economy: The Case of Korea (Ph.D. Dissertation, Claremont Graduate School, 1985), pp. 17.

From 1970 to 1978, because the foreign reserve flows were very volatile, narrowly defined money (M1) and domestic credit in the banking system was used as intermediate target of monetary policy. The change of the intermediate target variable from M1 to M2 in 1979 was based on the judgement that in recent years, increased substitutability resulting from diversification of financial assets and progress in financial innovation influenced the behavior of the monetary aggregates. That is, because the usefulness of M1 was deteriorated by frequent revisions of the deposit system and the demand deposits in M1 were underestimated, broadly defined money (M2) has been adopted as an intermediate target since 1979.

In addition, according to an empirical study, broadly defined money (M2) seems to be more useful than any other monetary measure. In order for a particular variable to be an ideal intermediate target, it must possess three characteristics. First, the variable must be strongly linked to final goals. Secondly, the variable must be controlled and exogenous. Thirdly, the variable must have preciseness and suitability of the statistical compilation. Three methods are usually used in relation to three criteria. First, how closely are monetary aggregates correlated with GNP? Second, is the demand for money in terms of each monetary aggregate stable? Thirdly, is the velocity of each monetary aggregate stable?¹⁰ By these three criteria in empirical testing, broadly defined money (M2) is the best intermediate target.¹¹

Definition

The conventional textbook formulation of demand for money typically relates the demand for real money balances ($m = M/P$) to the interest rate (r) and some measure of economic activity such as real GNP ($y = Y/P$), where M = money holding, P = the price level, and Y = gross national product. Thus, $m = f(r, y)$.

One example of this approach is the well-known Baumol-Tobin formulation.¹³ In Baumol's version,

T/C = the number of disinvestments

$C/2$ = average cash balance

where T = value of transactions

b = unit real transaction cost

C = size of security disinvestment

X = total cost of holding money balance

Total cost is the sum of interest cost (an opportunity cost) and broker's fee.

$$X = b \cdot \frac{T}{C} + \frac{C}{2} \cdot i$$

Rationality requires that he minimize the cost of holding money balances.

Therefore,

$$\frac{dX}{dC} = -\frac{bT}{C^2} + \frac{i}{2} = 0$$

$$C = \sqrt{\frac{2bT}{i}}$$

This is the optimal size of disinvestment. The rational individual will, given the price level, demand cash in proportion to the square root of the values of his transactions. Let

$$k = \frac{1}{2} \sqrt{2b} , \quad L = k T^{1/2} i^{-1/2}$$

That is, the demand for transaction balances, measured in real terms, is proportional to the square root of the volume of transactions and inversely proportional to square root of the rate of interest.

The first problem solved by James Tobin is the optimal timing account of a given number of transactions.¹⁴

$$TR = \frac{n-1}{2n} \cdot iY , \quad MR = \frac{i \cdot Y}{2n} , \quad TC = na , \quad \pi = \frac{n-1}{2n} iY - na$$

where TR = total revenue

n = the number of transactions

TC = total cost

a = cost of a transaction

There are two principles: a) all conversion from cash into bonds should occur at time 0, and b) a transaction from bonds into cash should not occur until the cash balance is zero. The next step is to determine the optimal number of transactions (the value of n which maximizes π).

$$\frac{d\pi}{dn} = \frac{1}{2n^2} iY - a = 0, \quad \frac{1}{2n^2} \cdot iY = a$$

$$2n^2a = iY, \quad n = \sqrt{\frac{i \cdot Y}{2a}}$$

Models Incorporating Time Lags¹⁵

Generally speaking, much evidence suggests that wealth rather than income belongs in the demand for money function. So, I will try to look at the relationship between the demand for money and permanent income. I will measure the logarithm of permanent income in the following way.

$$\text{LOG } Y_t^P = \theta \text{ LOG } Y_t + (1 - \theta) \text{ LOG } Y_{t-1}^P \quad (1)$$

Suppose also that we write the demand for money function in the following way:

$$\text{LOG } M_t = \mathcal{L} + \beta_0 \text{ LOG } Y_t^P + \beta_1 \text{ LOG } R_t \quad (2)$$

where M_t = real balances, and R_t = the rate of interest.

By substituting (1) into (2) we will have

$$\text{LOG } M_t = \mathcal{L} + \beta_0 \theta \text{ LOG } Y_t + \beta_0 (1 - \theta) \text{ LOG } Y_{t-1}^P + \beta_1 \text{ LOG } R_t \quad (3)$$

The Koyck transformation enables us to eliminate the lagged permanent income term in equation (3).

From equation (2), we can get equation (4) by lagging it one period and multiplying both sides of it by $(1 - \theta)$.

$$\begin{aligned} (1 - \theta) \text{ LOG } M_{t-1} &= (1 - \theta) \mathcal{L} + (1 - \theta) \beta_0 \text{ LOG } Y_{t-1}^P + \\ &(1 - \theta) \beta_1 \text{ LOG } R_{t-1} \end{aligned} \quad (4)$$

Subtract this expression from equation (3). Doing so, the lagged permanent income term disappears and the following expression is derived:

$$\begin{aligned} \text{LOG } M_t &= \theta \mathcal{L} + \beta_0 \theta \text{ LOG } Y_t + \beta_1 \text{ LOG } R_t - \\ &(1 - \theta) \beta_1 \text{ LOG } R_{t-1} + (1 - \theta) \text{ LOG } M_{t-1} \end{aligned} \quad (5)$$

Let $\text{LOG } M$ be the log of quantity of real balances people want to hold given the values of the variables that determine their demand for

money, and let desired real balances be a log linear function of measured real income and the interest rate:

$$\text{LOG } M_t^* = \alpha + \beta_0 \text{ LOG } Y_t + \beta_1 \text{ LOG } R_t \quad (6)$$

M_t^* = desired real balances: the quantity of real balances people want to hold given the values of the variables that determine their demand for money.

Suppose that the adjustment to the desired level, when a variable on the right hand side of the equation changes, is slow and cash balances go only part of the way toward their newly desired values over a given time period. That is, depending upon the fundamentals of equation (6), actual money holdings are assumed to adjust the gap between desired holdings and last period's holdings via a partial adjustment procedure.

$$\text{LOG } M_t - \text{LOG } M_{t-1} = \gamma (\text{LOG } M_t^* - \text{LOG } M_{t-1}) \quad (7)$$

By substituting equation (6) into equation (7), we can get the following equation:

$$\text{LOG } M_t = \alpha\gamma + \beta_0\gamma \text{ LOG } Y_t + \beta_1\gamma \text{ LOG } R_t + (1 - \gamma) \text{ LOG } M_{t-1} \quad (8)$$

Estimation of Time Lags of Model for Korea

Estimating equation (8), we obtain the following result:

$$\begin{aligned} \text{LOG } M_t = & 0.3711 + 0.1099 \text{ LOG } Y_t + 0.9352 \text{ LOG } M_{t-1} + \\ & (0.2304) (0.6971) \quad (0.0459) \\ & 0.0216 \text{ LOG } R_t \\ & (0.0292) \end{aligned} \quad (9)$$

$$R^2 = 0.9933$$

$$\text{D.W.} = 1.520$$

where M_t = real demand for money

Y_t = real GNP

R_t = the interest rate on time deposits (standard errors
in parentheses)

In this model, I used the quarterly data of Korea (1961-1980). In Korea, the interest rate is controlled by the government, and the financial market has not developed yet. So, one must be aware that the rate of interest is not freely determined. But, the interest rate on time deposits, to some extent, moves in parallel with the free market interest rate and is the representative interest rate in Korea.

From the above result, we compute the coefficient of adjustment to be 0.0648 ($= 1 - 0.9352$). The point estimate of the long run income elasticity of demand for money is 1.5571 ($= 0.1099/0.0648$). The coefficient of the interest rate of the time deposit is theoretically expected to be negative. But, the coefficient of the interest rate of time deposit is positive though not statistically significant.

Implications

There is no evidence of economies of scale in aggregate money holdings. Long-run income elasticity of demand for money is 1.5571. There are diseconomies of scale in aggregate money holdings. The reason for the diseconomies of scale in aggregate money holdings are as follows. The first factor is the underdevelopment of the financial sector, including the banking sector. The personal check is not generally acceptable and cash is the major instrument of transactions. The second factor is the subterranean economy. In Korea, there are still many illegal activities and people have a preference for using cash to

make payments. The third factor is social in nature. Because there is danger of war, individuals prefer cash.

Interest Rate Policy

There have been two opinions on how interest rate policy should be implemented in Korea. One is the group who argue in favor of a low interest rate policy, and almost all of them are government officials and businessmen who studied in Korea or in Japan. Another is the group who emphasize the free market, and almost all of them are scholars who studied in U.S.A. or in Europe.

The former have argued that high interest rates would increase the interest payments of the business sector, which would increase the cost and price of domestic products and deteriorate foreign competitiveness of it. In addition, they argue that the increase in the cost of production will be passed on to the consumers by raising price level.

According to the latter, a low interest rate has had difficulty in mobilizing domestic savings, has distorted the allocation of resources and been unproductive.¹⁶

In Korea, the low interest rate policy, the argument of the former, has been prevalent except from 1965 to 1971. The monetary authorities in Korea have fixed the real interest rate at a negative real level except during the high interest rate policy period, from 1965 to 1971. And, the bank loan rate was set at a constant differential below the loan rate to cover the cost of intermediation. In addition, from 1965 to 1967, the bank loan rate was lower than the interest rate on time deposits (see Table 25).

Table 25. Interest Rate on Time Deposit and Bank Loan Rate

	In Percent			
	Nominal Rate of Interest (A)	Real Rate of Interest	Bank Loan Rate (B)	Difference (B) - (A)
1963	15.0	-14.3	15.7	0.7
1964	15.0	-15.0	16.0	1.0
1965	30.0	23.8	26.0	-4.0
1966	30.0	15.5	26.0	-4.0
1967	30.0	14.4	26.0	-4.0
1968	25.2	9.1	25.2	0.0
1969	22.8	8.0	24.0	1.2
1970	22.8	7.2	24.0	1.2
1971	21.3	6.5	22.0	0.7
1972	16.8	0.7	19.0	2.2
1973	12.6	- 0.5	15.5	2.9
1974	15.0	-17.5	15.5	0.5
1975	15.0	-10.7	15.5	0.5
1976	15.0	- 5.7	17.0	2.0
1977	15.0	- 0.7	16.0	1.0
1978	18.6	- 3.3	19.0	0.4
1979	18.6	- 2.6	19.0	0.4
1980	24.0	- 1.6	24.5	0.5

Source: Bank of Korea

Interest Rate Decision under the Low Interest Rate Policy

The Korean monetary authorities have fixed the interest rate at a low level, which has generated a chronic excess demand for bank loans by depressing the demand for bank deposits on the one hand and stimulating firm's bank loan on the other hand.

In Figure 2, the free market interest rate on bank loans without government intervention is determined at E, but if the interest rate is fixed at point F, there exists an excess demand for bank loans by Q_1Q_3 .

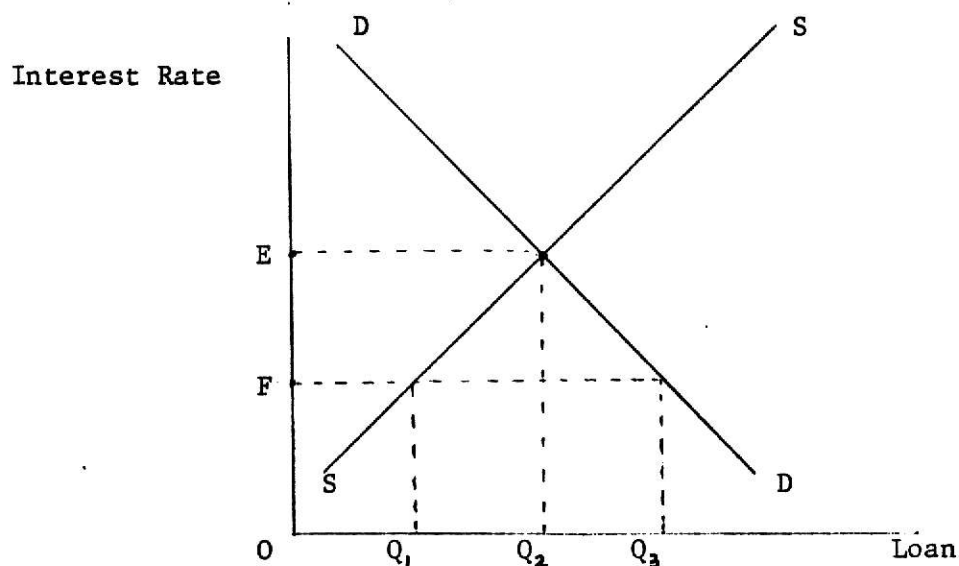


Figure 2. Interest Rate Under the Free Market

As we saw in Chapter II, non-institutional financial market, whose interest rate is much higher than that of bank deposits, has existed in Korea. The Korean firms have usually financed lack of bank loans in non-institutional financial market.

In Figure 3, the supply curve of bank ($F'P$) is perfectly elastic because of fixity of interest rate, while that of non-institutional financial market (NS) is determined by market power. DD is the total loan demand curve. Because there exists much higher degree of risk of default in the non-institutional financial market, $F'K$ is a risk premium over the rate of return on bank deposit. OQ_1' is the amount of loans supplied by the banks at a fixed interest rate, while $Q_1'Q_0$ is the amount of loan supplied by non-institutional financial market. The interest rate in the non-institutional financial market is determined at G , and that of the bank is fixed at F' .

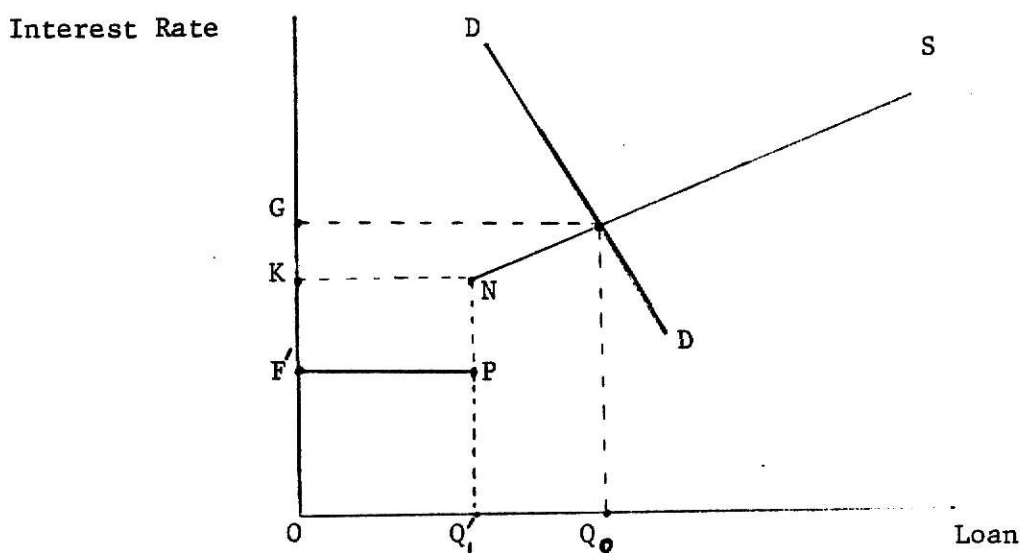


Figure 3. Interest Rate in Non-institutional Financial Market

High Interest Rate Policy

Since the beginning of 1962, the Korean Monetary authorities needed huge financial resources to achieve economic development. However, the Korean monetary authorities had difficulty in mobilizing the domestic financial resources because of underdevelopment of financial market, negative real interest rates and high inflation rates. Under these situations, the Korean monetary authorities announced in September 1965 the financial reform. The most important part of it was drastic rise in bank loan and deposit rates. For example, the interest rate on regular commercial bank loans was raised to 26 percent per year from its previous level of 16 percent and interest rate on time deposits increased to 30 percent.

The argument of the Korean monetary authorities was as follows.

In Figure 4, total loan demand curve is DD. If the bank interest rate rises from T to T', the supply of bank loan increases by Q_1Q_2 . Non-institutional financial market loans, whose interest rate is much higher than bank interest rate, will decrease. Accordingly, the firm's burden will decrease. That is, high interest rates will increase the domestic savings by Q_1Q_2 , and the availability of domestic credit in a high interest rate regime has an expansionary effect.

After the financial reform, the Korean economy has experienced rapid growth in almost every economic variable (see Table 26).

The group who supports the high interest rate policy argued that the interest rate reform was successful. That is, the high interest rate policy reduced the gap between the interest rate of bank and that of

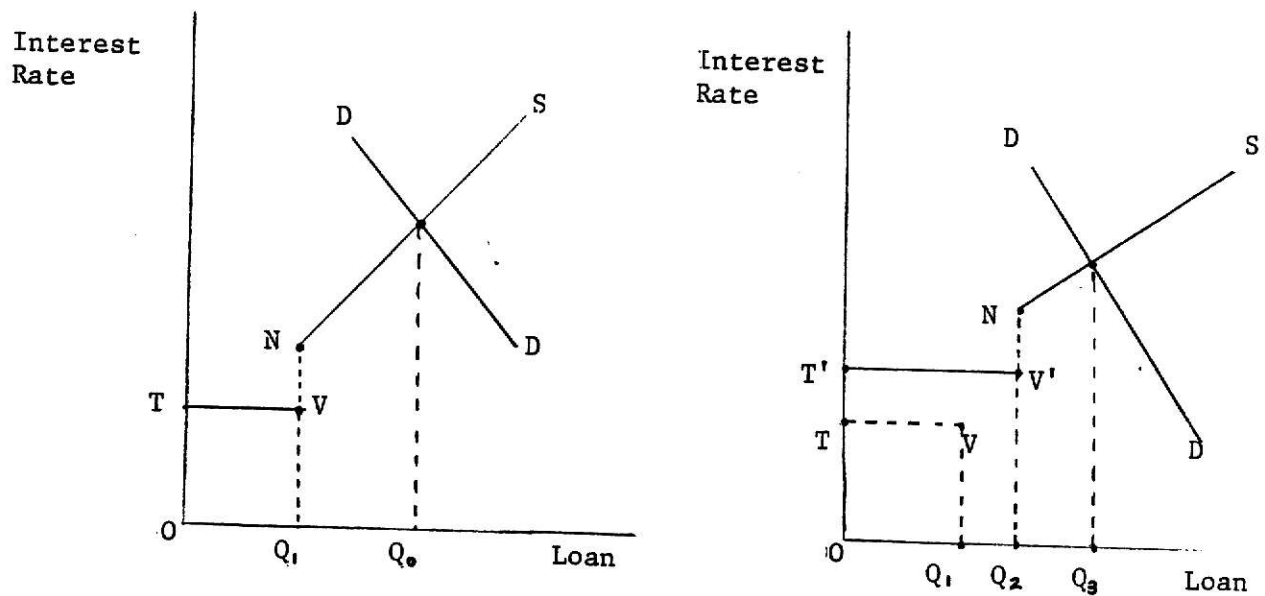


Figure 4. High Interest Rate Policy

Note: NS: supply of non-institutional financial market
DD: total loan demand curve
Q₁Q₀: the amount of non-institutional financial market loan under the low interest rate policy
Q₂Q₃: the amount of non-institutional financial market loan under the high interest rate policy
Q₁Q₀ > Q₂Q₃

Table 26. High Interest Rate Policy and Economic Variables

	In Percent	
	1961-1965	1966-1970
Growth Rate of Real GNP	6.5	10.4
Growth in Time and Savings Deposits	9.2 ¹	103.8 ²
Gross Domestic Savings/GNP	6.2	14.9
Exports (Million U.S. Dollars)	95.3	496.7

Note: 1) Averages for 1962-1964
2) Averages for 1966-1968

Source: Bank of Korea

non-institutional financial market, and increased saving deposits. And, it mobilized domestic financial resources efficiently.

Their arguments are summarized as follows. Because the size of financial fund of the non-institutional financial market was divided and small, it was impossible to supply the large investment fund through the non-institutional financial market. After interest rate reform, the increase of saving deposits means the success of domestic financial resource mobilization. In addition, interest rate reform achieved efficient resource allocation. The investment before interest rate reform did not depend on the marginal efficiency of investment. For example, after some corporations received loans from banks, they invested the real estates again. Because the interest rate is too low, they could get the profit even if they paid the interest to banks. But, after interest rate reform, the interest rate on regular commercial bank loans increased and the investment, to some extent, depended on the marginal efficiency of investment.¹⁷

However, there are many controversies about the alleged success of the interest rate reform. For example, owing to the gap between foreign and domestic interest rates, foreign capital flowed, in which stimulated the GNP growth (see Table 27). As income increased rapidly, savings increased too. In addition, tax administration reform, export promotion, foreign-loan guarantee scheme and a floating exchange system were adopted. Accordingly, the real effect of interest rate reform is ambiguous.

Table 27. Bank Loan Rate in Korea and U.S. Prime Rate

	In Percent		
	Bank Loan Rate in Korea (A)	U.S. Prime Rate (B)	(A) - (B)
1963	15.7	4.5	11.2
1964	16.0	4.5	11.5
1965	26.0	4.5	21.5
1966	26.0	5.6	20.4
1967	26.0	5.6	20.4
1968	25.2	6.3	18.9
1969	24.0	8.0	16.0
1970	24.0	7.9	16.1
1971	22.0	5.8	16.2

Note: Annual Interest Rate

Source: Bank of Korea

The interest rate reform in 1965 was, however, an epoch-making attempt to promote financial liberalization.

Selective Credits Policy

Selective credits are defined as credits provided on preferential conditions of financing such as interest rates to foster a specific industry. In Korea, there are several kinds of selective credits. The

major ones of them are loans for export, loans for supplies in foreign currency, and loans with the National Investment Fund (see Table 28).

In Korea, the selective credits are provided by special banks, development institutions, and commercial banks. And the size of selective credit provided by these three institutions is about 55 percent of total credits (see Table 29).

The most important objective of selective credits in Korea is to support exports and foster basic industries. In addition, Small and Medium Industry Bank supplies selective credit to foster small-and-medium size firms, and the Agricultural Cooperatives and Fisheries Cooperatives provide selective credits to promote agriculture and fisheries, respectively.

Selective Credit for Supporting Exports

According to the Regulations on Export Finance, selective credits to support exports provided direct support for production and domestic purchase of exportables since 1961. It includes both producers of export goods and exporters who have received an irreversible export L/C and have export contracts. It was also intended to provide selective credits for imports or domestic purchase of raw materials for export production.¹⁸ Examples are: loans for fostering export industries, pre-export loans, import-financing related exports and loans for developing raw materials for exports.

Table 28. Major Interest Rates on Loans and Discounts

	In Percent				
	Selective Credits				General Credits
	Loans for Export	Loans for Supplies in Foreign Currency	Loans with National Investment Fund	Loans for Machine Industry Production	
1967	6.0	6.0	--	--	24.0
1968	6.0	6.0	--	12.0	26.0
1969	6.0	6.0	--	12.0	24.0
1970	6.0	6.0	--	12.0	24.0
1971	6.0	6.0	--	12.0	22.0
1972	6.0	6.0	--	10.0	19.0
1973	6.0	6.0	--	10.0	15.5
1974	7.0	9.0	9.0	10.0	15.5
1975	7.0	7.0	12.0	12.0	15.0
1976	8.0	8.0	14.0	13.0	17.0
1977	8.0	8.0	14.0	13.0	18.0
1978	9.0	9.0	16.0	15.0	18.5
1979	9.0	9.0	16.0	20.0	21.5
1980	15.0	15.0	14.0	18.0	19.5
1981	15.0	15.0	14.0	18.0	19.5
1982	12.0	12.0	14.0	15.0	15.5

Source: Bank of Korea

Table 29. Portion of Selective Credits to Total Credits

	In Percent			
	1962-1966	1967-1971	1972-1976	1977-1980
Portion (%)	62.3%	48.7%	51.8%	57.7%

Source: Park, J.Y., Monetary Policy and Economic Development in Korea, (Tokyo, Japan: Institute of Developing Economies, 1982).

Export financing, which incorporated these above loans for supporting exports in 1972, consists of five types of loans: loans for production and collection of goods, loans for imports of raw materials, loans for domestic purchases of raw materials, loans for domestic purchase of final goods, loans for domestic purchases of final goods for stock piling.¹⁹

Loans for Supplies in Foreign Currency were introduced in order to support holders of supply credit contracts in foreign currencies, and producers of final goods for supplies in foreign currencies in 1972.

In addition, the Export and Import Bank provides credits to support exports of deferred payments. The loans for supporting overseas construction from 1976 to 1981, and the loans for purchasing equipment for export industries were introduced.

However, because export financing and loans for supplies in foreign currency are automatically rediscounted by the Bank of Korea, the export credit system financed by the automatic rediscount of the Bank of Korea has eliminated flexibility in the monetary policy. That is, a rapid

increase in exports resulted in a rapid increase in the money supply. If the Korean government controls the money supply, the non-export sectors will receive a squeeze in credit supply. This will result in slower growth of the whole economy. If the Korean government increases the money supply in order to avoid the squeeze in credit supply in non-export sectors, then export-led inflation will occur.²⁰

Other Selective Credits

To foster the basic industries, the Korea Development Bank provides the selective credits such as: loans for electricity, coal, shipbuilding, steel, shipbuilding and airlines, loans for substitution of domestic for foreign machines, and loans for the promotion of the machine industry. In addition, the National Investment Fund provides loans to support the steel, non-ferrous metal, shipbuilding, machinery, chemical, electrical and electronic products.

Small and Medium Industry Bank supplies the loans to support small and medium size firms. In addition, commercial banks make loans to small and medium industries up to an amount more than one third off their total loans. And, Korean government has been compensating the interest rate gap in special low interest loans for small and medium industries.

In addition, there are selective credits for the promotion of agriculture and fisheries. And, the Korean Housing Bank provides the housing funds for the enlargement of housing loans, and the Citizens National Bank provides loans for low-income households.

Notes

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10. Bank of Korea, ibid., pp. 30-32.
11. Intermediate Target in Empirical Test

	M1	M1A	M2	M3
GNP Predictability of the Relation with Nominal GNP	3	2	1	
Stability and Predictability of Demand for Money Function	2	3	1	4
Stability of Money Velocity	3	2	1	4

Note: 1) M1A = M1 + Savings Deposits + Notice Deposits
 2) Sample Period: 1971.I - 1980.IV

Source: Bank of Korea, Quarterly Economic Review, September 1984.

12. This part of paper greatly depends on the study of Laidler, D.E.W. Laidler, D.E.W., The Demand for Money, (New York: Harper and Row Publishers, 1977).
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CHAPTER IV

CONCLUSION

The institutional financial market and the non-institutional financial market coexist in Korea. The bank interest rates are fixed at a low level, and the real bank interest rates are usually negative in value. In a word, the Korean financial market is underdeveloped.

One of the problems which the Korean monetary authorities must solve is to absorb the non-institutional financial sector into the institutional sector. However, policies to absorb the non-institutional financial markets must be gradual rather than drastic. For example, the Presidential Emergency Decree in August 1972 eventually failed to absorb the curb market.

To solve this problem, the following suggestions are considered. First, the interest rate must be liberalized gradually and must be decided by the marketplace. Second, financial institutions must be diversified and competitive. In addition, the autonomy of the banking sector must be secured.

Korean business firms heavily depend on external finance. That is, because the securities market is underdeveloped, Korean business firms depend on the loans supplied by banks. Accordingly, the growth of a sound capital market is required.

The scope of Korean monetary policy is very limited because the interest rate is fixed at a low level and the financial markets are in an infant stage. In addition, the existence of non-institutional financial

markets which are insulated from effective government control has reduced the effectiveness of monetary policy.

Open market operations, which are one of the important instruments of monetary policy, have little effect on controlling financial market conditions. Accordingly, the Bank of Korea heavily depends on reserve requirement policy and direct control. Accordingly, it is desirable that the Bank of Korea try to vitalize the open market operations by using Grain Bills and Monetary Stabilization Bonds rather than heavily depending on direct control.

The money stock has been used as an intermediate target in Korea because the interest rate is fixed at a low level. Due to the increase in the substitutability resulting from diversification of financial assets, broadly defined money (M2) seems to be the appropriate intermediate target since 1979. However, the policy to reduce the fluctuations in the foreign sector must be adopted because the foreign sector in Korea is very large.

The bank interest rate is fixed at a low level in Korea. In the long run, the interest rate must be decided by the marketplace. But, it is desirable to liberalize the interest rate gradually rather than drastically. And, it is very hard to expect that the liberalization of interest rates and financial markets will necessarily solve all the problems in the Korean financial market.

Selective credit policy to support exports and foster the basic industries is considered as a useful policy, but reduces the flexibility in controlling the money supply. The amount of selective credit policy

must be reduced gradually, and investment must be governed by the interest rate and marginal efficiency of investment.

In conclusion, the Korean financial market must be diversified and liberalized gradually, and monetary policy must be changed from direct control to indirect control.

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FINANCIAL STRUCTURE AND MONETARY POLICY
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ABSTRACT

The Korean financial structure is composed of banks, non-bank financial institutions, the securities market, the foreign capital market and the non-institutional market. Due to the underdevelopment of the financial market, the banking sector played a major role, but the size of non-bank financial institutions has expanded. In addition, securities market has grown since the 1970s.

One of the important characteristics of the Korean financial sector is the dichotomy between the institutional financial market and the non-institutional financial market. The non-institutional financial market in Korea can be divided into the Kye and curb markets. However, it is realistic to say that they are linked to each other. To absorb the non-institutional financial market into the institutional financial market, the Korean government has not only announced the Presidential Emergency Decree in August 1972 as drastic policy, but also tried to institutionalize the non-institutional financial market as the gradual policy. However, the non-institutional financial sector is still active. In addition, because it is insulated from effective government control, it has reduced the effectiveness of monetary policy.

Instruments of monetary policy in Korea are interest rate policy, open market operations, reserve requirements, and direct controls. But, because the interest rate is fixed at a low level and open market operations have little effect on controlling financial market conditions, the scope of monetary policy is very limited. Accordingly, the Korean government heavily depends on the direct control rather than the indirect control.

The intermediate target in Korea has been monetary aggregates because of the fixity of the interest rate. The major intermediate target has been broadly defined money (M2) since 1979.

The Korean government has maintained low interest rates rather than market-clearing interest rates except during 1965 to 1970. Some economists argue for a low interest rate policy, while others argue for a high interest rate policy. However, as the effects of them are very complex, we need to study further in adopting an appropriate interest rate policy. However, in the long run, interest rates must be liberalized and be decided by the marketplace.

There are several kinds of selective credits which contributed to support the export sector and foster the basic industries. However, in the future, the indirect control rather than direct control like selective credits policy is more desirable.

In conclusion, the Korean financial markets must be induced to be more competitive and efficient. And, it is desirable that the Korean government take the indirect control rather than direct control.

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