

Tax Policy and Tax System in Korea

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Preface

Korea is a fascinating country for economists around the world. Policymakers in Korea have always faced a new set of challenges and adjusted to the rapidly changing internal and external environments. For better or worse the Korea's economic performance, its policies and institutions are of great interest to a wide audience and worthy of serious examination. Careful evaluation of the problems, policy responses, and performance of the past help overcome new challenges ahead and make the best use of potential.

This volume is a collection of papers written on various occasions in last quarter of century. Most of them were commissioned by concerned authorities or previously published in professional journals and edited volumes. Papers in the volume were written to show how the nation coped with the arduous task of setting up new policy strategy to meet the challenges at the time when each paper was written. In retrospect questions or issues raised and answers or suggestions made are pretty robust and indicative even for today. Though the volume is limited in the subject areas, it throws a great deal of light on answers to the frequently raised questions. I hope that this edited volume and accompanying volume, entitled *Fiscal and Public Policy in Korea*, serve as a pivot and stimulant in understanding tax policy, fiscal policy, and public policy in Korea.

I would like to express my special thanks to my family: father, Yeap Jong Choi; mother, Cheon Il Jo; wife, Soon Hee Jo; sister, Jeong Sook Choi; and sister's husband, Byung Rae Jo, for their support and encouragement for so many years. I am very grateful to Mr. Ju Seok Sung and Ms. Sang Mi Choi for their editorial assistance and Ms. Min Joo Kang for her word processing support. I am also grateful for publication assistance from Mr. Byung Gyu Choi.

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Chapter I. Korea's Tax System and Tax Reform: Policy, Performance and Issues

I. Introduction

Taxation is a key tool of economic policy. Tax reform in a country involves broad issues of economic policy as well as specific problems of tax structure, design and administration. In the process of crafting tax policies that meet the needs of a rapidly changing economy, society, and polity, tax revenue in Korea increased about three times faster than GNP. While the long-term trend has been upward, growth in the overall tax burden has not been smooth.

The evolution of the tax system in Korea reflects the development needs, process and pattern of the economy since, in most cases, the tax reform efforts in Korea have been closely associated with the objectives of the Five-Year Economic Development Plans. The primary objective of the Korean tax policy during the industrialization process was to mobilize resources for capital formation in the public sector, while not discouraging investment in the private sector. In addition to promoting savings and investment, the running themes of most tax reforms in Korea included simplifying the tax system, eliminating corruption and tax evasion, and bringing about a more equitable distribution of the tax burden among sectors of industry and classes of income.

The main objectives of this chapter are to (1) review tax reforms and tax policies as implemented in Korea, (2) review the effects of tax policies on resource allocation, income redistribution, and tax administration, (3) explore potential avenues for a better tax system by discussing current issues in tax policies in Korea, and (4) infer some lessons which may be of use to the tax policy of other countries.

II. Brief History of Tax Reforms

During the past 50 years or so since the establishment of the government in 1948, there have been numerous tax reforms in Korea. In nine instances - 1956, 1961, 1967, 1971, 1974, 1976, 1988, 1993 and 1994 - the changes were substantial enough to be labelled "comprehensive". Although the standard litany of equity and efficiency objectives was cited, and improved tax treatment was common in all of these tax reforms, the primary concerns behind these comprehensive reforms differed.

The objectives of the comprehensive tax reforms during the 1960s and the early 1970s were to make the tax system more supportive of economic development programs. Thus, the tax reforms of 1961, 1967, and 1971 were undertaken in conjunction with the Five-Year Economic Development Plans and constituted an integral part of the government's efforts to promote rapid economic growth. The establishment of the Office of National Tax Administration in 1966 signaled the government's strong commitment to increasing the tax effort, and a sustained period of growth in revenue mobilization followed.

The economic adjustment period of the 1970s was marked by severe economic difficulties which largely originated from the worldwide oil crises and two emergency tax measures adopted in 1972 and 1974. The major highlight of this period is, of course, the introduction in 1976 of a broad-based value-added tax system to replace eight of the eleven existing indirect taxes. The 1970s also saw the introduction of two other taxes-the local inhabitants tax in 1973 and the defense surtax in 1975.

The decade of the 1980s was one of economic restructuring and stabilization with much less tax reform activity. In keeping with a

policy of structural adjustment and liberalization, the range of tax incentives was reduced in the early 1980s. The education surtax was adopted in 1981 as a temporary tax measure to boost public financing of elementary and secondary schools. The issue behind the 1988 comprehensive tax reform, which took place following the declaration of political liberalization in 1987, was the fair distribution of the fruits of economic growth and the tax burden among different social groups. One of the most drastic measures adopted in the early 1990s was the introduction of the real-name system financial transactions in 1993.

Following is a brief summary of major tax reforms and tax law changes since 1961, when the first Five-Year Economic Development Plan was initiated.

May 1961 : New military government initiated improvement of tax administration

- Strengthened the tax withholding system
- Reorganized regional tax offices
- Screened and retrained tax officials
- Enacted:
 - Tax Collection Temporary Measures Law
 - Tax Delinquent Special Measure Law
 - Tax Accountant Law

December 1961 : Comprehensive tax reform (First Five-Year Plan)

- Total number of taxes was reduced from 38 to 28
(15 national taxes and 13 local taxes)
- 10 tax laws were revised

December 1965 : Tax Exemption and Reduction Control Law was enacted

March 1966 : Establishment of Office of Nation Tax Administration

November 1967 : Comprehensive tax reform (Second Five-Year Plan)

- 13 tax laws were revised

- 2 new tax laws were enacted (Telephone Tax and Land Speculation Control Tax Law)

December 1971 : Comprehensive tax reform (Third Five-Year Plan)

- 10 tax laws were revised
- Interest income subject to 5 percent tax
- Corporate tax rates were reduced
- Investment tax credit was expanded

August 1972 : Emergency Decree for Economic Stability and Growth

- Provided generous investment tax credits
- Abolished the existing revenue-sharing scheme for local governments

January 1974 : Presidential Emergency Decree for National Economic Security

- Provided substantial tax relief from low-wage earners
- Public transportation service taxes suspended

December 1974 : Comprehensive tax reform

- The personal global income tax system was introduced
- Land speculation control tax was replaced by a capital gains tax
- The Basic Law for National Taxes was enacted
- The National Tax Tribunal was established

July 1975 : The defense surtax was introduced

December 1976 : Comprehensive tax reform (Fourth Five-Year Plan)

- The value-added tax was introduced
- 8 of 11 indirect taxes were replaced

December 1981 : The education surtax was introduced

December 1986 : The excessive land holding tax (local tax) was introduced

December 1988 : Comprehensive tax reform

- 7 tax laws were revised
- Personal income tax, special excise tax, telephone tax, liquor tax, and customs duties were reduced

August 1993 : Emergency Decree for the Implementation of the

Real Name System of Financial Transactions

December 1993 : Comprehensive tax reform (The New Economy Plan)

- The real name system of financial transactions was introduced
- The earmarked transportation tax and special tax for rural development were introduced
- 12 other tax laws were revised

December 1994 : Comprehensive tax reform

- Objectives were to broaden tax base and lower tax rates
- Interest and dividends became subject to global taxation, beginning in 1996
- 11 tax laws were revised

III. Tax System and Revenue Performance

The current tax system has gradually evolved from a history of numerous discretionary changes in tax laws, institutions, and administration. Any country's tax effort has three dimensions: level, structure and administration. Due to a concerted effort by the government to raise revenue, total tax revenue as a percent of GNP, or the tax burden, increased from 12 percent in the mid-1950s to 20 percent in the mid-1990s. The ratio of tax revenue to GNP in Korea still remains low, partly because of the relatively low level of per capita income. As shown in <Table I-1>, the upward trend in the tax burden has not been smooth, due partly to fluctuations in economic activity, and partly to revenue loss from extensive tax incentives and major tax reforms that reduced the tax burden.

Korea has been run by a highly centralized government. Korea's local governments have acted merely as agents carrying out the decisions of the central government. They have neither their own kinds of tax nor the power to raise or lower taxes in response to the needs of their residents. Up to the mid-1980s, local government tax revenues accounted for only ten percent of the total tax revenue. The difference between the central and local governments' ability to raise revenue lies mainly in the fact that their tax systems have different tax bases. The major revenue sources of the central government are consumption and income taxes, while those of the local governments are property related taxes.

<Table I -1> Tax Burden of National and Local Taxes

(Unit: %)

	Total taxes to GNP	National taxes to GNP	Local taxes to GNP	National taxes to total taxes	Local taxes to total taxes
1955	11.7	10.5	1.2	89.7	10.3
1960	12.0	11.1	0.9	92.6	7.4
1965	8.7	7.3	1.4	84.1	15.9
1970	14.6	13.4	1.2	91.7	8.3
1971	14.6	13.4	1.2	91.9	8.1
1972	12.6	11.5	1.1	91.9	8.1
1973	12.1	10.7	1.4	88.6	11.4
1974	13.6	12.2	1.4	89.4	10.6
1975	15.3	13.7	1.6	89.4	10.6
1976	16.6	15.0	1.6	90.5	9.5
1977	16.6	14.7	1.9	88.6	11.4
1978	17.1	15.3	1.8	89.2	10.6
1979	17.4	15.5	1.9	88.8	11.2
1980	17.9	15.8	2.1	88.3	11.7
1981	18.0	16.0	2.0	88.9	11.1
1982	18.2	16.1	2.1	88.2	11.8
1983	18.6	16.3	2.3	87.8	12.2
1984	17.7	15.5	2.2	87.8	12.2
1985	17.3	15.2	2.1	87.8	12.2
1986	17.0	15.0	2.0	88.3	11.7
1987	17.5	15.4	2.1	88.2	11.8
1988	17.9	15.4	2.5	86.3	13.7
1989	18.5	15.0	3.5	81.1	18.9
1990	19.4	15.7	3.7	83.9	16.1
1991	18.5	14.7	3.8	78.7	21.3
1992	19.4	15.3	4.1	78.2	21.8
1993	19.1	14.9	4.2	77.5	22.5
1994	19.6	15.4	4.2	77.5	22.5
1995	20.1	15.7	4.4	78.1	21.9
1996	20.7	16.2	4.5	78.3	21.7
1997	21.4	17.1	4.3	80.1	19.9
1998	19.4	15.5	3.8	79.8	20.2
1999	19.7	15.8	3.9	80.3	19.7

Sources: Bank of Korea, *Economic Statistics Yearbook*, 2000.Ministry of Finance & Economy, *Government Finance Statistics in Korea*, 1999.National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2000.

A somewhat surprising feature of the Korean tax system is that revenue does not seem to be especially responsive to downturns in economic activity, such as occurred in 1980, or to slowdowns, such as in 1985. In 1980, revenue rose 4 percent more rapidly than nominal GDP, about the same elasticity as the 3 percent average for the decade. Part of the explanation lies perhaps in the target revenue approach adopted by Korea's National Tax Administration (NTA). The NTA is given a target revenue for the year (conservatively estimated), and revenue agents in turn are given target revenues to achieve. Since compliance is not generally self-enforcing in Korea, this approach means that more stringent efforts by revenue officials can generate higher revenues.

One important characteristic of the tax structure in Korea is that it relies very heavily on indirect taxes. As shown in the first two columns of <Table I-2>, more than 70 percent of the total tax revenue, national and local, came from indirect taxes until the mid-1980s, though the share decreased to 68.3 percent in 1999. Many people mistakenly believe that the overall tax burden and share of indirect taxes in the total tax revenue increased with the introduction of VAT. Introduction of VAT in Korea led to neither an increase in the overall tax burden nor a heavier reliance on indirect taxation for government revenue. As Table shows, the ratio of indirect taxes to GNP had been rising during the late 1970s and there was no significant difference in the tax burden ratio before and after the introduction of VAT. As shown in <Table I-2>, the share of indirect taxes in total taxes exhibited only a minor increase after the introduction of VAT.

The most important change in the tax structure in connection with the introduction of VAT is that the Korean indirect tax system became more reliant on general consumption taxation than on selective excise taxation. It must, however, be pointed out that the revenue yield of the general consumption tax, VAT, relative to that of excise taxes, is still lower in Korea than in other countries which adopted VAT.

<Table I -2> Characteristics of the Tax Structure, 1970 - 1999

(Unit: %)

	Direct taxes to total taxes	Indirect taxes to total taxes	Income taxes to national income	Indirect taxes to GNP	National taxes on goods and services to private consumption	General sales tax to taxes on goods and services
1970	33.9	66.1	5.9	9.4	8.3	18.1
1971	36.9	63.1	6.2	9.1	8.4	17.4
1972	32.4	67.6	4.9	9.2	7.4	21.2
1973	29.8	70.2	4.4	8.5	7.6	20.8
1974	29.9	70.1	4.9	9.4	8.4	21.4
1975	25.8	74.2	4.6	11.4	9.9	27.6
1976	29.6	70.4	4.8	11.7	10.8	26.3
1977	28.2	71.8	4.2	11.9	11.6	34.3
1978	28.0	72.0	4.3	12.3	11.8	47.9
1979	27.9	72.1	4.5	12.6	12.0	46.3
1980	25.2	74.8	4.0	13.4	12.5	47.6
1981	25.7	74.3	4.2	13.5	12.5	47.3
1982	26.0	74.0	4.8	13.9	12.9	47.7
1983	24.5	75.5	4.9	14.6	14.0	49.0
1984	24.8	75.2	4.7	14.0	13.8	48.0
1985	24.8	75.2	4.6	12.7	12.4	48.9
1986	27.3	72.7	5.5	12.6	12.8	48.8
1987	29.8	70.2	6.2	12.3	12.5	49.8
1988	33.3	66.7	6.7	12.1	12.7	50.0
1989	36.5	63.5	7.6	11.9	10.7	63.7
1990	35.9	64.1	7.7	12.4	11.8	64.0
1991	35.8	64.2	6.6	11.6	10.4	69.0
1992	36.0	64.0	7.5	12.1	11.4	67.9
1993	35.7	64.3	7.5	12.3	11.9	68.5
1994	35.7	64.3	7.9	12.9	12.1	65.4
1995	37.2	62.8	8.3	13.2	12.3	63.7
1996	35.2	64.8	4.6	12.8	11.8	61.1
1997	32.2	67.8	4.4	13.3	12.0	63.6
1998	38.3	61.7	5.2	12.0	11.2	57.8
1999	31.7	68.3	4.5	13.5	12.5	55.6

Sources: Bank of Korea, *Economic Statistics Yearbook*, 2000.Ministry of Finance & Economy, *Government Finance Statistics in Korea*, 1999.National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2000.

<Table I-3> Structure of National Taxes, 1970-1998

(Unit: %)

	As % of GNP							As % of Total National Taxes						
	1970	1975	1980	1985	1990	1995	1998	1970	1975	1980	1985	1990	1995	1998
Taxes on income, profit and capital gains	4.7	3.4	4.1	4.4	6.2	6.4	6.4	35.0	24.3	25.5	28.7	37.5	35.9	35.7
Social security contributions	0.1	0.1	0.2	0.3	0.8	1.6	2.4	0.8	1.0	1.2	1.7	5.1	8.7	13.4
Taxes on property	0.3	0.5	-	0.1	0.4	0.5	0.6	2.5	3.9	0.6	0.7	2.4	2.6	1.8
Taxes on goods and services	6.3	7.1	8.4	7.6	6.3	6.6	6.2	46.5	51.1	52.4	49.0	38.4	37.5	34.7
Taxes on international transactions	1.9	2.0	2.8	2.5	2.1	1.3	0.9	13.8	14.4	17.2	16.2	13.0	7.4	4.9
Other taxes	0.2	0.7	0.5	0.6	0.5	1.5	1.7	1.3	5.5	3.0	3.8	3.6	7.9	9.5
Total	13.5	13.8	16.0	15.5	16.3	17.9	17.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Finance & Economy, *Government Finance Statistics in Korea*, 1985 and 1998.

The tax structure is the centerpiece of any country's tax efforts, since it determines the ease with which any given level can be achieved and the efficiency with which taxes will be administered. It also holds the key to the allocation, redistribution and stabilization functions of tax policies. According to <Table I-3> shows the structure and the main sources of national tax revenue, with taxes on income, profits and capital gains amounting to 35.7 percent of the total, taxes on goods and services accounting for 34.7 percent, and taxes on

international transactions for nearly 4.9 percent in 1998. Korea heavily depended on domestic indirect taxes on goods and services, and import duties, which accounted for 52.4 percent and 17.2 percent respectively, of the total tax revenue of the central government in 1980. Although taxes on income have gained importance in recent years, income taxes have never occupied the central position in the revenue structure of Korea.

Currently, there are thirty-two taxes in Korea, of which seventeen are levied by the central government and the remaining fifteen by local governments, as shown in <Table I-4>. Korea's tax system is more complicated than that of advanced countries. The proliferation of taxes is mainly due to the government's tendency to turn to new taxes whenever it needs to increase public expenditures. The most important taxes, in terms of their revenue yield, are value-added tax, personal income tax, corporate income tax, and customs duties for national taxes, and registration tax, acquisition tax, automobile tax and cigarette consumption tax for local taxes. Four taxes from each group represent 66.5 percent and 64.7 percent, respectively, of total tax revenues collected by central and local governments.

Taxes on wealth at central government level in Korea, such as inheritance and gift taxes, assets revaluation tax, and securities transaction tax, are hardly significant in terms of their revenue yield. Revenue collected from the above taxes in 1999 comprised only 4.3 percent of the central government's total tax revenue. At the local government level, wealth taxes such as acquisition tax, property tax, registration tax, city planning tax, fire services facilities tax and automobile tax are major fiscal resources for local governments, accounting for 60.1 percent of their total tax revenue in 1999.

<Table I-4> The Tax System in Korea, 1999

(Unit: %)

	Share in total taxes	Share in national taxes		Share in total taxes	Share in local taxes
National taxes			Local taxes		
1. Domestic taxes	59.8	74.5	1. Ordinary taxes	17.6	89.1
Personal income tax	16.8	21.0	Acquisition tax	3.3	16.5
Corporate income tax	9.9	12.4	Automobile tax	2.1	10.7
Inheritance and gift tax	1.0	1.2	Property tax	0.7	3.6
Assets revaluation tax	1.1	1.3	Farmland tax	0.0	0.0
Excess profit tax	-	-	License tax	0.3	1.3
Excess increased value of land tax	-	-	Butchery tax	0.0	0.2
Liquor tax	2.2	2.7	Horse-race tax	0.4	2.1
Value-added tax	21.6	26.9	Residents tax	2.7	13.7
Special consumption tax	2.9	3.6	Registration tax	4.6	23.3
Securities transaction tax	1.4	1.8	Cigarette sales tax	2.2	11.2
Telephone tax	1.3	1.6	Aggregated land tax	1.3	6.7
Stamp tax	0.4	0.5	2. Earmarked tax	1.6	8.2
Carry-over	1.3	1.6	City planning tax	0.8	4.2
2. Customs duties	5.0	6.2	Fire-fighting and facilities tax	0.3	1.7
3. Earmarked tax	15.5	19.3	Business firm tax	0.4	1.9
Education tax	5.6	7.0	Regional development tax	0.1	0.4
Defense tax	0.0	0.0	3. Carry-over	0.5	2.7
Transport tax	7.7	9.6			
Special tax for rural development	2.1	2.7			
Total	80.3	100.0		19.7	100.0

Source: Bank of Korea, *Economic Statistics Yearbook*, 2000.

IV. Structure and Performance of Major Taxes

1. Personal Income Tax

The individual income tax system in Korea is a mixture of global and scheduler systems. Until 1966, individual income was taxed at a flat rate by income categories. The first significant step toward global taxation was taken in the 1967 tax reform, which introduced a progressive income tax based on global income. However, the global income was rather narrowly defined and the income tax system continued to be better approximated by flat taxes on various income categories, rather than by a progressive tax based on a broad income category. The definition of global income was broadened subsequently. In particular, the tax reform of 1974 (effective 1975) broadened the definition of global income substantially and introduced the basic framework of the current individual income tax system. The transition toward full-fledged global income taxation has been slow. The current definition of global income is still not broad enough to encompass all types of individual income.

The current individual income tax distinguishes five categories of taxable income: global income, retirement income, capital gains, timber income, and separately taxed income. The global income category includes interest and dividend income, real estate rental income, business income, labor income, and other miscellaneous income. The category of separately taxed income includes the following: interest on deposits, public bonds, and certain other bonds; dividends received by small shareholders of listed companies and by small employee-stock-owners of unlisted corporations; dividends from credit unions, various cooperatives, and securities trusts; and other miscellaneous income up to three million won (with the option of

including it in the global income category). Capital gains from financial assets are simply untaxed. Income from agricultural land is taxed by local governments at a progressive rate.

The structure of the personal income tax has been subject to changes almost every year, as summarized in <Table I-5>. Statutory rate schedules have been continually simplified since 1975, when the global income tax had 16 brackets and the highest marginal tax rate of 70 percent.

<Table I-5> Historical Development of the Structure of the Personal Income Tax

(Unit: 10,000 won and %)

	Number of brackets	Lowest marginal tax rate	Highest marginal tax rate ¹⁾	Upper limit of lowest bracket	Lower limit of highest bracket	Tax-free personal deduction ²⁾
1970	9	7	50	12	240	12
1975	16	8	70	24	4,800	78
1980	17	6	62 (79.05)	120	6,000	238
1982	17	6	60 (76.50)	120	6,000	268
1983-1988	16	6	55 (70.13)	180	6,000	274
1989	8	5	50 (63.75)	250	5,000	460
1991	5	5	50 (59.13)	400	5,000	581
1993	6	5	50 (53.75)	400	6,400	619
1995	6	5	45 (48.38)	400	6,400	695
1996	4	10	40 (43.00)	1,000	8,000	1,200
1997	4	10	40 (43.00)	1,000	8,000	1,300

Notes: 1) Tax rates in parentheses include defense of education taxes.

2) Family of 5 persons.

The center piece of the individual income tax is the taxation of global income. The tax rates for capital gains on real property, retirement income, and timber income is also graduated. After adjusting for deductions, retirement income and timber income are taxed according to the same rate schedule as global income, with one exception. In the taxation of retirement income, the length of employment is taken into account in order to avoid unfair treatment of taxpayers who realize a large amount of retirement income after a lengthy period of employment. Specifically, the tax on retirement income is computed by applying the tax rates to the adjusted taxable income divided by the number of years of employment, and then re-multiplying this product by the number of years of employment.

The individual income tax allows for various deductions and credits. In addition to personal deductions, a wage earner is eligible for several other deductions, such as labor income deduction and deductions of educational and medical expenses.

The level of personal deductions and exemptions has always been the subject of heated political debate, largely because the benefit to the taxpayers is direct and tangible. As a result of maneuvering by politicians to secure political gains, and a mistaken belief by tax policy makers that increases in personal exemptions and deductions are the best ways to relieve the tax burden of wage and salary earners, the level of personal exemptions and deductions was raised every year.

The relatively high level of exemptions underlies the limited contribution of the personal income tax to Korean tax revenue. Furthermore, the gradual rise in the level of personal deductions every year is responsible for the decreasing share of the personal income tax in GNP and total tax revenue, as shown in <Table I-5>. The minor increase in the relative revenue significance of the personal income tax during the late 1980s is due to the fact that no adjustment of the personal exemptions level had been between 1983 and 1988.

<Table I-6> shows the composition of the personal income tax by source. A major revenue source of the individual income tax is labor income, which accounted for 40.8 percent in 1980 and 37.5 percent in 1995. The most striking feature of <Table I-6> is that the revenue share of global income decreased substantially over the years. In 1995, more than 25 percent of the total personal income tax revenue was raised from interest and dividend incomes, which are taxed at a flat rate separate from global income. The rapid decline in the revenue of global income and the recent increase in the revenue share of the capital gains tax suggest that there are tremendous opportunities for improvement in the redistribution aspect of the Korean income tax system.

<Table I-6> Sources of Personal Income Tax

(Unit: billion won and %)

	Total	Global income	Labor income	Capital gains	Retirement income	Timber income	Separately taxed		Other income
							interest income	divided income	
1980	661	38.8	40.8	5.9	0.7	0.0	8.2	2.7	2.9
1985	1,482	28.5	43.9	6.3	0.8	0.0	15.8	3.2	1.5
1990	4,723	18.9	36.8	23.6	0.6	0.0	15.6	3.3	1.2
1995	13,618	21.3	37.5	12.9	0.6	0.0	23.3	2.5	1.9

Source: National Tax Service, *Statistical Yearbook of National Tax*, various issues.

Global income tax is far from global. It retains many scheduler rates, and is highly complicated. Capital gains accruing from selling stocks and some generous fringe benefits to employees are not listed as taxable income in the personal income tax code. The personal income tax system levies a separate low tax on capital gains, retirement income, timber income, dividend income, and interest income. These types of income are mostly enjoyed by the more affluent members of society.

Interest income from life insurance savings, imputed income from owner-occupied housing, capital gains on securities, interest income from government bonds, and many kinds of fringe benefits such as cars, drivers, lunches, and housing allowances are fully exempt from taxes, either on purpose or by chance. A significant portion of interest and dividend income is subject to taxation at a separate lower withholding rate. Farm income is not subject to the personal income tax, but to the farmland tax, with a different structure of exemptions and tax rates at the local government level.

Two explanations can be provided for the failure to develop more unified taxation of the different sources of income. One is economic and the other is institutional. The economic argument relates to the fear that full globalization would either discourage savings and investment, or channel funds into unproductive, speculative, or untaxed forms of investment. Some maintain that non-taxation of capital gains on securities should continue until the capital market is fully developed in Korea, and that in view of Korea's relative shortage of capital, more preferential treatment of savings should be provided.

The institutional argument is that the current legality of allowing bearers of bonds and securities to have fictitious names is bound to result in the omission of a lot of interest and dividend income from the global income tax base. It was practically impossible to fully globalize interest and dividend income until a law limiting use of no-name bearer bonds and securities was passed. The absence of any ownership records of such securities deprives the NTS of a principal means of inspection. The holders of no-name bearer shares, secure in the knowledge that their stock ownership cannot be discovered, confidently evade not only tax on income, but also taxes on gifts and inheritances. Their use also precludes the taxation of capital gains on securities.

<Table I-7> Personal Income Tax Revenue, 1955-1999

(Unit: %)

	Personal Income Tax as a Percentage of			
	GNP	National income	Total tax revenue	National tax
1955	1.4	1.5	12.0	18.3
1960	0.9	1.0	7.3	10.8
1965	1.4	1.6	16.8	27.9
1970	3.1	3.6	21.2	29.8
1975	1.9	2.4	12.8	19.6
1980	1.8	2.3	10.1	11.4
1985	1.9	2.4	10.9	12.5
1990	2.6	3.4	14.2	17.6
1995	3.9	5.0	18.9	24.0
1996	3.8	4.9	17.6	22.3
1997	3.3	4.4	16.8	21.3
1998	3.9	5.2	20.2	25.4
1999	3.3	4.4	16.8	21.0

Sources: The Bank of Korea, *National Accounts*, 1970-1999.National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2000.National Tax Service, *Statistical Yearbook of National Tax*, various years.

The personal income tax does not play as significant a role in Korea as in most other countries. As summarized in <Table I-7>, revenue from the personal income tax in 1999 was 3.3 percent of GNP and accounted for 16.8 percent of total tax revenue. It should be pointed out that in some years during the 1970s and 1980s the share of personal income tax in GNP or in total tax revenue declined despite the 1974 reform of the personal income tax toward the global income tax system. The insignificance of the personal income tax in raising tax revenue in Korea can be noted by the fact that taxes on personal income as percentages of GDP and total taxation are 11 percent and 28 percent on average in OECD member countries.

Though insignificant in the contribution to revenue, the personal income tax has received most of the attention from both tax officials and the general public, partly because continuing inflation has required frequent adjustments to exemptions and bracket tax rates, and partly because some structural problems with the personal income tax have begged correction.

2. Corporate Income Tax and Tax Incentives

A. Tax Rate and Tax Revenue

In 1995, over 142 thousand corporations in Korea were subject to the corporate income tax. Of these corporations, 119 thousand were for-profit corporations, 12 thousand were non-profit corporations, and the remainder consisted of partnerships and foreign corporations. The Korean corporate income tax used to be somewhat complicated. Corporate entities were classified into general unlisted corporations, non-profit corporations, and public corporations, and different tax schedules were applied to each type of entity.

<Table I-8> provides a summary of major historical changes in the corporate income tax schedule. There used to be preferential tax treatment of listed corporations and non-profit corporations for one reason or another. In the government's effort to treat various corporate entities as equally as possible and to improve international competitiveness, the corporate income tax schedules were drastically integrated and simplified in 1997.

<Table I-9> presents a summary of corporate income and corporate income tax levied. In 1998, the adjusted taxable income was 89.5 percent of gross income, and average tax rates applied to the gross income and the adjusted taxable income were 22.8 percent and 25.0 percent, respectively.

<Table I -8> Historical Changes in the Corporate Tax Schedules

1968	Profit non-listed corp.:		
		ATI less than 1 million won	25%
		over 1 million won	35%
		over 5 million won	45%
	Listed corp. and non-profit corp. :		
		ATI less than 1 million won	20%
		over 1 million won	30%
		over 5 million won	35%
1975	Profit non-listed corp.:		
		ATI less than 3 million won	20%
		over 3 million won	30%
		over 5 million won	40%
	Listed corp. and non-profit corp.:		
		ATI less than 5 million won	20%
		over 5 million won	27%
1981	Profit non-listed corp.:		
		ATI less than 50 million won	25%
		over 50 million won	40%
	Listed corp.:		
		less than 50 million won	25%
		over 50 million won	33%
	Non-profit corp.:		
		less than 50 million won	25%
		over 50 million won	27%
1983	Profit non-listed corp.:		
		ATI less than 50 million won	20%
		over 50 million won	30%
	Listed corp.		27%
	Public corp.		5%
1991	Profit corp.:		
		ATI less than 100 million won	20%
		over 100 million won	34%
	Public corp.:		
		less than 300 million won	17%
		over 300 million won	25%
1997	All corp.:		
		ATI less than 100 million won	16%
		over 100 million won	28%

Note: Defense tax (20-25%) and inhabitant tax (7.5%) were surcharged on the corporate tax amount.

<Table I-9> Corporate Income and Corporate Tax Burden

(Unit: 100 million won and %)

	Gross income (A)	Adjusted taxable income (B)	Tax levied (C)	C/A	C/B
1983	35,013	30,084	6,574	18.8	21.9
1984	46,987	40,198	8,290	17.6	20.6
1985	54,097	47,847	10,140	18.7	21.2
1986	59,017	54,158	11,172	18.9	20.6
1987	80,697	73,724	14,795	18.3	20.1
1988	99,827	92,087	20,090	20.1	21.8
1989	134,147	118,440	26,089	19.4	22.0
1990	150,329	127,806	29,071	19.3	22.7
1991	172,586	144,448	33,973	19.7	23.5
1992	200,073	178,514	50,789	25.2	28.3
1993	210,953	184,409	52,418	24.8	28.4
1994	210,935	223,519	63,759	25.5	28.5
1995	249,987	280,556	76,029	24.8	27.1
1996	330,412	300,654	75,238	22.8	25.0
1997	333,174	298,884	71,008	21.3	23.8
1998	329,687	295,293	69,808	21.2	23.6

Source: National Tax Service, *Statistical Yearbook of National Tax*, various issues.

B. Tax Incentives

Throughout the rapid economic growth of the past four decades, the government played an important role in mobilizing economic resources and allocating them to strategic sectors. In the area of tax policy, the government employed tax incentives for achieving various economic policy objectives. One consequence of the liberal application of tax incentives was that tax codes became so complicated that most of the provisions for tax reductions and exemptions had to be placed under a

separate law entitled the “Tax Exemption and Reduction Control Law (TERCL)”, which was first introduced in 1966 and revised extensively in 1981.

Currently, most of the tax incentives for corporations and noncorporate private businesses are provided by TERCL. Major areas targeted by the current tax incentive system include the promotion of small and medium-sized enterprises, technology and manpower development, resource development, promotion of overseas businesses and investment, development of income sources for agriculture and fisheries, development of defense and aircraft industries, improvement of corporate financial structure, promotion of business investment, relocation of firms away from metropolitan areas, rationalization of industrial structure, provision of workers' housing, and inducement of foreign capital inflow.

Important instruments for tax incentives include accelerated depreciation, expensing, investment tax credit, tax deferral reserve, tax holiday, tax deduction, and tax reduction. Of these instruments, the tax deferral reserve deserves some elaboration. Take the case of an investment reserve for small or medium-sized enterprises. Under the provisions of TERCL, a small or medium-sized enterprise is eligible for a 20 percent investment reserve every year, the firm can deduct up to 20 percent of the total book value of its equipment and put it in a reserve account. Beginning in the fourth year after a deduction is taken, the amount of the previous deduction is added back to the taxable income over a period of three years. In the meantime, the reserve is used to finance investments. The result is that even though the value of the initial deduction for investment reserve is partially offset by the increases in the taxable income in the later years, the firm benefits from deferring tax payment until the reserve deduction is added back to the tax base.

The list of tax incentives for the various policy objectives is long. The following is a brief summary of the tax incentives, classified by

the area of policy objectives.

- (1) Incentives on Financial Income
non-taxable interest income, low rate on interest and dividends.
- (2) Incentives for Public Corporations
low corporate tax rate (10%) on cooperative associations
- (3) Incentives for Small and Medium Enterprises
reserve for investment, investment tax credit, reduction of corporate income tax, personal income tax and local taxes
- (4) Incentives for Development of Technology and Manpower
reserve for technological development, ordinary and incremental tax credit, income deduction, non-taxation on capital gains, tax exemption for income from the transfer of patent rights
- (5) Incentives for Businesses Earning Foreign Currency
reserve for export loss and overseas market development
- (6) Incentives for Overseas Business
income deduction, reserve for overseas business loss, special treatment for foreign tax paid, taxes spared
- (7) Incentives for Overseas Investment
reserve for overseas investment loss, tax exemption for dividend income
- (8) Incentives for Resource Development Business
reserve for mining investment, deduction for livestock industry, tax deduction for forest development income
- (9) Incentives for Balanced Development of Urban and Rural Areas
reserve for investment in farming and fishing villages, special tax treatment for hospitals in rural areas, tax reduction for farming companies
- (10) Incentives for Business Moving to Provincial Area
reserve for moving, tax credit or income deduction for new plant facilities, tax credit or income deduction for business assets, reduction on capital gains tax
- (11) Incentives for the Rationalization of Industry

- exemption and reduction of tax on capital gains, tax deduction for reorganization and business conversion, tax incentives for privatization of public corporations
- (12) Incentive for Small and Medium Enterprises' Conversion tax reduction
 - (13) Incentives for Capital Gains tax reduction on land transfer
 - (14) Incentives for Foreign Financial Institutions tax exemption on interest income
 - (15) Incentives for Encouragement of Investment investment tax credit, income deduction for capital increase, tax credit for investment in housing, medical services, energy saving, and waste recycling

Various criticisms have been levelled against the corporate income tax in general and the TERCL in particular. Among them, two policy issues have attracted particular attention. One is the question of how to design new tax measures to improve the corporate financial structure in Korea, and the other is how to streamline the various tax incentive schemes to enhance tax neutrality within and between industries.

The corporate financial structure has deteriorated in Korea over the years. To encourage the internal generation of funds and new stock issues, and to reduce dependence on outside borrowing several alternatives have been suggested. The first alternative is to provide tax incentives for issuing new stock and to eliminate tax factors that inhibit the generation of funds. The second suggestion is to institutionalize a tax disincentive system against excessive outside borrowing. The third alternative is to improve the presumptive dividend tax system. The actual policy adopted by the government has been a combination of all three measures.

There is no doubt that the Korean direct tax system is highly non-neutral with respect to the source of financing. The major features that

have affected the financial decisions of firms include the double taxation of presumptive dividends, incomplete adjustment of the tax system for inflation, incomplete loss offset, granting tax incentives to new investment, and incomplete globalization of interest income. Among these tax factors, separate taxation of interest, and double taxation of presumptive dividends are singled out for brief discussion below.

The second policy issue raised with regard to the corporate income tax is to streamlining various tax incentive schemes. In the 1982 tax reform, the government took its very first step towards revamping the tax incentive system by adopting the “functional” approach as opposed to the previous industry-specific approach.

It is now becoming urgent to evaluate the entire tax incentive system and simplify it by reducing overlaps and conflicts among almost countless tax incentives, and eliminate inefficient use of tax incentives. This overhaul in the tax incentive system is also in line with the broad consensus in Korea that the extent of government intervention in the economy must be reduced and that market mechanisms should dictate resource allocation. The tax incentive scheme needs to be overhauled rather than be revised on a piecemeal basis. The following general considerations should serve as guidelines in revamping the structure of preferential tax treatment schemes.

The major problem with a variety of tax incentives in Korea is that the government has tried to achieve too many objectives with a limited number of incentive instruments. Most of the policy objectives pronounced by the government are meritorious. However, the tax instruments employed to achieve goals set by the government may not always be the most appropriate or the most effective instruments to secure desirable social goals.

One quite often observes that tax instruments are employed to correct the problems created by other policies. There is nothing essentially wrong with using tax policy instruments to cope with the

undesirable effects generated by other government policies. As a matter of principle, however, it is more effective to cure the problems at their sources rather than deal with the symptoms.

Even when the use of tax instruments is appropriate, there exists the important technical issues of ensuring that targeting of tax instruments to given goals is accurate, and adequate levels of a given tax instrument are maintained. A poorly targeted tax instrument gives rise to a waste of resources while an inadequate dosage is ineffective.

C. Effective Tax Rates and Cost of Capital

Establishing whether or not benefits have been derived from tax incentives and evaluating the extent of their effectiveness are not easy tasks. Benefits can be measured in terms of tax concessions per unit of tax revenue collected, benefits per dollar invested, effective tax rates, and cost of capital. Of course, since all these measurements are interrelated to each other, one can be translated into another.

1) Tax expenditures and benefits from tax incentives

Annual amounts of tax exemptions and reductions, usually called tax expenditures, as provided by the TERCL and other tax laws in Korea, is summarized in <Table I-10>. Although the trend is not smooth throughout the whole period covered in <Table I-10>, tax expenditures as a percentage of tax revenue collected have been declining. The share of tax exemptions and reductions in the national tax revenue collected decreased drastically from about 30 percent in the early 1970s to about 10 percent in the mid-1980s. There was a decrease in the absolute amount of tax expenditures in 1983 and 1984 for national taxes and in several years during the 1980s for local taxes.

<Table I – 10> Estimates of Tax Exemption and Reduction

(Unit: 100 million won and %)

	National internal taxes			Local taxes		
	Tax revenue (A)	Tax exemption and reduction (B)	B/A	Tax revenue (C)	Tax exemption and reduction (D)	D/C
1982	52,507	4,577	8.7	11,192	1,240	11.1
1983	61,884	3,641	5.9	13,972	1,727	12.4
1984	66,974	4,284	6.4	15,084	1,506	10.0
1985	74,969	5,052	6.7	16,546	1,400	8.5
1986	84,640	6,192	7.3	18,097	1,408	7.8
1987	100,120	7,688	7.7	21,923	1,346	6.1
1988	125,402	8,955	7.1	30,990	2,245	7.2
1989	152,084	14,782	9.7	49,608	3,995	8.1
1990	191,302	20,540	10.7	63,674	4,021	6.3
1991	240,819	21,543	8.9	80,351	5,438	6.8
1992	300,800	23,688	7.9	94,622	15,880	16.8
1993	341,745	24,684	7.2	110,261	15,549	14.1
1994	384,490	29,029	7.6	132,311	15,206	11.5
1995	443,829	30,725	6.9	153,160	14,890	9.7
1996	492,023	37,207	7.6	173,947	15,508	9.2
1997	521,532	30,614	5.9	186,326	18,039	9.7
1998	512,378	77,305	15.1 ¹⁾	166,767	20,204	12.1

Note: 1) Figure for 1998 is different from that of previous years because calculation method is different.

Sources: Ministry of Finance and Economy, *Statistics on Tax Revenue*, 1990 and 2000.
Ministry of Administration and Local Autonomy, *Yearbook of Local Tax Administration*, 1990 and 2000.

**<Table I – 11> Net Benefit from Tax Incentives per One Dollar
Invested in Machinery by Firms in Typical Key
Industries (Manufacturing) for Selected Years**

Year ¹⁾	Discount rate ²⁾	Tax rate ³⁾	20% ⁴⁾ (80%) ⁵⁾ special depreciation	Tax holidays	Incentives for key industries ^{4), 5)}			
					Special depreciation	Investment reserves	Investment	Total ^{5), 6)}
1963	0.525	0.20	0.008	0.185	-	-	-	0.186
1968	0.560	0.45	0.017	-	-	-	0.060	0.077
1970	0.498	0.45	0.018	-	-	-	0.060	0.078
1973	0.333	0.40	0.056	-	-	-	0.060 (0.100)	0.116 (0.156)
1976	0.405	0.40	0.017(0.55)	0.367	0.065	-	0.080 (0.100)	0.369 (0.374)
1982	0.305	0.38	0.016(0.55)	-	0.062	0.034	0.060 (0.100)	0.096 (0.096: 0.153*)
1983	0.258	0.33	0.014	-	0.052	-	0.030 (0.050)	0.052 (0.052: 0.064*)
1984	0.248	0.33	0.014	-	0.052	-	0.030 (0.050)	0.052 (0.052: 0.064*)
1985	0.241	0.33	0.020	-	0.052	-	0.030 (0.050)	0.050 (0.052: 0.70*)

Notes: 1) The selected years are when major tax reforms were effected.

2) Curb market interest rate is used as a proxy for discount rate.

3) Surtaxes to the corporation tax are not considered.

4) Assumed asset lifetime for tax purposes is 11 years and assumed economic depreciation rate is 11%.

5) The figures in parentheses represent the benefit of investments made with domestically produced machinery. Incentives for export promotion are not considered.

6) Interactions and overlapping of incentives are taken into account when the figures in the total column are calculated. The figures with asterisks are applicable to the machinery or electronic industries.

Source: Taewon Kwack, "The Role of the Tax System in Industrial Policy", *Korea Development Review*, Vol. 8, March 1986, p. 82.

<Table I-11> shows the net benefits from various tax incentives for each dollar of investment for those years during which major tax reforms became effective. Several interesting features are observed. First, tax incentives rendered the highest benefits during the latter half of the 1970s, as shown in the last column of <Table I-11>. Second, among the types of preferential tax treatments for key industries provided by TERCL, the tax holiday option generated the highest support. In fact, one of the main reasons for the 1981 tax reform was to terminate this option because the direct exemption of the tax holiday type was too discriminatory compared to other types of tax incentives. Finally, the recent decrease in the interest rate and the statutory corporate tax rate has drastically reduced the benefits of tax incentives.

2) Effective tax rates

In order to examine the role various tax incentives played in allocating resources among industrial sectors, it is necessary to calculate the effective tax rate by sector. Using a modified version of the effective tax rate formula by D. W. Jorgenson and M. A. Sullivan, Dr. Taewon Kwack estimated the effective tax rate by sector, as shown in <Table I-12>. According to this estimation, which incorporated a detailed account of Korea's complicated tax incentives over time, the relative size of incentives provided to the key industries was substantial, particularly so during the latter half of the 1970s.

<Table I-12> also shows that typical Korean firms have been paying corporate income taxes at an extremely high effective rate in spite of the numerous and complicated tax incentives. It should be noted that the effective tax rate is affected not only by the statutory tax rate and tax incentives, but also by the discount rate and the inflation rate. The major reason for a high effective tax rate in Korea, as shown in <Table I-12>, is high inflation in the capital goods market and a tax depreciation system which is based on historical cost. Although it is difficult to evaluate the net contribution of all kinds of tax preferences

during the 1970s to the heavy industrialization in Korea during that period, it is reasonable to conclude that tax incentives were actively employed in the course of industrial development.

<Table I – 12> Effective Marginal Tax Rate by Sector

(Unit: %)

	1973	1975	1978	1980	1981	1982	1983
Processed food, beverage & tobacco	50.6	55.1	42.8	46.7	57.1	58.6	39.5
Textile, leather, paper & printing	49.8	54.3	42.1	46.1	56.2	57.6	38.7
Construction materials	50.3	54.6	42.8	46.5	56.6	58.1	39.7
Chemical products (General)	48.9	54.2	41.1	45.3	55.8	57.1	37.6
(Special)	46.3	38.8	29.5	32.0	42.4	50.8	34.8
Basic metal & metal products (General)	49.0	53.2	41.9	45.5	55.0	56.4	38.1
(Special)	46.9	38.7	31.0	32.9	42.6	50.8	35.8
Machinery, electrical & electronic equipment (General)	49.3	53.7	42.0	45.8	55.6	57.0	38.4
(Special)	41.7	39.1	30.9	33.0	43.0	51.2	36.0
Statutory maximum tax rates	40.0	40.0	40.0	40.0	40.0	38.0	33.0
Inflation rates in capital goods market(3 years moving average)	17.0	33.7	8.2	19.4	24.3	21.5	9.7

Note: 'General' rates are applicable to firms which are not qualified to get the special tax treatment and the 'Special' rates are for qualified firms.

Source: Taewon Kwack, "Budget Policies and Investment Allocation", in Kwang Choi and Joon-Woong Kim, (eds.), *National Budget: Goals and Priorities*, Seoul: Korea Development Institute, August 1984.

According to a study by Professor Jun Young Kim which is summarized in <Table I-13>, the effective tax rate in the corporate sector fluctuated over time due to different tax policy measures. The effective tax rate in 1966 was 32.7 percent, increased to 45.4 percent in 1970, dropped during the late 1970s, and was on an upward trend from

the mid-1980s. The effective tax rate was lower than the statutory nominal rate. The largest discrepancy between the effective tax rate and the nominal tax rate occurred in 1977, when the nominal rate was 53 percent while the effective rate was 38 percent.

Examination of the effective tax rate by types of assets shows that the effective tax rate of transportation equipment was generally higher than those of other assets. The effective tax rate of funds from debt financing was negative while the effective tax rate on new shares was substantially higher than the statutory nominal tax rate. The discrepancies in the effective tax rates among the sources of finance more or less decreased over time through tax reforms in the 1980s, during which the negative effective rate of debt finance was lowered in absolute value.

3) Cost of capital

One very common and accepted method of examining the effects of tax incentives on corporate investment behavior is to estimate the marginal cost of capital. There are several different approaches to deriving a cost of capital formula for a given economy using specific types of financial and tax systems.

Using the Hall-Jorgenson scheme of the cost of capital, Dr. Taewon Kwack developed a cost of capital formula applicable to the Korean economy. Based on the assumption that financial resources had been allocated efficiently through a perfectly competitive curb market, his model incorporates not only tax incentives such as tax holidays, tax credit, and tax free reserves, but also other unique features of the Korean economy, including the collateral loan system and export loan system.

**<Table I -13> Effective Tax Rate by Types of Assets and
by Sources of Finance**

(Unit: %)

Asset	Finance source	1966	1970	1975	1980	1985	1989
Buildings and structures	Debt	-26.3	-143.8	n/a	-181.0	-54.3	-52.9
	New shares	69.9	76.0	77.5	75.6	72.1	73.4
	Retained earnings	37.5	46.4	47.9	47.6	43.4	43.8
	Average	32.1	44.2	33.5	36.5	38.1	39.3
Machinery and equipment	Debt	-154.8	-236.3	n/a	-141.3	-135.8	-98.8
	New shares	71.8	76.7	79.5	76.5	73.8	75.9
	Retained earnings	37.1	42.9	47.9	45.0	39.9	42.5
	Average	31.3	40.9	37.9	38.1	36.4	40.2
Transportation equipment	Debt	-248.2	-202.8	n/a	-118.3	-123.2	-77.5
	New shares	73.0	79.4	82.0	79.2	77.5	79.5
	Retained earnings	38.6	49.9	55.9	53.1	47.7	50.3
	Average	30.8	47.3	41.5	45.7	42.7	46.8
Overall average	Debt	-142.9	-173.4	n/a	-165.9	-104.9	-84.1
	New shares	71.6	76.9	79.4	76.6	73.7	75.8
	Retained earnings	37.3	44.7	48.7	46.4	42.6	43.5
	Average	32.7	45.4	38.0	41.0	39.2	42.8
Statutory nominal corporate tax rate		38.5	45.0	53.0	53.0	43.7	43.7

Note: Statutory tax rate includes corporate tax rate, defense tax rate and resident tax rate.

Source: Jun Young Kim, "Tax Policy, Cost of Capital, Investment and Saving in Korea", presented at the Conference on Taxation and Economic Growth(Asian Miracle) on August 2-3, 1993, Monterey.

An empirical estimation of the cost of capital by Dr. Kwack is presented in <Table I-14> which shows the trends of the cost of capital by type of asset, a proxy of the neutral cost of capital, and a measure of distortion due to tax incentives. The estimated results reveal several interesting features. The absolute level of the cost of capital is rather high, mainly due to the assumption that the curb

market is efficient and that firms resort to the curb market for the financing of investment at the margin. Among the types of investment assets, the estimated cost of capital is highest in transportation equipment and lowest in building and construction.

The degree of distortion due to the tax system can be measured by the difference between the estimated cost of capital and the neutral or distortion-free cost of capital, where the latter is by definition the discount rate plus economic depreciation minus the expected inflation rate. One salient feature of <Table I-14> is that the tax incentive system provided substantial support for investment in machinery and equipment in the early 1960s, the 1972-74 period and the 1978-81 period, as shown by the negative figures of tax distortion. With the introduction of the 1981 tax reform, which effective in 1982, tax distortion rose substantially.

<Table I-15> provides a summary of a very recent study by Professor Jun Young Kim which examined the cost of capital by types of assets and sources of finance. The cost of capital in the corporate sector was high in the late 1960s, declined in the early 1970s, and then increased from the mid-1970s to a peak in 1980. The decline in the early 1970s was due to the 1972 emergency measure and the 1974 tax reform. Since the early 1980s the cost of capital has decreased. Machinery and equipment enjoyed a lower cost of capital than other assets. The most striking feature of <Table I-15> is that the Korean tax system discriminates quite heavily against new shares. For all assets the cost of debt was lowest while the cost of new shares was higher than that of retained earnings. The discrepancies in the cost of capital among sources of finance declined throughout the 1966 to 1989 period.

<Table I - 14> Cost of Capital by Types of Assets and Measure of Distortion (All Industries)

(Unit: %)

	Estimated Cost of Capital				Neutral Cost of Capital ¹⁾		Measure of Distortion ²⁾	
	Building & Construction	Machinery & Equipment	Transportation & Equipment	All Assets	Machinery & Equipment	All Assets	Machinery & Equipment	All Assets
1963	.365	.426	.430	.391	.546	.507	-.120	-.116
1964	.392	.423	.448	.407	.585	.556	-.162	-.149
1965	.484	.517	.564	.502	.578	.545	-.061	-.043
1966	.529	.601	.717	.600	.597	.546	.004	.054
1967	.497	.581	.694	.578	.595	.536	-.014	.042
1968	.524	.589	.669	.582	.591	.533	-.002	.049
1969	.570	.649	.742	.657	.552	.491	.097	.166
1970	.491	.603	.665	.586	.539	.466	.064	.120
1971	.438	.541	.612	.529	.500	.440	.041	.089
1972	.297	.401	.488	.402	.422	.362	-.021	.040
1973	.223	.300	.415	.305	.330	.285	-.030	.020
1974	.265	.324	.414	.330	.362	.327	-.038	.003
1975	.314	.371	.489	.394	.349	.316	.022	.078
1976	.309	.385	.495	.392	.371	.328	.014	.064
1977	.263	.371	.496	.376	.369	.315	.002	.061
1978	.263	.416	.542	.408	.420	.351	-.004	.057
1979	.239	.429	.551	.398	.437	.345	-.008	.053
1980	.234	.414	.524	.380	.442	.353	-.028	.027
1981	.168	.318	.419	.296	.333	.261	-.015	.035
1982	.239	.375	.462	.350	.308	.240	.067	.110
1983	.179	.297	.384	.278	.277	.218	.020	.060

Notes: 1) Real discount rate + economic depreciation rate

2) Estimated cost of capital - neutral cost of capital

Source: Kwang Choi, Kayuhiki Ito, Taewon Kwack, Eihi Tajjiki and Yuji Yui, *Public Policy Corporate Finance and Investment*, Tokyo : Institute of Developing Economies, March 1985.

<Table I –15> Cost of Capital by Types of Assets and Sources of Finance

(Unit: %)

Asset	Finance source	1966	1970	1975	1980	1985	1989
Buildings and structures	Debt	11.3	6.6	-1.2	4.0	8.1	6.5
	New shares	69.6	67.1	58.0	78.7	44.8	37.3
	Retained earnings	33.4	30.0	24.8	36.7	22.1	17.7
	Average	27.4	25.0	17.0	26.9	18.9	15.3
Machinery and equipment	Debt	8.2	3.0	-2.4	3.0	5.3	5.0
	New shares	74.1	69.0	63.1	82.0	47.8	41.3
	Retained earnings	33.2	28.2	24.8	35.0	20.8	17.3
	Average	26.5	22.7	17.4	26.0	17.7	15.0
Transportation equipment	Debt	6.0	3.2	-2.3	4.6	5.6	5.6
	New shares	77.4	78.0	71.8	92.5	55.6	48.6
	Retained earnings	34.0	32.1	29.3	41.0	23.9	20.0
	Average	26.3	26.4	19.3	31.4	20.2	17.6
Overall average	Debt	8.6	3.8	-2.1	3.4	6.1	5.4
	New shares	73.5	69.6	62.7	82.2	47.6	41.0
	Retained earnings	33.3	29.1	25.2	35.9	21.4	17.6
	Average	27.8	25.4	18.0	28.7	19.1	16.2

Source: Jun Young Kim, "Tax Policy, Cost of Capital Investment, and Saving in Korea", presented at the Conference on Taxation and Economic Growth(Asian Miracle) on August 2-3, 1994. Monterey.

3. Consumption Taxes

Korea has relied heavily on taxes on goods and services as a source of revenue. Until July 1, 1977, Korea had a very complicated system of excise and turnover taxes. The tax reform in 1976 led to the replacement of eight of these taxes by two, the value-added tax and the special consumption tax. The consolidation and incorporation of these taxes simplified the rate structure, tax base, and administration of the domestic indirect tax system, thereby eliminating the overlapping

auditing practices that had plagued the previous system. The concurrent introduction of the special consumption tax along with VAT was to make the burden of indirect tax system more progressive through higher taxes on goods and services consumed disproportionately by high income groups.

<Table I-16> Revenue of Consumption Taxes

(Unit: billion won and %)

	1980		1985		1990		1995	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share
Consumption taxes (A=B+E)	3,711.4	100.0	7,106.8	100.0	14,690.4	100.0	30,098.3	100.0
National taxes(B=C+D)	3,711.4	100.0	7,020.6	98.8	13,118.6	89.3	27,946.4	92.9
Internal taxes(C)	2,945.3	79.4	5,454.5	76.8	10,353.2	70.5	23,313.2	77.5
Liquor tax	297.7	8.0	501.2	7.1	1,022.4	7.0	1,824.5	6.1
Value-added tax	1,471.2	39.6	2,901.2	40.8	6,964.4	47.4	14,636.9	48.6
Special excise tax	582.5	15.7	980.8	13.8	1,911.8	13.0	2,617.1	8.7
Telephone tax	50.0	1.3	166.6	2.3	261.5	1.8	543.1	1.8
Stamp tax	33.9	0.9	75.7	1.1	193.1	1.3	319.8	1.1
Monopoly profits	51.0	13.7	829	11.7	-	-	-	-
Traffic tax	-	-	-	-	-	-	3,371.8	11.2
Customs duties(D)	766.1	20.6	1,566.1	22.0	2,765.4	18.8	4,633.2	15.4
Local tax(E)	-	-	86.2	1.2	1,571.8	10.7	2,151.9	7.1
Tobacco consumption tax	-	-	86.2	1.2	1,571.8	10.7	2,151.9	7.1
Consumption taxes to GNP	10.1		9.0		8.2		8.6	
Consumption taxes to total taxes	56.4		52.4		44.2		41.8	

Sources: Bank of Korea, *National Accounts*, 1982-1998.

National Bureau of Statistics, *Major Statistics of the Korean Economy*, 1998.

National Tax Service, *Statistical Yearbook of National Tax*, various years.

This reform also necessitated an adjustment in the tax system between the national and local governments. In addition, to compensate for possible adverse effects of the newly introduced VAT

and also to soothe political tension due to the introduction of VAT, the government introduced additional income tax relief for low and middle income workers, certain concessions for taxes on inheritance and land sales, and more generous depreciation allowances.

Despite successful tax reform in 1976, the Korean system of domestic taxes on goods and services has continued to suffer from a structural problem involving the multiplicity and cascading of taxes which led to very high cumulative tax rates. Other excise taxes are the liquor tax, telephone tax, stamp tax, and tobacco consumption tax. Production and sales of tobacco was monopolized by the government until 1988, when the business unit was changed to a public corporation. Previously, the profits from the government monopoly business were included as tax revenue for the central government. Currently, however, tobacco consumption tax is the only local tax among consumption taxes.

A. Value-Added Tax

With hindsight, the introduction of VAT in Korea in 1977 has been successful. VAT in Korea has worked relatively well, in some cases much better than its designers and the taxpayers had anticipated. The number of complaints has been small, though some have been loud. Though the Korean experience with VAT during the last 20 years shows that VAT in practice is not as simple as in theory, frequently heard criticisms or complaints should be regarded as a measure of its success rather than as signs of its failure.

Before the introduction of VAT, Korea suffered from a complicated rate structure of indirect taxes. The business tax, which was a major target of tax reform, had five differentiated rates ranging from 0.5 percent to 3.5 percent of turnover, depending on the category of business. The previous indirect tax system had more than 50 rates ranging from 0.5 percent to 300 percent as summarized in <Table I-17>.

The complicated structure of the indirect tax system had created a strong desire to simplify and consequently to adopt a single VAT rate.

<Table I -17> Pre-VAT and VAT tax rates: 1977

(Unit: %)

Pre-VAT regime				VAT regime			
Item	Tax rates			Item	Tax rates ¹⁾		
	Number	Minimum	Maximum		Number	Minimum	Maximum
Business tax	5	0.5	3.5	VAT ²⁾			
Commodity tax	17	2.0	100.0				
Textile tax	7	10.0	40.0				
Petroleum products tax	4	10.0	300.0				
Admissions tax	12	5.0	250.0	Special consumption Tax ³⁾	13	10.0	180.0
Travel tax	3	5.0	20.0				
Gas and electricity tax	1	15.0	15.0				
Entertainment and food tax	4	2.0	20.0				

Notes: 1) Rates effective at the time of VAT Introduction.

2) Special taxpayers are taxed at 2 percent or 3.5 percent of their turnover, whereas general taxpayers are taxed at a 10 percent rate.

3) The minimum and maximum rates of the special consumption tax as of January 1998 are 10 percent and 150 percent, respectively.

Although Korea has a single-rate VAT system, like those of Denmark and Sweden, the VAT code allowed the government to adjust the normal rate (13 percent) by as much as 3 percent when deemed necessary to improve the general state of the economy or to adjust tax revenue. Since its inception, the VAT has been implemented at the minimum level of 10 percent. In 1988, the National Assembly passed legislation fixing the VAT rate at 10 percent, removing the

discretionary power of the government to adjust the tax rate by plus or minus 3 percent.

Under any form of sales taxation, small businesses have to be granted special treatment because of their inability to cope with the requirements of keeping adequate records that larger enterprises can handle at a reasonable cost. The purpose of the special treatment was to reduce the administrative burden on small enterprises, not to reduce the taxes that normally would be charged on the goods and services they supply.

Small businesses, called “special taxpayers” under Korean VAT, are those whose total sales are less than 48 million won a year. For businesses engaging in transactions through a proxy, agent, intermediary, cosignee, or contractor, any trader whose annual sales are less than 12 million won is treated as a special taxpayer. Unlike general taxpayers whose tax base is value added, for special taxpayers a standard 2 percent tax rate is used to calculate the amount of tax due to the government. Small businesses engaged in transactions through a proxy, agent, intermediary, cosignee, or contractor are taxed at a rate of 3.5 percent on their annual sales.

<Table I – 18> Composition of VAT Taxpayers

(Unit: thousand person and %)

	General taxpayers			“Special taxpayers”	Total
	Corporation	Individual	Subtotal		
1978	22(2.5)	181(20.6)	203(23.1)	675(76.9)	878(100.0)
1980	27(2.8)	194(19.8)	221(22.6)	759(77.4)	980(100.0)
1985	44(3.5)	311(24.5)	203(28.0)	914(72.0)	1,269(100.0)
1990	81(4.4)	551(30.1)	203(34.5)	1,202(65.5)	1,834(100.0)
1995	150(5.9)	1,103(43.7)	203(49.6)	1,273(50.4)	2,526(100.0)
1998	197(8.5)	979(42.4)	1,176(50.9)	1,133(49.1)	2,309(100.0)

Source: National Tax Service, *Statistical Yearbook of National Tax*, 1980~1999.

In Korea special taxpayers filed about 77 percent of all VAT tax returns at the early stage of its introduction, and recently file about 50 percent of all VAT tax returns, as shown in <Table I-18>. Although general taxpayers are in the minority, they are the more important source of revenue. General taxpayers paid approximately 94-95 percent and 98-99 percent of the total VAT in the early 1980s and in the early 1990s, respectively, as shown in <Table I-19>.

<Table I-19> Value-Added Tax Collected by Type of Taxpayer

(Unit: hundred million won and %)

	General taxpayers			"Special taxpayers"	Total
	Corporation	Individual	Subtotal		
1978	6,946(75.1)	1,752(18.9)	8,698(94.0)	553(6.0)	9,251(100.0)
1980	11,705(79.6)	2,106(14.3)	13,811(93.9)	897(6.1)	14,708(100.0)
1985	23,199(78.1)	5,174(17.4)	8,698(95.5)	1,332(4.5)	29,705(100.0)
1990	56,659(81.4)	11,422(16.4)	8,698(97.8)	1,558(2.2)	69,639(100.0)
1995	122,513(80.1)	29,067(19.0)	8,698(99.1)	1,392(0.9)	152,972(100.0)
1998	139,292(80.2)	30,846(17.8)	170,133(98.0)	601(0.3)	173,628(100.0)

Source: National Tax Service, *Statistical Yearbook of National Tax*, 1980~1999.

B. Selective excise taxes

Although relative reliance on selective excise taxes has been reduced somewhat after the introduction of VAT, the Korean indirect tax system still relies somewhat heavily on selective excise taxation, which is distortive in resource allocation.

The Korean system of domestic excise taxes is complicated because it has too many taxes and each tax has too many rates. The system has five permanent taxes-special consumption tax, liquor tax, telephone tax, stamp tax and fiscal monopoly profits(tobacco consumption tax since 1988), and three earmarked taxes, the defense tax and the education tax, which are charged on top of most taxes, and traffic tax, which is tax on gasoline. Due to the multiplicity of objectives assigned

to excises, the excise tax system of Korea has unnecessarily extensive coverage and a large number of tax rates.

The special excise tax is one of the major taxes in Korea. Currently, 39 items are taxed at rates ranging from 10 percent to 100 percent, as summarized in <Table I-20>. Even though there are 39 taxable items, most tax revenue comes from 5 items: automobiles, gasoline, refrigerators, TV sets and washing machines. In 1990, the special consumption tax yielded 13.0 percent of consumption taxes while in 1995, the special consumption tax and the traffic tax together contributed 19.9 percent of consumption taxes, as shown in <Table I-16>.

<Table I-20> Tax Rates of Special Excise Tax by Major Classes

(Unit: %)

	1977		1999	
	No of items	Tax rate	No of items	Tax rate
Class I	6	20~100	7	21~30
Class II	5	10~40	9	10.5~15.0
Class III	5	10~30	6	7~10
Class IV	5	20~100	7	30
Class V	3	10~100	6	7~14 and unit tax ¹⁾
Taxable places:				
Group I	6	50~100	6	unit tax ²⁾
Group II	1	-	1	20

Notes: 1) 7~14% on motor vehicles, and 60 ~ 691 won per liter on gasoline.

2) 500 won on horse race ~ 65,000 won on casino

The liquor tax has been a major source of tax revenue since the formation of the government in 1948. It is still an important source of tax revenue, yielding 6~7 percent of indirect tax revenues, equal to equal to 2.5 percent of the total tax revenue (see <Table I-4> and <Table I-16>). About 80 percent of the liquor tax revenue in 1995 come from beer (70.4 percent) and soju (10.6 percent), a Korean rice wine.

The liquor tax is an ad valorem tax except for a specific tax on alcoholic spirits. The rates ranged from 10 percent to 160 percent in 1970. The defense tax had also been levied on the payable liquor tax amount at a 10 percent rate in cases below 100 percent, and 30 percent in cases over 100 percent in the liquor tax rate until 1990. The education tax is also levied at a 10 percent flat rate on the liquor tax amount. The unit or specific tax alcoholic spirits (alcohol content 95 percent or more) is 57,000 won per kiloliter. 600 won is added for every additional 1 percent of alcohol content. As shown in <Table I-21>, the current tax rates by type of liquor are takju 5 percent, yakju 30 percent, beer 130 percent, chungju 70 percent, fruit wine 30 percent, distilled soju 50 percent, diluted soju 35 percent, whiskey 100 percent, brandy 100 percent, and the like.

<Table I-21> Tax Rates of Liquor Tax

(Unit: %)

	Alcohol content	1970	1997
Takju	6 or more	10	5
Yakju	13 or more	60	30
Beer	1 or more	120	130
Cheongju	14 or more	100	70
Fruit wine	1 or more	25	30
Distilled soju	30 or more	35	50
Diluted soju	35 or more	35	35
Whiskey	35 or more	160	100
Brandy	35 or more	100	100
General spirits	35 or more	90	80
Liquors	40 or more	-	50
Spirits	95	49,350(won)	57.000(won)

The telephone tax yielded about 1.8 percent of indirect taxes in 1995. A person using the telephone system is liable to pay the telephone tax. When the telephone tax was introduced in 1974, the tax

rate was 15 percent. Currently the tax rate is 10 percent of the telephone service charges. In addition, a defense tax of 10 percent and 2 percent was levied on telephone service charges from 1975 to 1988 and from 1989 to 1990, respectively. The share of the telephone tax in the national tax has been increasing with the spread of the telephone service network. The government, local autonomous bodies, educational institutions, foreign embassies in Korea, foreign diplomats, and persons or corporations who operate telephone service businesses are exempted from the tax.

Tobacco consumption is subject to unit tax or specific tax. The tax rate per a case of cigarettes was 360 won from 1988 to 1993 and 460 won since 1994. Tobacco consumption tax contributed about 3.0 percent of total tax revenue in 1995. A stamp tax is levied on a person who prepares a document or account book certifying establishment, transfer, change or lapse of rights to property or certifying ratification or approval of such rights. The stamp tax base depends on the difference between the bracketed amount stated on deeds or the numbers of volumes books.

4. Wealth and Property Taxes

In Korea, taxes related to the transfer and ownership of wealth and property have hardly been an important source of tax revenue, and as a result they have made little or no contribution to lessening prevailing inequities in the distribution of wealth. While the distribution of income has been a widely adopted research topic, the distribution of wealth has not been as popular, partly because of the lack of data on wealth.

Recent reports on wealth and land distribution by S. Kwon at the Korea Development Institute and by the Public Concept of Ownership of Land (PCOL) Committee provide notions that there might be a discrepancy between statistics and the actual or perceived state of

wealth distribution. According to Kwon, the distribution of wealth in Korea was far worse than that of income. The Gini coefficient of wealth distribution is 0.58, while that of income distribution is 0.35. As shown in <Table I-22>, distribution of financial assets is relatively more concentrated in the well-to-do, with the upper 10 percent of sample households owning 61 percent of total financial assets, while the bottom 30 percent do not own any financial assets. The top 30 percent of asset holders own 72.1 percent of financial and real assets in nominal terms.

<Table I-22> Distribution of Wealth and Land, 1988

Income decile	Wealth			Land
	Financial assets	Real assets	Total assets	
1	0.00	0.00	0.005	0.000
2	0.00	0.01	0.013	0.002
3	0.00	0.02	0.022	0.003
4	0.00	0.03	0.034	0.005
5	0.02	0.05	0.049	0.010
6	0.04	0.07	0.066	0.019
7	0.06	0.09	0.090	0.032
8	0.10	0.12	0.120	0.054
9	0.17	0.17	0.170	0.108
10	0.61	0.44	0.431	0.769

Source: S. Kwon, "Income and Wealth Distribution and Government Initiative to Reduce Disparities", *KDI Working Paper No. 9008*, Korea Development Institute, 1990.

The other report by the PCOL Committee shows that the Gini coefficient of land ownership distribution is 0.85, and the top 10 percent of holders own 76.9 percent of privately held land. It is quite likely that the unequal distribution of financial and real assets (in particular land) severely deteriorates income distribution, partly because the assets are the main sources of income, and partly because rapid price increase of real assets such as land and housing generate a

lot of unearned capital gains.

At the national level there are three wealth-related taxes: inheritance and gift tax, tax on capital gains from real property, and excess increased value of land tax. Local governments tax property holdings (automobile tax), property (building tax), and aggregate land tax, acquisitions (acquisition tax), and registrations (registration tax).

The inheritance and gift taxes have been the most important national taxes regarding property transfers although the revenue from them has been negligible. The inheritance tax in Korea, in spite of its name, is not an inheritance type tax, but an estate type tax. Gifts or inter vivos transfers are taxed separately unless such transfers take place within a three year period before the death of the donor. In such cases, the gift amount is added to the estate tax base. The gift tax base is calculated by accumulating the inter vivos transfers from a donor for three consecutive years.

Taxes on capital gains from real property transactions were originally created to control speculation on real estate in the mid-1960s, but now they are incorporated in the personal income tax and the corporate income tax.

<Table I –23> Development of Rate Structure of the Inheritance Tax

(Unit: won and %)

	No. of bracket	Lowest marginal tax rate		Highest marginal tax rate	
		Amount less than	tax rate	Amount over	tax rate
1967	9	0.2 million	5	500 million	70
1974	15	0.5 million	10	500 million	75
1979	14	1 million	7	500 million	67
1981	14	1 million	7	500 million	60
1988	8	3 million	5	500 million	55
1990	5	20 million	10	1 billion	55
1994	4	50 million	10	1 billion	50
1996	4	50 million	10	1 billion	40
1997	5	100 million	10	5 billion	45

Both the inheritance tax and the gift tax are taxed under highly progressive rate schemes. Redistribution of wealth through the inheritance and gift taxes led the government to adopt a rather complicated system of tax rates, as summarized in <Table I-23>. In spite of high rates and strictness in other aspects, the inheritance and gift taxes have not generated much revenue, as shown in <Table I-24>. This fact is the most obvious evidence that they have not contributed significantly to redistributing wealth. The most notable reason for such poor performance has been, among other things, the unrealistically low assessment of assets.

<Table I-24> Wealth and Property Taxes in Korea

(Unit: billion won and %)

	1980	1985	1990	1995	1998
National tax					
Capital gains tax	39	136	1,240	2,356	2,414
Inheritance and gift tax	12	46	296	1,029	976
Excess increased value of land tax	-	-	-	28	5
Subtotal(A)	51	182	1,536	3,413	3,395
Local tax					
Acquisition tax	162	356	1,165	2,691	2,480
Registration tax	122	361	1,378	3,633	3,389
Property tax	119	238	227	466	641
Aggregate land tax	-	-	399	1,254	1,199
Automobile tax	57	118	426	1,545	2,195
Subtotal(B)	460	1,073	3,595	9,589	9,884
Total wealth and property tax(C)=(A)+(B)	511	1,255	5,131	13,001	13,279
Wealth and property tax to GNP	1.4	1.6	2.9	3.7	3.0
Wealth and property tax to total tax	7.8	9.3	15.4	18.0	15.6
(A) to (C)	10.0	14.5	29.9	26.2	25.6
(B) to (C)	90.0	85.5	70.1	73.8	74.4

Source: Bank of Korea, *Economic Statistics Yearbook*, Various years.

Currently, three real properties are subject to different taxes: automobiles to the automobile tax; buildings and structures, mining lots, aircrafts and vessels to the property tax; and land to the aggregate land tax. While the acquisition tax and the registration tax were important revenue sources for local governments during the 1980s, recently the importance of the aggregate land tax and the automobile tax has increased noticeably.

Under the aggregate land tax, which replaced the property tax on land and the excessive landholding tax, all land owned by individuals and corporations is classified into three tax groups: (1) a general combined tax on housing sites and idle land at the progressive tax rate ranging between 0.2 percent and 5 percent; (2) a special combined tax on building sites at a progressive tax rate ranging between 0.3 percent and 2 percent; and (3) a separate tax on farmland, on forests at a flat tax rate of 0.1 percent, on factory sites at a tax rate of 0.3 percent, and on golf course, and luxury house sites at a tax rate of 5 percent. The aggregate land tax uses the aggregate land value of individuals and corporations in each category of land use as a tax base. The tax is imposed on each base. This enactment of a new land value tax can be regarded as significant progress, especially considering that the majority of valuable land is owned by a small percentage of wealthy individuals as discussed before.

One of the major reasons for the poor performance of property related taxes in Korea was an unrealistically low and extremely uneven assessment of real assets for tax purposes. A survey by the Ministry of Home Affairs reported that the average assessment for property tax was 23 percent of actual value in Seoul and 46.2 percent in the Kyungbuk province as of 1988. Variations in the assessment ratio were visible among different regions and among different uses or types of land. The government announced a schedule to raise the landholding tax assessment up to 60 percent of the actual market price by 1992, but the assessment ratio in 1997 was about 30 percent. The effective tax

rate on land is negligible, only 0.1 percent in recent years.

Another important tax measure enacted in 1990 to deal with land speculation was the excessive increased value of land tax. This is a tax levied on "excessive" capital gains accrued by land holding. Under this system, accrued net (net of capital expenditure on the land) capital gains in excess of normal gains, the national average rate of land price increase, is taxed at a 50 percent rate every three years. Different percentages (40-80 percent) of the tax may be credited to the existing capital gains tax by the length of time between the excessive land profit tax levy and the sale of the land. This system critically depends on the accuracy and fairness of the assessment of all land as well as on the judgment of the tax authority with regard to the utilization state of each piece of land.

According to <Table I-24>, more revenue is collected from the automobile tax than from the aggregate land tax. Given the fact that in Korea, the total value of land is amazingly higher than that of automobiles, and that the distribution of land ownership is much more skewed to the wealthy than the distribution of car ownership, the noticeable imbalance in revenue between the aggregate land promoting vertical equity in the tax burden.

5. Earmarked Taxes

Two special surcharges on taxes were introduced to finance increases in expenditures perceived to be desirable or necessary. The first was the defense surcharge, introduced as a temporary measure in 1975 in the wake of the withdrawal of the United States troops from Vietnam, the collapse of the South Vietnamese government, and the general disaffection by the American public with foreign military commitments. A surtax ranging from 0.2 to 30 percent was added to taxes on incomes, commodities, imports, telephone charges, and advertising rates for a period of five years. By the mid-1980s it

accounted for about 12 percent of total tax revenues, roughly the same as local taxes. The proceeds were earmarked for defense spending, but the normal budgetary processes were not altered, so the earmarking was political rather than administrative.

A similar development occurred in education. Classrooms, particularly in elementary schools, had become over-crowded, and pupil-teacher ratios, often around sixty to one, were considered too high. In 1981, the Korean authorities introduced an education surcharge on interest and dividend taxes and on certain items of consumption, at rates varying from 0.5 to 10 percent, plus a 0.5 percent gross receipt tax on banking and insurance. By the mid-1980s, this surtax accounted for 2.4 percent of total tax revenues. As with the defense surtax, the earmarking was political rather than administrative. Political opposition to these tax increases was minimal.

In 1994 two new earmarked taxes were introduced. One was the transport tax designed to provide funds for social overhead capital investment, and the other was the special tax for rural development purported to provide funds to mitigate suffering by the farmers under the WTO regime. The tax base of the transport tax is gasoline and diesel oil and the tax rate applied is 455 won per liter on gasoline and 85 won per liter on diesel oil. The tax base and tax rates of the special tax for rural development are 20 percent on tax exemptions, 0.15 percent on securities transactions, 10 percent on registration tax, 10 percent on aggregate land tax, 10 percent on special consumption tax, and 20 percent on horse race tax.

In addition to the four earmarked taxes levied by the central government there are four earmarked taxes at the local government level. Earmarked local taxes include city-planning tax, fire-fighting and facilities tax, business firm tax, and local development tax. Despite the separation among local tax items, there is actually little difference between earmarked taxes and ordinary taxes at the local level, because tax revenue from earmarked taxes tend not to be strictly tied to specific

expenditures at the operating stage of local fiscal management. <Table I-25> shows that earmarked taxes contribute more than 15 percent of total tax revenue both in the late 1980s and in the mid-1990s.

<Table I - 25> Earmarked Taxes in Korea

(Unit: 100 million won & %)

	National Tax				Local Tax					Total earmarked tax to Total Tax	National earmarked tax to National tax	Local earmarked tax to Local tax		
	Education	Defense	Traffic	Special tax for rural development	Sub total	City planning	Fire-fighting & Facilities	Business firm	Regional development				Sub total	
														Total earmarked tax
1985	14.4	76.0	-	-	90.4	5.1	1.8	2.8	-	9.6	22,308 (100.0)	16.9	13.0	16.4
1986	15.0	75.5	-	-	90.5	5.0	1.8	2.7	-	9.5	24,888 (100.0)	16.5	13.1	16.1
1987	13.5	77.7	-	-	91.2	4.4	1.7	2.7	-	8.8	30,459 (100.0)	17.0	12.2	16.4
1988	13.7	78.0	-	-	91.7	4.0	1.6	2.7	-	8.3	37,339 (100.0)	17.6	10.0	16.5
1989	9.9	81.2	-	-	91.1	4.2	1.7	3.0	-	8.9	42,878 (100.0)	18.4	7.7	16.4
1990	9.6	81.6	-	-	91.2	4.5	1.6	2.7	-	8.8	54,272 (100.0)	18.4	7.5	16.3
1991	45.3	37.4	-	-	82.7	9.1	3.1	5.1	-	17.3	33,787 (100.0)	9.2	7.3	8.8
1992	65.9	5.9	-	-	71.8	14.3	4.8	7.7	1.5	28.2	27,642 (100.0)	5.6	8.2	6.2
1993	67.0	3.9	-	-	70.9	15.2	5.0	7.3	1.6	29.1	31,044 (100.0)	5.6	8.2	6.2
1994	39.6	1.2	38.3	4.5	83.6	8.8	2.8	3.9	0.8	16.4	64,182 (100.0)	11.3	8.0	10.6
1995	33.4	0.7	37.6	14.8	86.5	7.3	2.3	3.3	0.7	13.5	89,735 (100.0)	13.7	7.9	12.4
1996	34.9	0.1	40.9	12.6	88.5	5.9	2.0	3.0	0.6	11.5	118,023 (100.0)	16.1	7.8	14.3
1997	39.6	0.0	41.7	9.0	90.4	5.0	1.8	2.4	0.5	9.6	147,323 (100.0)	18.0	7.8	16.0
1998	36.7	10.0	45.9	7.2	89.7	5.3	2.1	2.4	0.5	10.3	141,845 (100.0)	16.7	8.5	18.8
1999	32.9	10.0	45.1	12.6	90.5	4.9	2.0	2.2	0.5	9.5	161,015 (100.0)	17.1	8.2	19.3

Source: The Bank of Korea, *Economic Statistics Yearbook*, 1985-2000.

V. Taxation and Redistribution

The need to review the long-run overall tax structure and reform the tax system in Korea is stronger now more than ever before for several reasons. First of all, the rapid growth of the economy involves massive structural changes which, if the tax system were left unchanged, would produce many unintended distortions in the allocation of resources. The tax system needs to be adapted to the current and expected future changes in the Korean economy. Second, the Korean tax system has a few structural problems, which should have been corrected sometime ago but have remained untouched for various reasons. One of the most salient perennial problems is the regressiveness of the overall tax burden. Third, in order to meet the increasing demand for social welfare programs, more revenue needs to be raised. More revenue can be generated only when fundamental changes in the tax system are made and the tax administration is well streamlined.

Since the early 1980s the objectives of Korea's economic policy became more diverse than in the past when the primary goals of economic policy were fast economic growth through industrialization. Still maintaining sustained growth as one important policy goal to provide room for employment, Korea has recently been giving increased concern to price stability and equity. The changed emphasis on the policy objectives implies a changing role of the tax system in Korea's economic and social development.

Major policy issues within the Korean tax system have already been more or less clearly identified and agreement have been reached as to the direction for future tax reform. Future increases in government expenditure should be met not by introducing new taxes or sharply raising tax rates within the existing tax system but by expanding the tax base within the present tax system. Various special tax provisions

that erode the base of the tax system should be gradually phased out. The underground economy, which is estimated to be somewhere between 20 to 30% of GNP in Korea, should be tapped for tax revenue. The tax system should be restructured towards more reliance on direct taxes for revenue than on indirect taxes. Renewed efforts should also be made to increase the non-tax component of the government's revenue structure. Fees and charges represent 1-2% of the central government revenue.

In the following an effort is made to summarize several important issues that have attracted particular attention in discussion of the tax reform in Korea. This discussion will not be exhaustive but only selective with the aim of providing some sense of direction.

Even though enhanced welfare through more equal distribution of income and wealth has been one centerpiece of every Five-Year Economic Development plan prepared by the Korean government, no measure of any substance has been taken. Although the litany of equity or better income distribution was always one of the stated objectives in all tax reforms in Korea, the Korean tax system does not have a capacity for income redistribution and retains a significant regressive element, as all the empirical studies examined below quite strongly suggest.

1. Equity Issues in Tax Policy

The method most frequently relied upon to improve equity in the distribution of the tax burden in almost all previous tax reforms has been to change the personal income tax by increasing tax exemptions for low-income groups. This approach has weakened the role that personal income tax plays in the Korean tax structure, thereby reducing the redistributive capacity of the whole tax system.

From the distributive point of view the horizontal equity as well as the vertical equity is of considerable importance. The grudge of the

typical Korean taxpayer lies not in the fact that tax burdens are unbearably high, but in the fact that he pays more taxes than others of the same income as his. Three major features of the tax system which generate both horizontal and vertical inequities in the tax burden are (1) relatively heavy reliance of tax revenues on indirect taxes, (2) the provision of various tax incentives along with incomplete globalization of personal income tax, and (3) the erosion of the tax base due to tax evasion and underground activities.

Since Korea depends heavily on indirect taxes for its revenue, the incidence of the indirect tax burden plays a large role in determining the regressiveness or progressiveness of the overall tax burden in Korea. As discussed before, the share of indirect taxes in the total tax revenue is more than 65%. Since, as discussed below, the burden of indirect taxes are quite regressive, the overall tax burden in Korea is nothing but regressive. The major problem is that the special consumption tax, whose very purpose of introduction was to inject some progressiveness into the consumption tax burden, reveals regressiveness in its burden.

One many claim that the various tax incentives rendered to stimulate investment, exports, and economic growth have benefitted many low income earners, not so much by reducing their tax burden, as by creating additional employment. Too many special tax provisions introduced into tax law to accelerate economic growth benefitted only selected groups of taxpayers. The special application of reduced tax rates to certain capital incomes favored high income classes against low wage and salary earners. Likewise, special exclusions, deductions and tax exemptions eroded the tax base and provided higher tax benefits for the high income class than for the low income class.

Within the income tax system the burden has continued to be concentrated on the middle-income class and on wage and salary earners. This is because the government has traditionally mobilized domestic resources for development by reducing the level of

consumption through the use of indirect taxes. Expansion of the scope of exemptions in the personal income tax schedule under various tax incentives, which was a ritual in all major and minor tax reforms in Korea, has led the income tax burden to fall more heavily on the middle-income class. A major culprit to this area has been the separate taxation of interest and dividend incomes, which has led to the disparity in income distribution and to the concentrated tax burden on the middle-income class.

The high degree of erosion of the income tax base has been the major source of various problems facing the Korean tax system. The erosion of the tax base arises from two sources: non-taxation or exclusion of some incomes from the tax base and tax evasion. In Korea, income tax on capital gains from the transfer of real properties is administered as a separate tax and capital gain from stock exchanges are accorded non-taxable privileges. Non-taxation of capital gain from selling stocks is a major cause of the substantial erosion of the personal income tax base and provides the greatest advantage to high-income taxpayers, resulting in a big disparity in tax burdens among the different income classes.

The issue of tax evasion is particularly important in the light of evidence that the tax system fails to capture a significant amount of various types of income, as reported in the national income account, shown in <Table I-26>. One very important point that <Table I-26> shows is that there are big variation among types of income in the “capture ratio”, defined as income reported on tax returns as a percentage of factor income in the national income account. For example, in 1983 40.2% of the interest income and 51.0% of the dividend income reported in the national income account were subject to taxation. In particular, tax is levied on only 11.8% of rental income.

<Table I -26> Comparison of Factor Income Implied by Personal Income Tax Returns with Factor Income of National Income Statistics

(Units: billion won and %)

	1977			1983		
	National Income(A)	ONTA Returns(B)	B/A	National Income(A)	ONTA Returns(B)	B/A
Compensation of employee	5,845	4,044	69.2	255,875	191,855	75.0
Income from Property:	1,886	594	31.6	77,316	24,811	32.1
Rent	670	111	16.6	23,772	2,799	11.8
Interest	844	282	33.4	49,247	19,794	40.2
Dividend	372	134~201	35.9~54.0	4,347	2,218	51.0
Incomes from unincorporated enterprises:	4,517	2,572	56.9	-	-	-
Non-agriculture	1,956	925	47.2	27,952	21,053	75.3
Agriculture	2,561	1,648	64.4	-	-	-

Sources: IMF, *Korea: Taxes in the 1980s*, 1979.

Commission on Tax Reform, *The Final Report of the Commission on Tax Reform*, 1985.

<Table I -27> Ratio of Under-reported Business Income and Tax to the Actuality

(Unit: %)

	Income		Tax	
	At average income	Upper limit	At average income	Upper limit
1986	12.1	24.8	18.2	39.0
1987	11.3	11.3	17.7	17.0
1988	7.9	14.8	12.8	21.4
1989	11.9	18.4	19.8	24.5

Source: Keesung Roh, "The Estimation of Under-Reported Business Income Tax," *Korea Development Review*, Vol. 14, Fall 1992.

The business income and tax are vulnerable to under-report. Keesung Rho recently estimated the magnitude of under-reported business income and tax. <Table I-27> shows that the estimated ratio of the under-reported income and tax to the actual income and actually tax paid, by the expenditure method, falls in the range of 8~25% and 13~39% in the latter 1980s.

2. Tax Burden : A Survey of Empirical Studies

The study of the effect of a particular tax or a tax system on the distribution of income or economic welfare is what the tax incidence analysis is about. The key question is who actually bears the burden of the resources transferred to the government by tax. The estimation of tax incidence in a country requires the development of a detailed microeconomic data base relating to the level and distribution of consumption of specific commodities. Since sufficient data for an accurate study of tax incidence are not available, empirical studies of tax incidence have been made on rough estimates of many underlying variables and highly simplified analytical assumptions.

A number of empirical studies on tax incidence in Korea are available, though they are based on different data and different assumptions. Major results are summarized in <Table I-28>.

The study by Peter S. Heller of the redistributive impact of the Korean tax system in 1976 shows that regardless of assumptions chosen for the shifting of taxes, the burden of the tax system relative to income is roughly proportional for the top 10%. More specifically, Heller finds that under a regressive set of assumptions the poorest 10% pay about 16.4% of income, almost constant up to the ninth income decile, and then rising to 21.9% in the highest income decile.

The global income tax, the gift and inheritance tax, the assets revaluation tax, and the farm land tax are the principal progressive elements of the tax system. while indirect taxes such as the VAT, the

special consumption tax, the liquor tax, monopoly profits and customs duties are regressive.

Heller's study shows that under more progressive assumptions the direct tax burden is only 0.9% of the income in the lowest decile, 3.65% in the ninth decile, and 11.7% in the highest decile. Under more regressive assumptions the direct tax burden rises from 2.17% of income in the lowest decile to 8.84% in the highest decile. The movement from the schedular income tax to the global income tax increased the income tax burden of the first, sixth and tenth decile of the population by a small margin while for all other decile the burden decreased rather drastically.

According to the study by Seung-Soo Han, the overall tax burden in Korea varies irregularly. Han's study has, for all the years examined, found a U-shaped pattern of tax incidence, with effective tax rates for both the poor and the rich being higher than for the middle-income groups. In the U-shaped incidence pattern, until 1976 the richest group was shouldering a substantially heavier effective burden than the richest group but thereafter the poorest 40% income decile were shouldering a higher tax burden than the remaining income decile groups. The U-shaped pattern of tax burden is also confirmed by a study by Sang-Dal Shin.

<Table I -28> Overall Tax Burden in Korea

Income Decile	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . Heller										
National taxes(1976):										
Progressive set assumptions	12.67	13.78	11.69	13.63	13.04	13.81	13.35	12.70	14.02	22.79
Regressive set assumptions	14.35	14.97	12.62	14.88	14.22	15.02	14.55	13.53	14.59	20.10
Local taxes(1976):										
Progressive set assumptions	0.99	0.86	0.76	0.82	0.93	1.05	1.06	1.28	1.60	2.16
Regressive set assumptions	2.06	1.60	1.18	1.44	1.52	1.72	1.55	1.68	1.78	1.51
II . Han										
National taxes(1970)	13.1	12.1	12.2	11.7	11.6	14.9	15.6	15.2	17.1	25.7
National taxes(1976)	15.7	13.4	12.9	13.0	13.0	13.4	13.4	14.5	16.4	22.8
National taxes(1978)	20.4	16.3	14.7	14.3	13.7	13.6	13.2	13.3	13.7	20.2
National taxes(1980)	28.0	19.9	17.6	16.7	15.7	15.3	14.9	14.7	14.8	20.6
III . Shim and Park										
National taxes(1984)	27.33	21.76	20.48	19.76	19.19	19.80	19.97	21.61	23.57	29.00
National taxes(1986)	35.17	20.08	21.25	20.45	20.38	20.45	20.93	21.90	24.10	29.83

Sources : Peter S. Heller, *The Incidence of Taxation in Korea*, IMF, DM/81/14, 1981.

Seung-Soo Han, *Empirical Analysis of Tax Burden in Korea and Theoretical Analysis of Optimal Tax Burden*, Korea Economic Research Institute, 1982.

Sang-Dal Shim and Inn-Won Park, "Public Finance and Income Redistribution", *Korean Journal of Public Finance*, Vol. 3, March 1989.

Empirical analyses show that the distributional impact of the property tax in Korea is rather sensitive to the assumptions made about the shifting of taxes in question. According to Heller's study the property tax burden is more or less proportional except for the top two decile under the assumption of full shifting of the tax burden to consumers and somewhat regressive under the assumption of the property tax being borne by recipients of property income. In contrast, Kim's study shows that regardless of the "old" or "new" views, the

burden exhibits a skewed U-shaped pattern of tax incidence, implying that both the rich and the poor bear a higher burden than the middle-income groups.

A recent empirical study by Choi and Hyun based on urban and rural household micro-data following the gross-up method shows the distribution pattern of economic income before and after taxes and social security benefits, as summarized in <Table I-29> and <Table I-30>.

The lowest 10% income group has 3.09% of total income, and the highest 10% income group has 25.01% of total income. Thus, the income level in the highest income group is 8times higher than that in the lowest 10% income group. The corresponding Gini coefficient is 0.3138. The income distribution after income tax has a Gini coefficient of 0.2974. The level of income inequality is decreased as a result of the progressive nature of the income tax structure. The income distribution after adjusting for social security benefits has a coefficient of 0.3127, revealing a slight reduction in income inequality. The income distribution after compensating for special excise taxes has a Gini coefficient of 0.3132, implying no change in income inequality. The income distribution after liquor tax and value added tax have Gini coefficients of 0.3141 and 0.3152, respectively which are a little higher than those described above. Indirect taxes, including special excise tax, liquor tax, and value added tax, make income inequality worse, as indicated by the Gini coefficient of 0.3153. As indirect taxes are regressive in general, they exacerbate income inequality.

The Gini coefficient of the income distribution after taxes and social security benefits is 0.2974, similar to the distributional effect attributable to income tax alone. Thus, we find that income tax has the most distributional effect, and indirect tax slightly increases income inequality.

<Table I – 29> Distributional Effect of Taxes and Social Security Benefit

(Unit: %)

Income Group	Income before Tax and SSB	Income after Income Tax	Income after SSB	Income after SET	Income after LT	Income after VAT	Income after Indirect Tax	Income after Income Tax and SSB	Income after Tax and SSB
Bottom									
10%	3.09	3.25	3.18	3.10	3.09	3.08	3.09	3.35	3.35
20%	4.86	5.08	4.86	4.88	4.86	4.85	4.86	5.08	5.09
30%	6.02	6.25	6.01	6.03	6.01	6.01	6.02	6.24	6.26
40%	7.02	7.27	7.02	7.04	7.02	7.03	7.04	7.27	7.29
50%	7.98	8.23	7.97	7.99	7.98	7.97	7.98	8.22	8.23
60%	9.04	9.23	9.03	9.04	9.04	9.02	9.02	9.22	9.20
70%	10.29	10.39	10.28	10.29	10.29	10.28	10.29	10.38	10.38
80%	11.98	11.98	11.97	11.97	11.98	11.95	11.94	11.97	11.93
90%	14.69	14.48	14.68	14.66	14.70	14.66	14.63	14.47	14.39
100%	25.01	23.82	24.98	24.99	25.02	25.13	25.14	23.80	23.88
Gini	0.3138	0.2974	0.3127	0.3132	0.3141	0.31512	0.3153	0.2962	0.2974
Atkinson									
$\varepsilon = 0.5$	0.0827	0.0749	0.0815	0.0825	0.0829	0.0837	0.0838	0.0737	0.0746
$\varepsilon = 0.9$	0.1434	0.1307	0.1395	0.1450	0.1441	0.1488	0.1489	0.1268	0.1282

Notes : SSB(Social Security Benefit), SET(Special Excise Tax), LT(Liquor Tax), VAT(Value Added Tax)

When we examine the properties of the Korean tax system by using the effective tax rate for each income group and the Berliant-Strauss index, as shown in <Table I-30>, income tax is very progressive and indirect tax is proportional and slightly regressive. The average tax burden is 5.79% in income tax, and 3.61% in indirect tax. Thus, the total tax burden in Korea is 9.4% on average.

Income tax shows a high level of progressivity with the Berliant-Strauss index of 0.8509. However, special excise tax and liquor tax show Berliant-Strauss index of proportional properties, which are 0.5910 and 0.7200. Value added and indirect taxes have a regressive property with indices of 0.5697 and 0.5607 and a combined index of 0.7418.

Horizontal equity, which reflects “equal treatment of equals” according to its traditional definition, is high for the special excise tax and liquor tax, with indices of 0.6160 and 0.7439, respectively. However, value added tax shows a higher level of horizontal inequality with an index of 0.8455. Income tax shows a high level of horizontal inequality with an index of 0.9122. The income tax system shows a relatively high level of horizontal inequality, as it has many deductions corresponding to demographic characteristics.

A number of empirical studies of the distribution of the tax burden lead one to accept the conclusion that the overall burden of tax among income classes is more or less regressive or that the tax system in Korea is not working as a principal policy instrument through which the narrowing of income differentials can occur. When an accounting for income to the rich from their underground activities and for the benefits of preferential tax treatments is properly made, the distributional effects of the government tax policies are probably more regressive than what the mere tax policy might suggest.

To center all efforts on equity at the cost of efficiency or growth would be as grave a mistake as to center all efforts on growth or efficiency at the cost of equity. However, there is plentiful scope to

make significant improvement in both equity and efficiency by reorganizing the tax structure. As has been frequently suggested, a movement towards greater reliance on direct taxation of both income and wealth should be effective in establishing a more progressive tax burden with minimum distortion of relative prices. If equitable distribution of income and wealth is a desirable objective in Korea, strong political determination is called for to make income and property taxes, not consumption taxes, play the major role in the Korean tax system.

<Table I –30> Tax Burden by Income Group

(Unit: %)

Income group	Income tax	Indirect tax			
			Special excise tax	Liquor tax	Value added tax
Bottom					
10%	0.91	3.86	0.31	0.22	3.33
20%	1.58	3.58	0.31	0.20	3.07
30%	2.14	3.52	0.33	0.23	2.97
40%	2.44	3.42	0.40	0.18	2.83
50%	2.86	3.68	0.52	0.16	3.02
60%	3.85	3.88	0.65	0.14	3.08
70%	4.87	3.69	0.59	0.13	2.96
80%	5.77	3.91	0.69	0.12	3.09
90%	7.14	4.05	0.85	0.10	3.09
100%	10.26	3.12	0.66	0.07	2.39
Average rate	5.79	3.61	0.61	0.13	2.88
B-S Index					
Progressive	0.8509	0.3417	0.2436	0.1388	0.3051
Proportionate	0.0182	0.0976	0.5910	0.7200	0.1252
Regressive	0.1308	0.5607	0.1654	0.1412	0.5697
Horizontal inequity	0.0878	0.1204	0.6160	0.7439	0.1545

Source : Choi and Hyun(1997)

VI. Tax Policy and Economic Growth

Faced with the observation that Korea relied heavily on tax policy in general and tax incentives in particular for the sectoral resource allocation, one might ask whether there exists any meaningful relationship between economic growth and tax policy in Korea. Not many empirical investigations have been conducted to examine the relationship between tax policy and economic growth, not only for Korea but also for other countries.

Two empirical studies are available to show how the tax policy exercised its influence on economic growth in Korea. One study by Irene Trela and John Whally shows effects of the tax structure on growth while the other study by Paul Evans examines effects of tax rate and tax distortion on economic growth.

After showing how the tax structure was modified over time to support Korea's growth strategy and by developing a general equilibrium model with which to estimate the contribution of the tax structure to Korea's growth rate, Irene Trela and John Whalley concluded that the changing tax system in Korea had probably facilitated rather than fueled high growth. The average annual increase in GDP over the 1963-1982 period attributable to tax policies is small, only 0.54 percent or less than 10 percent of actual average annual Korean growth in real GDP. When Trela and Whalley broke down the relatively small contribution of tax policies to growth into two separate effects—direct tax deductions (mainly corporate tax rebates for exports) and indirect tax exemptions (rebates of sales and excise taxes on exports), they found that indirect tax exemptions had contributed far more to economic growth in Korea than had direct tax measures.

In two papers which investigated whether a simple neoclassical model can explain output and investment in Korea Paul Evans reported

regression results which show the relationship between the tax policy and output. They are as follows:

$$\begin{aligned}
 Y_t = & 107.7 + 0.578GDP_t - 0.14GNDP_t + 5.62GIP_t - 4.92GNNDP_t - 1.24GIT_t - \\
 & (5.6) \quad (0.62) \quad (1.05) \quad (0.82) \quad (3.19) \quad (1.81) \\
 & 1.23DEF_t - 3.00T_t + EY_t + 0.717EY_{t-1} \\
 & (0.73) \quad (0.46) \quad (0.25) \\
 R^2 = & 0.92 \quad S.E. = 3.63 \quad Q(10) = 4.5
 \end{aligned}$$

$$\begin{aligned}
 I_t = & 3.9 + 1.67GDP_t - 3.57GHDP_t + 5.48GIP_t - 5.73GNNDP_t - 4.62GIT_t + \\
 & (5.5) \quad (0.58) \quad (1.03) \quad (0.79) \quad (3.07) \quad (1.71) \\
 & 0.09DEF_t - 0.50T_t + E.I_t + 0.633EI_{t-1} \\
 & (0.56) \quad (0.44) \quad (0.23) \\
 R^2 = & 0.884 \quad S.E. = 3.52 \quad Q(10) = 11.2
 \end{aligned}$$

$$\begin{aligned}
 \Delta Y_t = & -0.56 - 1.19\Delta T_t + 1.07\Delta G_t - 0.16\Delta DEF_t \\
 & (0.81) \quad (0.55) \quad (0.70) \quad (0.53) \\
 R^2 = & 0.167 \quad S.E.E. = 4.32 \quad D.W. = 1.62 \quad Q(15) = 10.5
 \end{aligned}$$

$$\begin{aligned}
 \Delta Y_t = & -0.59 - 1.13\Delta T_t + 0.94\Delta G_t \\
 & (0.79) \quad (0.49) \quad (0.55) \\
 R^2 = & 0.166 \quad S.E.E = 4.25 \quad D.W. = 1.56 \quad Q(15) = 11.4
 \end{aligned}$$

According to the first two equations which show the effects of tax policy on output and investment, increasing the average tax rate by 1 percentage point lowers output by 3 percentage points relative to trend while the resulting increase in marginal tax rates falls primarily on consumption as private investment is affected much less than consumption. According to the last two equations transferring one unit of resources from taxpayers to the recipients of transfer payments reduces output by 1.13-1.19 units.

VII. Real-Name System of Financial Transaction and Tax Policy

In Korea financial transactions had been conducted under pseudonym since in 1961 the capital-hungry military government made the practice legal in an effort to encourage financial saving. To extent that the anonymity system help increase the supply of loanable funds to financial institutions, legalizing financial transactions under pseudonym made sense when the economy was starving for investment funds.

However, in the long run, it turned out to be opening the pandora's box. No doubt, legalizing financial transactions under pseudonym made it easy and comfortable to conduct clandestine transactions which may be improper or illegal. Examples are bribery, illegal political contributions, real estate speculations, and tax evasion. It had not been an urgent issue, however, until a nation-shaking financial scandal was disclosed in 1982. The economy was hit so hard by the incident that calls implement a mandatory real name sounded persuasive. A law disallowing financial transactions with fictitious names was passed in 1982 by the National Assembly but with a proviso that the actual implementation of the system would be entrusted to the President's judgement.

In the presidential election of 1987, all candidates promised to activate the real name system when elected. In 1988 the government announced a schedule to implement the system and established a working group in the Ministry of Finance. In early 1990 the poor performance in the economy and the political opposition by the rich for fear of heavy tax burden led the government announce the suspension of the real name system for the time being.

Financial transactions under pseudonym make it difficult to enforce

the tax laws effectively because, with pseudonyms, it is easy to hide financial transactions from the tax authorities. As a result, taxation of certain categories of individual income (business income, rental income, capital gains on real properties) and inheritance and gifts becomes particularly difficult to administer. There are numbers ways in which transactions under pseudonyms facilitate tax evasion.

The anonymity system had long been criticized for generating inequities in the tax burden and providing a safe harbor for curb market activities, the most typical underground economic activity in Korea. Abolishing the practice of financial transactions under pseudonym be made illegal. It seemed that the public opinion in favor of the abolition of financial transaction under pseudonym reflected the frustration concerning fairness in the tax system.

The inadequate taxation of interest and dividend incomes has represented one of the most serious problems in Korea's personal income tax system. The problem exists for two reasons. First, most forms of interest and dividend incomes are subject only to a final, separate withholding tax rate of 5 or 10%. Second, a significant amount of such income is unreported, and effectively completely free of tax. A loss of revenue due to separate taxation or tax evasion implies a serious departure from both horizontal and vertical equity in income taxation, and welfare loss due to inefficiencies generated thereby.

<Table I-31> Separate and Global Taxation of Interest and Dividend Income

(Units: billion won and %)

	1982		1986		1992		1995	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share
A. Interest income								
Separate taxation	181.2	97.7	281.9	99.9	13,671.2	99.4	20,628.9	99.9
Global taxation	4.3	2.3	1.9	0.1	84.2	0.6	22.9	0.1
B. Dividend Income								
Separate taxation	16.1	58.2	23.8	66.5	647.7	59.1	1,489.6	78.7
Global taxation	11.5	41.7	11.9	33.5	466.2	40.9	402.2	21.3

source: Ministry of Finance.

As shown in <Table I-31>, in 1995, 99.9% of interest incomes reported to National Tax Administration were separately and finally taxed at the lower withholding rates. Only 0.1% of interest were included in the global income tax base. Among the dividends, only presumptive dividends, dividends from major stockholders of open corporations, and dividends from closed corporations were subject to global taxation and these account for only 21.5% of reported dividends in 1995. The separate rate of 5%, 10% and 20% (including defence and education surcharges and the inhabitant tax) on interest and dividend incomes is a very high rate to the low-income people because their income level is well below that bracket whose marginal tax rate attains that level, and a relatively low rate to the rich because their marginal tax rate usually exceeds the separate rate.

The real-name system of financial transactions was put into effect on August 12, 1993. When the government proclaimed a presidential emergency decree of immediate implementation of the real-name system. The enforcement of real-name system, which was widely supported by the public, had long been postponed although its need was first admitted in the early 1980s. The two previous presidents

failed to keep their public pledges to carry out the system. The real-name system, designed to eliminate the use of fictitious or borrowed names in all financial transactions, has been considered essential for equity in taxation.

When President Kim Young-sam suddenly announced the enforcement of the real-name system of financial transactions in August 1993, he put off introduction of the global tax system on dividends and interest income until 1996 in a move to minimize adverse effects on the economy. Currently, dividends and interest incomes are separately taxed as financial institutions withhold tax from deposit accounts at separate rates. Thus, depositor do not have to prepare tax returns. The present real-name system is nothing more than requiring the people to use their real names when they deal with financial institutions.

The 1994 comprehensive tax reform make it official that global individual income tax will be levied on interest and dividends of over 40 million won from 1996 while tax rate was reduced from the present level of 20 percent to 15 percent in 1996 and further to 10 percent in 1997. A person receiving interest income from a long-term bond with a redemption period of 5 years or longer might elect the global taxation or separate taxation at the withholding tax rate 25 or 30 percent depending the redemption period. On the other hand, the government will eliminate 20 types of tax-incentive deposit accounts, except for private pension trust accounts and long-term deposit accounts for home buying. The government will consider levying capital gains tax on stocks and bonds only after 1998.

Pressure from the political circle and unexpected financial crisis in December 1997 led the government to abolish the global income tax on dividend and interest incomes indefinitely. At present nobody knows when and how to reintroduce the global income tax on financial income and to levy capital gains tax on stocks and bonds.

VIII. Real Estate Speculation and Tax Policy

Real estate speculation has been a difficult problem in Korea for a long time. Since the mid-1960s, the Korean economy has experienced land price inflation of 10 year cycles, three times between 1960 and 1993 while GNP in current prices increased only 679 times. The government has placed a high priority on containing real estate inflation. Furthermore the government was seriously concerned about the concentration of the distribution of real assets and the severe shortage of urban land for housing and business. Since inflation in the real estate market has been far exceeding that in the commodity and labor markets the skewed distribution of land and buildings has been the single most important source of the ever widening gap between the have and the have-not. In addition the rapidly rising price of houses has been one of major causes for serious social instability. Therefore, the centerpiece of the tax reform in the last 1980s was how to control land speculation through tax measures.

The policy instruments mobilized in the anti-speculation efforts of the government include the denial of interest deduction, land-speculation-control tax, heavy taxes on capital gains on real estates, excess land capital gains tax, global land tax, tax on excessive holding of residential land, social and political pressure on the corporations and individuals with excessive land holdings, and so forth.

In Korea, taxes relating to the transfer and ownership of properties have hardly been an important source of the tax revenue and as a result they have made little or no contribution to lessening prevailing inequities in the distribution of assets in Korea. Taxation of wealth or properties in Korea should form an important element of the overall tax structure, not for revenue, but to complement income taxation, to ameliorate the significant unequal distribution of wealth, and to ensure

efficient resource allocation.

As a means of curbing speculation on real properties, the Korean government has always relied on capital gains tax on real properties rather than the property tax on real properties. The capital gains tax on real properties replaced the land speculation control tax in 1975. <Table I-32> shows a summary of a historical development tax rates on capital gains. At the beginning the tax rates on capital gains were flat at 50% on land and 30% on building. The present tax rates on capital gains from real properties vary widely, depending on the type of assets, the length of ownership of assets, and whether assets are publicly registered or not.

If capital gain is realized on selling a real estate, the capital gains tax is imposed separately by progressive tax rate(30~50%), which is higher than income tax rates(10~40%). For a corporation, the realized capital gain(the sale price minus the book value) is added up to the corporate income and levied by the corporation tax rate(16%, 28%), and then 20% of the capital gain (sale price-acquisition price) is also levied by the special added tax. If the value of fixed assets increases, the asset revaluation tax(3%) is also imposed.

Though statutory tax rates on capital gains were high, taxation of capital gains has been plagued by various loopholes involving tax preferences. As shown in <Table I-33>, tax expenditures in capital gains are around 20 percent for individuals and as high as more than 50 percent for corporations.

<Table I -32> Tax Rates on Capital Gains

(Units: %)

	Before 1979		1979	1980 · 1982		1983 1988	1989 1995	1996
				statutory rate	flexible rate			
Land	50	Holding more than two year	50	40	25	40	40 · 60	30 · 50
Building	50	Holding less than two year	70	50	35	50	60	50
		Selling without the title filed	80	75	-	75	75	75
Other assets	-		50	40	25	40	40 · 60	30 · 50

**<Table I -33> Tax Exemption and Reduction in Capital
Gains Tax**

(Units: %)

	1991	1992	1993	1994	1995	1996
Individual capital gains	16.2	17.2	20.1	19.0	18.7	20.3
Corporate capital gains	54.3	51.6	43.6	44.7	41.7	42.3

Source: Ministry of Finance and Economy.

The use of capital gains tax on real properties as a weapon against short-run speculative purchase of real estate was, in design and purpose, inappropriate. The roots of high inflation during the rapid industrialization period should have been dealt with at their source. Speculation on real estate was just a symptom. If tax instruments had to be relied upon to curb speculative buying of real properties, the best policy would be to use to property tax, which is imposed directly on the ownership of real estate, rather than the capital gains tax on real properties, which is imposed on the transfer of ownership. Both administrative difficulties on the tax collector's side and widespread

tax evading efforts by the taxpayers nullified the government's efforts to cool speculation on real estates via heavy taxation on capital gains from real properties.

In order to curb the increase in prices of real properties due to the perennial supply shortage and to lessen prevailing inequities in the ownership of real estates, the Korean government needed to introduce an annual , comprehensive, personal tax on the combined property holdings of the individual. However, the final outcome was disappointing because the actual decision by the government in 1986 was to adopt the excessive land holding tax instead, effective from January 1988. The government's interim proposal was an annual personal land tax as a supplement to the local property tax. The rate structure of the excessive land holding tax is progressive, ranging from 0.5% to 5.0%. However, its tax base is not comprehensive as only a limited portion of land is integrated into the tax base to be subject to tax. Few experts believe that the excessive land holding tax will serve the purpose of discouraging speculation on land and reducing the high concentration of land holding in the hands of the wealthy few.

In September 1988 an ad hoc committee to study on the public concept of the ownership of land was establish to draft a proposal on various measures to deal with pending land problems. The proposal by the ad hoc committee included tax and non-tax measures. Important among these were introduction of a new system of assessing land, upward adjustment of the assessment ratio, establishment of the aggregate land tax(the global landholding tax) and the excessive land value tax, introduction of a ceiling on the holding of residential land, and adoption of the system to retake development profits. The "public concept of the ownership of land" has never been clearly defined by the government, and is still used vaguely. Neither can the example be found in the other countries. The main motive for enactment was to reduce land price inflation by penalizing land speculation and to recapture unearned, public-conferred increases in value.

Three real estate-related laws to promote the “Public Concept of Ownership of Land” became effective in 1990 which were designed to promote economic justice by taxing “unearned income” from holding real estate and to achieve efficient use of land in fixed supply. These laws impose a ceiling on ownership of residential land, a tax on profits from regional development projects, and a tax on profits from excessive and holdings.

Ceiling on ownership of residential land sets a maximum on ownership of residential land for each household and levies a tax on the amount of land held in excess of the legal limit. The limit is 200 pyong (660 sq m) in Seoul and its five direct jurisdictional cities, and 300 pyong (990 sq m) in the next six largest cities. Business corporations are not allowed to own residential land unless they are in the rental housing business.

The law is designed to encourage the owners of large amount of residential land to release part of their holdings, and thereby to expand the ownership of land and lower the price of land. However, only 7,300 households are subject to this limit in the six largest cities, and there is no guarantee that the released land will be used for residential purposes. Land owners also have a choice between selling their land or retaining it and incurring the tax burden.

Tax on profits from regional development projects is levied on the increase in land value associated with such projects as residential land development, land readjustment, zoning changes, and industrial site development. The tax base is the difference between the “posted” land value at the completion and the initiation of such projects, less costs of development projects, less the “normal” increase in land value determined based on the interest rate on one-year-saving deposit and the national average rate of increase in land value. The tax rate is 50%.

Tax on excessive profits from landholding is a tax on capital gains realized from land for any reason and regardless of the type of land being sold. But its tax base is not comprehensive as only a limited

portion of land is integrated into the tax base to be subject to tax. The tax applies to vacant lots, vacation home sites, factory sites or land attached to employee training and education facilities held by business corporations exceeding the legal limit, corporation-owned land not in proper business use, arable land owned by absentee landlords, and golf courses.

The tax is levied wherever the increase of land value during a one-year period exceeds 150% of the “normal” rate or the rate of increase during a three-year period exceeds 100% of the “normal” rate. The tax is 50% of the base, which is defined as the increase in the value of land assessed by ONTA, less capital expenditure and normal capital gains. This tax is controversial because it is levied on accrued gains rather than the realized gains. There is also a technical issue of determining whether a plot of land is used for proper business purposes or not.

The introduction of the excess land capital gains tax highlights the urgency of controlling real estate inflation and the accompanying real estate speculation and distortions in wealth distribution. Given that the excess land capital gains tax is extremely cumbersome to administer and fraught with shortcomings in compliance and administration, its introduction also demonstrates the lack of effective and politically acceptable tax instruments for achieving the policy objectives. The intensity of the government anti-speculation effort is also evident in the current state of the taxation of capital gains on real property, where the lowest marginal tax rate is as high as 40%.

A fundamental issue which deserves our attention is that it is not clear whether the excess land capital gains tax is an effective instrument for achieving the policy objectives of the law. For instance, the excess land capital gains tax may not be effective and hard to administer in the case of a nationwide inflation in land price; the tax may induce intertemporarily inefficient use of land by providing an incentive for socially premature development of idle land; and, by penalizing ownership of idle land, the tax may fan speculation on

productively used land.

One may argue that all the tax measure related to real estate distorted the tax system without creating any significant positive results in controlling real estate speculation and in improving the distribution of wealth. The fact that there is no solid evidence showing the effectiveness of the Korean tax policy in containing real estate speculation of wealth distribution may be what one would expect even if a well designed tax policy were in force.

There are many factors behind the realestate speculation and the concentration of real estate ownership. One important reason is an excessive increase in liquidity supply, due to excessive supply of credits balance of payment surpluses. Another factor political one. Politicians announced blueprints for numerous development projects to be carried out when elected. In additions industrial investment became extremely unattractive mainly because of exhaustion of investment opportunities and increase in labor cost, capital owners began to seek a safe and easy way of making money or at least of safely hoarding their wealth. The public, losing confidence in the stability of the value of money, began to escape from financial assets. The real demand for housing was also increasing because of the rapidly rising income level of middle-class workers. Unless all the above factors are considered in coherent policies and well designed tax measures are implemented in harmony, it may be impossible to contain real estate speculation and to improve wealth distribution.

IX. Issue in Value-Added Tax

From the policy point of view, recent discussion concerning VAT in Korea has revolved around three issues: (1) the coverage of VAT, (2) the level and structure of the tax rate, and (3) the treatment of small taxpayers.

One recurrent question about the structure of VAT in Korea concerns the possibility of extending VAT to sales that are currently exempt. The widespread use of exemption is founded on the desire to reduce the regressiveness of the VAT burden. A review of the list of goods and services currently exempt leads one to question the appropriateness of the inclusion of some items on the list. Several items on the exemption list have been controversial, including services provided by financial institutions, independent professional services, and government-provided goods and services that compete with commercial operations.

A single rate of 10% has been used in Korea since the introduction of VAT. Though suggestions of using differentiated multiple rates have been made to reduce the tax burden on low-income groups, rate differentiation has been resisted in Korea on the grounds that using multiple rates is an inefficient way of achieving redistributive objectives and complicates administration and compliance. It should be pointed out that even though Korea does not have a multiple rate VAT system, the addition of excise taxes such as the special consumption tax and the liquor tax on top of the VAT for many items produces the same effect as having a multiple rate VAT system.

The VAT in Korea is one of the lowest among those countries which have adopted VAT. The 10% rate of Korea is lower than the reduced rate of some countries. Given the fact that the share of VAT in GNP and the proportion of revenue from VAT relative to that of domestic

taxes on goods and services are pretty low compared with other countries, there is scope for raising more revenue from VAT by raising its tax rate. However, Korean taxpayer is have been very hostile to the proposal of increasing the VAT rate.

One of the major criticisms of the VAT in Korea has been the burden on business, particularly on small business, to keep adequate records and file returns to the tax authorities in the prescribed format. Under any form of general sales taxation, small businesses are granted special treatment in order to reduce their administrative burden. Small businesses, called special taxpayers under the Korean VAT system, are those total sales are less than 24 million won a year. Unlike general taxpayers, whose tax base is value added, a 2% tax rate applies on the value of annual of small businesses. In 1986 special taxpayers represented about 70% of total VAT payers while revenues collected from special taxpayers accounted for about 4% of total VAT revenues.

One important practical issue has been the question of whether the current dividing limit between special taxpayers and general taxpayers should be increased or not. The temptation to increase the limit due to the political pressures by the special taxpayer, numbering about a million, should be resisted because the very aim of special treatment of small business is not to give them more favorable tax treatment but to give them a simplified system which approximates the true tax liability without imposing an intolerable burden on either the taxpayer or the tax administration.

X. Tax Administration

Under any taxation system, the purpose of the taxation system cannot be realized without fair and efficient tax administration. The immediate objectives of tax administration are to narrow the gap between tax laws and practice, and to make the tax structure more responsive to changing economic conditions and economic growth. However, its ultimate objective is, by encouraging taxpayers' voluntary tax compliance, to transfer purchasing power from the private sector to the treasury of the government.

Tax administration and enforcement have been a constant source of public discontent in Korea. Many believe that most of the pressing problems that have plagued Korean taxation are primarily administrative. The gap between tax law and practice, indicative of the shaky state of tax administration, must be eliminated if a reasonable degree of efficiency is to be achieved. Despite rapid economic growth and concomitant changes in the economic structure in Korea, tax administration has more or less remained unchanged.

There are three government organizations which are responsible for tax administration in Korea. The NTS is in charge of assessing and collecting domestic national taxes while the Office of Customs Administration is responsible for assessing and collecting customs duties. Local governments provinces, special cities, cities and counties are responsible for administering local taxes but they have to seek approval for their decisions from the Ministry of Home Affairs.

The NTS was set up in 1966 and the original name of NTS was office of National Tax Administration. Before NTS was established, the assessment and collection of domestic national taxes was the responsibility of the Tax Bureau of the Ministry of Finance, which is presently responsible for formulating tax policies and drafting tax laws.

The establishment of the NTS marked a turning point in tax administration in Korea. Ever since the establishment of the NTS the political leadership has expressed a strong personal interest in its effectiveness, appointing one of its close associates as head of the NTS. One key element in the improvement of tax administration has been the insulation of tax collectors from political interference.

Public discontent with the tax administration stems mainly from the public perception that the NTS has exercised too excessive and discretionary a power in order to collect more taxes, sometimes infringing taxpayers' basic rights. To be impartial it must be pointed out that the lack of systematic record-keeping on the part of taxpayers has made the tax administration difficult and evasion easy even under the best of circumstances.

<Table I – 34> Global Income Tax by Typer of Determination

(Unit: %)					
Type of determination	1980	1985	1990	1995	1998
By tax return/debt audit	6.5	24.4	33.8	29.6	40.4
By estimation	85.3	73.2	60.6	70.4	58.0

Source: National Tax Service, *Statistical Yearbook of National Tax*, various years.

The tax office has often used a system of tax targets or quotas, broken down by geographical areas and types of tax. Furthermore, the government applied a system of awards and penalties to the tax officials for exceeding or falling short of the targets. When tax collectors worked under quotas imposed by their superiors, there was a tendency to impose as high an assessment as they felt they could. An initial high assessment put the tax collectors in a good position to compromise in return for personal gifts from the taxpayers.

In Korea, only around 30 percent of income tax payers keep books, so a considerable number of taxpayers are subject to a determination of their tax base by an estimation based on the 'standard income ratio'. In

1980, the portion of taxpayers subject to determination by estimation was 85.3 percent of the total income tax payers (see <Table I-34>). It was reduced to 60.6 percent in 1990. However, the fact that more than 60 percent of taxpayers are still subject to determination by estimation shows the importance of the 'standard income ratio' in determining income tax amounts. Furthermore, the fact that the contribution of taxpayers subject to the determination by estimation (who made up 58.0 percent of the total income tax payers in 1998) to global income tax revenue only represented 24.3 percent of total global income tax revenue implies that rationalization of the determination by estimation process together with the 'standard income ratio' would greatly improve the efficiency of income tax administration.

The tax enforcement mechanism in Korea is highly selective on one hand, and very comprehensive on the other. Despite broad-based efforts to administer tax compliance in a non-discretionary manner, in practice, tax enforcement has been highly selective. Firms were likely to be audited for non-compliance with various discretionary commands. Usually, a company appeared on the select list of those to be investigated when the company did not follow the orders of the government, or when it ignored its duty to comply with certain regulations. This selective enforcement led the management of Korean companies to believe that they were being penalized for ignoring government commands on dubious political grounds, even when good and sufficient grounds were found for penalizing the companies for non-compliance.

At the present time, the government is formally obliged to examine all global income tax returns from all sources. This formal obligation of comprehensive auditing is excessively costly and unnecessary. Since the initial processing of tax returns is computerized, it should be possible to rely on spot audits, based on a statistically based random selection process. Other audits could be based on the presence of any unusual characteristics in the returns. By relying on spot auditing or

categorized auditing, the tax administration could devote more time to particular auditing problems, such as those related to the taxation of interest and dividends.

In choosing a method of collecting tax, the government has an option between a self-assessment system and a government assessment system. Under the government assessment system, a taxpayer's liability is always determined by the government based on direct data or indirect data. On the other hand, self-assessment is a system of collecting tax under which the taxpayer calculates his tax base and tax amount, and pays a tax as if the calculation were correct. Korea is in transition from a government assessment system to self-assessment system. The VAT and Corporation Tax Laws adopted a self-assessment system, whereas the Individual Income Tax Law adopted a government assessment system. However, the introduction of a self-assessment system for individual income tax is currently under serious discussion.

The VAT is ordinarily regarded as self-enforcing because of the way it is usually administered. Korean experience with VAT, however, suggests that the so-called built-in self-enforcing character of VAT, which permits the matching of the tax credits of one taxpayer against the tax payments of another, is illusory or, at best, a much overrated advantage because invoices can be falsified. Although taxpayers do have an incentive to request invoices for their purchases in order to increase their input tax credit, this incentive is in many instances counterbalanced by a desire to suppress both purchases and sales in order to avoid not only VAT, but also income taxes.

In Korea as in all other countries, a great number of problems have been encountered in taxing the so-called hard-to-tax group, which includes those self-employed in business, and agriculture, and professionals. Faced with the difficulty of verifying information supplied by such taxpayers, the NTS has adopted a very arbitrary method, called the standard assessment method.

The standard assessment method has been widely used in Korea for both income tax and VAT. The essence of the method of standard assessment is the establishment of a set of standard assessment guidelines for each major economic activity on the basis of whether the income or sales for any individual taxpayer can be estimated in a relatively objective manner. Basically, all an assessing officer has to do is to obtain information on a series of relatively objective indicators, go to the relevant guide and calculate the tax on the basis of two ratios shown there: one, between the indicators on which he has collected information and gross sales, and two, between gross sales and net income. Those who wish to rebut the presumed minimum tax have always been allowed to file regular returns.

The ratios in the guides are in principle based on careful studies by a small group of experts composed of tax administrators, tax specialists, and representatives from the business community. This expert group develops and updates guidelines. As a rule, different guidelines have been suggested for each trade or profession in each region. Once prepared, the standard assessment guides have been published.

Ideally, taxes payable calculated according to these guidelines should be on the high side to encourage better record-keeping, but in practice, this has not been the case, because very few taxpayers have filed reports of the basis of their actual incomes. The standard income ratio system has generally underestimated actual income and tax liability. The result has been that the system of standard assessment guides has discouraged rather than fostered movement toward the regular system.

The efficiency of tax administration can be seen from the costs of tax collection and tax compliance. In his study on compliance and administrative costs in Korean taxation, Dr. Sin Jun Cha showed that compliance costs for personal income tax and corporate income tax in 1992 was about 29 percent and 1.4 percent, respectively, of the amount of tax collected for each tax. The cost of collection in raising every 100

Korean won has been steadily decreasing from more than 2.5 won in the early 1960s to less than 1.0 won in the 1990s.

In Korea, there has been too much preoccupation with “what to do” rather than with “how to do it”. Many, perhaps all of the, tax reforms in Korea complicated rather than simplified the work of an already overloaded administration. The administrative dimension should be placed at the center rather than the periphery of tax reform efforts.

The wide range of discretion that tax officials can exercise gave rise to confusion and injustices. The most basic way to ensure that tax officials do what they are supposed to do, and no more, is to reduce to a minimum the amount of discretion they have in dealing with taxpayers. The more room there is for negotiation between officials and potential taxpayers, the more scope there is for bribery by one, arbitrary exaction by the other, and collusion by both.

Efficient tax administration is very important for establishing a tax system and raising financial sources necessary for economic growth. A prerequisite for efficiency is to secure political, economic, and social compatibility in any country. Disorder can never provide the fundamental conditions to make tax systems function well. The highly literate and educated population in Korea is an invaluable asset for establishing an efficient tax administration. Abundant trained manpower in the past has provided Korea with fundamental base to establish good administrative practices for tax policy.

The complexity of the tax law can erode public confidence in the law's fair treatment of everyone. Although improvement in administration involves simplification - making administration and compliance simple - it sometimes requires more complex procedures to secure consistent enforcement of the law. In both cases, the objectives are to eliminate unnecessary administrative burdens on the taxpayer and to secure a more equitable and effective application of the tax. Achievement of these objectives should improve the morale and cooperation of the taxpayers and establish a better revenue structure.

It is now generally believed that the loss of tax revenue resulting from evasion, underreporting, and tax avoidance is substantial. There may be a considerable loss of tax revenue caused by an administrative failure to reach a greater portion of potentially taxable income. The so-called compliance gap is enormous by anyone's estimate and is growing larger. This situation creates serious equity problems; the honest taxpayers are bearing an ever-increasing burden because of the growing number of citizens who are not paying their full share of taxes. If the situation continues to worsen, it could lead to a disruption of the economy and eventually to a breakdown in society.

The part of the economy that consists of income concealed from the tax authorities is often referred to as the "underground economy", and seems to thrive in many countries. In Korea, the underground economy has been roughly estimated at 20-40 percent of the regular economy or GNP (Choi 1987). Comparatively, figures of 30-35 percent in Italy, 25 percent in France, and 10-25 percent in the United States would indicate that the underground economies abroad are similar to the one in Korea.

A comprehensive survey and further research must be undertaken to investigate the nature and causes of underreporting and to develop innovative methods of bringing the widespread underground sources of income and wealth within the tax net. Equal and effective application of the tax law to all taxpayers must be assured to curtail the high degree of tax avoidance and evasion now prevalent among certain groups. To accomplish this objective, new techniques of tax administration are needed. Additional and more effective enforcement is needed to alleviate the inequities, contain the growth of the underground economy, and ensure the recovery of tax revenue. Real progress in this area will require the coordinated efforts of the National Assembly, the Ministry of Finance and Economy, the National Tax Administration, other relevant government agencies, the academic community, and perhaps major assistance from the private sector.

To alleviate the growing problem of underreporting, the NTS should redirect some of its efforts toward the underground economy. The NTS can improve its effectiveness by reallocating some of its present enforcement personnel and efforts. Many tax experts feel that too much time and effort is being devoted to unproductive and trivial matters when they could be utilized to uncover underground income and wealth. The NTS may have to increase its personnel to have an impact on the underground economy. It should consider CPAs and other business executives who retired early as a new source of qualified personnel. An increase in the resources devoted to uncover the underground economy should also be contemplated. Additional manpower and resources could be applied to increased surveillance of those who are underreporting. An increase in the NTS's budget can be expected to produce a substantial increase in tax revenue.

In addition to the expansion of enforcement activities, current penalties for both civil and criminal fraud should be reexamined. Encouraging the use of checks and credit cards, and discouraging the use of currency might deter transactions that are common underground activities.

One of the possible causes of underreporting in Korea is said to be the changes in social mores and general morality that have been evident in recent years. Many people seem to have less confidence in society's rules and institutions, and instead, have a growing feeling that it is acceptable to ignore "unfair" laws. National educational programs should address this particular problem so that society's misguided view toward the tax system, and toward its responsibilities to itself and to the government can be modified. Some of these educational program efforts will have greater credibility and acceptance if they are provided or sponsored by groups outside the government, such as professional organizations, trade associations, labor groups, and civic organizations.

A perception of widespread waste and inefficiencies in the government is often used by some to justify their underreporting. In

this regard, it is suggested that the government's extralegal reliance on "quasi-taxes", long in practice in Korea, be discontinued. These "taxes", being unbudgeted and likewise not accounted for, are frowned upon by business people and the general public as sources of financial abuses and inefficiencies in the government. Accountability for the tax money spent should be publicly and clearly reported to secure the understanding and cooperation of taxpayers.

XI. Concluding Remarks and Lessons

The dynamics and inner workings of industrialization in Korea can be described as follows: the policy direction and incentives provided have proved correct. International market conditions have been favorable. The political leadership has been committed to economic development. That commitment has been translated into action by the bureaucracy and by private firms. Development plans and strategies exist in almost every developing country. What is unique in the case of Korea is the ability to get the plans and strategies put into practice.

In Korea, policy-makers and the general public have been very pragmatic and displayed no ideological bias. This pragmatism that prevailed in the policy-making process allowed the government to use all available instruments in achieving the goals it had set. In the policy planning process, particularism also prevailed, permitting the government to apply a certain policy to a limited number of specific cases. Of course, trial and quick adjustment with no ideological basis also had the drawback of causing frequent changes in policy.

The Korean experience affirms the role of the market and the importance of the price signal. Scarce resources were allocated by basically correct market price signals on the initiative of dynamic entrepreneurs operating in a competitive environment. The government's role was to let the businessmen exploit favorable opportunities by providing appropriate incentives or eliminating disincentives for their activities. Although the Korean government exerted a pervasive influence on the activities of private firms and on the use of economic resources, free competition was allowed to become fierce whenever possible.

Characteristics of the Korean fiscal policy during the industrialization period include a relatively small public sector,

adherence to the balanced budget, comparatively low taxes, relatively low taxes on capital income, liberal use of tax incentives for investments, heavy reliance on indirect taxes, little significance of property taxes, increased public savings, relatively little spending for redistributive social services, and budgeting for significant resources for industrial development.

The tax policy in Korea reveals a pattern of development that differs somewhat from the one usually followed by most countries during the modernization process. Korea made a low tax effort, minimized the taxation of the foreign trade sector, did not move toward an increased reliance on taxes on income and profits, and did not make income distribution a major goal of the tax policy.

The tax system in Korea has evolved historically through a continuing series of compromises, adjustments, and reforms which have attempted to achieve some level of efficiency and equity while raising a given revenue yield. Until the mid-1960s, the Korean tax system did not adequately serve economic policy objectives. The intention was there and institutional reforms did take place, but enforcement was lax and structural changes did not go far enough. It is difficult to identify precisely the role that taxation has played in the development of the Korean economy.

Although there were a large number of changes in the tax code and in tax administration during the period of Korea's rapid growth, Korean tax reform has not progressed much, and the tax system remains highly distortionary. More fundamental reform of the Korean tax system to make it less distortionary is a task that still remains for the Korean government.

The tax system, which contains a rich assortment of policy tools, has been used in almost all kinds of government operations. Tax tools, however, do not seem to have been very effective in carrying out their intended goals. First of all, in the earlier stages of development, the Korean market functioned too poorly for price incentives to operate

efficiently. The government's extensive intervention was one of the major reasons for the poor functioning of the market system. Second, tax administration was inefficient. Finally, the level of compliance on the part of taxpayers has generally been very low. Because of such reasons, despite a heavy and frequent resentment to manipulation of the tax system, the Korean government has not been heavily dependent on these tools in a practical sense. Monetary policy has been more heavily relied on and is considered to be more effective.

Tax reform in Korea has never been part of the leading edge of an overall activist policy strategy. Instead, tax policy has been largely accommodative, adapting to developments elsewhere in the policy mix rather than defining new directions for policy. This approach to tax policy in Korea seems to have worked well in the past, but the environment surrounding the economic policy in general and the tax policy in particular has changed a lot. Therefore Korea has to adopt a new approach for tax reform.

The current tax system is not without structural problems. The Korean tax system is widely regarded as unfair, inefficient, and extremely complicated. A large number of taxpayers believe that the tax system favors wealthy individuals and large business firms at the expense of the average taxpayers. Another general perception is that people pay widely different taxes even though they have the same amount of income. This taxpayer discontent has been increasing steadily in recent years, with the tax structure becoming more complicated and new preferences being introduced to achieve various objectives. Consequently, the public is demanding tax reform to improve the distribution of the tax burden, simplify the tax structure, and eliminate tax distortions in the economy.

Another criticism of the tax system is that it is unproductive and does not raise sufficient revenue from potential tax sources. It is quite difficult, however, to raise taxes when the tax system is widely considered unfair, with further taxpayer discontent caused by the belief

that outright evasion is widespread. Therefore, the objectives of tax reform and the need for more revenue are closely related.

All the discussions above clearly indicate that Korea needs another major tax reform in the near future. Establishing and practicing an ideal system of taxation under the given conditions is a challenging task, but certainly not an insurmountable one. The most important prerequisites for designing a good tax system are recognizing of the merits of a good tax system and a strong resolve to get rid of clear-cut irregularities in the present tax system.

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Appendices

<Table A-1> Major Economic Indicators, 1955-1999

(Unit: %)

	Per capita GNP (US current \$)	Growth rate of GNP (Constant)	Gross fixed investment to GNP	National Saving to GNP	Exports to GNP
1955	65	4.1	10.2	5.2	2.9
1960	79	1.1	10.8	0.8	4.1
1965	105	5.8	14.8	7.4	9.5
1970	253	7.6	24.7	16.2	14.9
1971	289	9.1	22.5	14.5	16.1
1972	319	5.3	20.4	15.7	20.5
1973	396	14.0	23.2	21.4	29.7
1974	541	8.5	25.6	19.3	28.1
1975	592	6.8	25.3	16.8	28.0
1976	799	13.4	24.4	22.2	31.2
1977	1,009	10.7	27.3	25.4	31.8
1978	1,399	11.0	31.3	27.3	29.9
1979	1,636	7.0	33.2	26.5	28.0
1980	1,598	-3.9	31.9	23.2	34.6
1981	1,749	5.5	29.9	22.9	37.5
1982	1,847	7.5	28.9	24.4	35.5
1983	2,020	12.2	29.4	27.6	36.3
1984	2,190	8.5	30.6	29.9	36.5
1985	2,229	6.6	30.3	29.8	35.3
1986	2,550	11.9	29.2	33.7	39.0
1987	3,201	12.3	30.0	37.3	41.1
1988	4,268	12.0	31.1	39.3	38.9
1989	5,185	6.9	33.8	36.2	33.2
1990	5,886	9.6	37.1	35.9	30.3
1991	6,810	9.1	39.1	36.1	28.8
1992	7,783	5.0	36.8	34.9	29.5
1993	7,811	5.8	35.2	35.2	29.7
1994	8,998	8.4	36.2	35.4	30.5
1995	10,823	8.1	37.5	36.2	33.3
1996	11,380	4.8	38.8	34.8	32.7
1997	10,307	2.1	34.4	33.5	38.6
1998	6,742	8.8	21.5	34.3	42.3
1999	8,581	8.9	23.1	33.9	35.7

Sources: Bank of Korea, *Economic Statistics Yearbook*, 2000.

Ministry of Finance & Economy, *Government Finance Statistics in Korea*, 1999.

National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2000.

<Table A-2> Fiscal Indicators, 1955-1999

(Unit: %)

	As a percentage of GNP			
	Budget expenditure	Total tax	Government consumption	Government saving
1955	-	6.2	8.8	-2.4
1960	17.1	10.3	14.5	-2.1
1965	11.6	8.6	9.3	1.7
1970	15.4	14.3	9.5	5.2
1971	15.1	14.4	9.8	4.5
1972	16.6	12.5	10.2	1.9
1973	12.2	12.1	8.4	3.0
1974	13.3	13.4	9.7	2.0
1975	15.1	15.3	11.1	2.4
1976	15.4	16.6	11.0	4.3
1977	15.4	16.6	10.8	4.5
1978	14.7	17.1	10.4	5.3
1979	16.4	17.4	9.9	6.5
1980	17.6	17.8	11.5	5.2
1981	17.4	17.9	11.6	5.3
1982	17.6	18.1	11.5	5.7
1983	16.5	18.4	10.7	6.9
1984	15.8	17.5	10.0	6.5
1985	15.9	17.1	10.1	6.3
1986	15.2	16.6	10.1	6.2
1987	14.9	16.9	9.9	6.8
1988	14.3	17.2	9.8	8.2
1989	15.3	17.7	10.5	8.3
1990	15.4	18.6	10.6	8.7
1991	14.5	17.7	10.7	8.2
1992	13.6	18.2	11.3	8.0
1993	13.4	18.1	10.8	8.6
1994	13.3	18.7	10.7	9.4
1995	13.7	19.1	10.3	10.6
1996	14.0	19.7	10.2	10.2
1997	14.2	19.6	10.1	10.6
1998	16.7	19.4	11.1	9.7
1999	16.9	19.7	10.2	9.6

Source: National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2000.

<Table A-3> Central Government Expenditure and Net Lending

(Unit: % and billion won)

	General Public Service	Defense	Education	Social Service	Economic Service	Others	Total
1970	23.1	22.7	16.7	7.9	27.4	2.2	469(100.0)
1975	13.1	26.3	12.7	7.5	31.1	9.0	1,765(100.0)
1980	8.5	30.6	14.6	9.9	26.0	10.4	7,682(100.0)
1985	9.4	26.6	16.6	12.4	21.9	13.2	14,867(100.0)
1990	8.5	20.0	17.0	20.4	20.4	13.7	33,296(100.0)
1991	8.8	19.6	13.9	20.0	20.7	17.0	40,311(100.0)
1992	9.8	19.3	14.4	17.9	18.7	19.8	44,993(100.0)
1993	9.6	18.4	19.7	17.0	19.9	15.5	49,046(100.0)
1994	9.6	16.7	18.2	18.3	22.5	14.7	60,125(100.0)
1995	10.0	15.9	18.3	18.6	25.3	11.9	69,804(100.0)
1996	9.5	15.2	17.5	19.6	26.6	11.5	82,424(100.0)
1997	9.2	13.5	16.6	18.2	24.9	17.6	97,727(100.0)
1998	9.2	12.1	14.9	18.7	26.9	18.2	110,435(100.0)

Source: Ministry of Finance and Economy, *Government Finance Statistics*, various years.

<Table A-4> The Tax Structure in Korea

(Unit: billion won and %)

	1970	1975	1980	1985	1990	1995	1999
National taxes	91.7	90.0	88.3	87.8	80.8	78.8	80.3
1. Internal taxes	71.3	65.5	55.8	55.3	57.6	61.6	59.8
Personal income	21.2	12.9	10.0	10.9	14.2	18.9	16.8
Corporation	10.6	8.4	7.4	8.3	9.7	12.0	9.9
Business activity	7.8	12.8	-	-	-	-	-
Inheritance	0.4	0.7	0.1	0.3	0.9	1.4	1.0
Registration	1.8	2.2	-	-	-	-	-
Assets revaluation	0.2	0.3	0.3	0.1	0.3	0.1	1.1
Real estate speculation control	0.6	0.1	-	-	-	-	-
Excess profits	-	0.0	0.0	0.0	-	0.0	0.0
Excess increased value of land	-	-	-	-	-	0.0	0.0
Liquor	5.5	5.3	4.5	3.7	3.1	2.5	2.2
Value-added	-	-	22.3	21.4	21.0	20.3	21.6
Commodity	8.0	7.6	-	-	-	-	-
Textile	2.7	1.5	-	-	-	-	-
Petroleum products	5.3	6.9	-	-	-	-	-
Transportation	3.4	1.1	-	-	-	-	-
Electricity and gas	1.8	0.3	-	-	-	-	-
Admissions	1.2	0.7	-	-	-	-	-
Specific commodity	-	-	8.8	7.2	5.8	3.6	2.9
Securities transaction	0.0	-	0.0	0.1	0.7	0.7	1.4
Telephone	-	0.6	0.8	1.2	0.8	0.8	1.3
Stamp	0.4	0.8	0.5	0.6	0.6	0.4	0.4
Carry-over	0.5	3.2	0.9	1.4	0.6	0.7	1.3
2. Customs duties	12.8	11.7	11.6	11.5	8.3	6.4	5.0
3. Surcharges	-	4.0	13.1	14.9	14.9	10.8	15.5
Education	-	-	-	2.4	1.6	4.2	5.6
Defense	-	4.0	13.1	12.5	13.3	0.1	0.0
Traffic	-	-	-	-	-	4.7	7.7
Special tax for rural development	-	-	-	-	-	1.8	2.1
4. Monopoly profits	7.6	8.8	7.7	6.1	-	-	-
Local taxes	8.3	10.0	11.7	12.2	19.2	21.2	19.7
1. Ordinary taxes	7.7	9.2	10.1	10.5	17.6	19.3	17.6
Acquisition	2.8	2.7	2.5	2.6	3.5	3.7	3.3
Automobile	1.4	0.8	0.9	0.9	1.3	2.1	2.1
Entertainment & restaurant	1.3	1.1	-	-	-	-	-
Property	1.0	1.8	1.8	1.7	0.7	0.6	0.7
Farmland	0.8	1.3	1.0	0.1	0.0	0.0	0.0
License	0.3	0.3	0.3	0.2	0.1	0.3	0.3
Butchery	0.1	0.0	0.1	0.1	0.0	0.0	0.0
Horse-race	0.1	0.0	0.0	0.1	0.2	0.3	0.4
Residents	-	1.0	1.8	1.5	1.7	2.4	2.7
Registration	-	-	1.9	2.7	4.1	5.0	4.6
Cigarette sales	-	-	-	0.6	4.7	3.0	2.2
Aggregated land	-	-	-	-	1.2	1.7	1.3
2. Earmarked taxes	0.7	1.1	1.4	1.6	1.4	1.7	1.6
City planning	0.6	0.9	0.8	0.8	0.7	0.9	0.8
Fire-fighting & facilities	0.1	0.2	0.2	0.3	0.3	0.3	0.3
Business firm	-	-	0.5	0.5	0.4	0.4	0.4
Regional development	-	-	-	-	-	0.1	0.1
3. Carry-over	-	-	0.1	0.1	0.1	0.3	0.5
Total taxes	Share	100.0	100.0	100.0	100.0	100.0	100.0
	Amount	398	1,545	6,583	13,563	33,215	72,091

Sources: Economic Planning Board, *Korean Statistical Yearbook*, 1975-1999.Bank of Korea, *National Accounts*, 1970-1999National Bureau of Statistics, *Major Statistics of the Korean Economy*, 2000.

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Chapter II. Tax Policy and Resource Allocation in Korea

I. Introduction

The most important aspect of Korea's tax policy in connection with her rapid industrialization has been the tax incentive system. The Korean government has applied various tax incentives, such as a preferential depreciation allowance and tax reductions and exemptions, to induce the private sector to engage in certain economic activities that seemed desirable for industrial development and export growth. Only in a few cases were they employed as countercyclical policy measures.

The purpose of this study is to examine the effects of Korea's tax policy on resource allocation. After reviewing the evolution of the tax incentive system in Korea, an effort is made I summarize some statistical data and available empirical studies in the following sections.

II. Major Tax Incentives and Their Evolution

Korea's complicated tax incentive system includes: (1) incentives for export promotion; (2) incentives for key industries; (3) incentives for small-and medium-sized Firms; (4) incentives for technical innovations; (5) incentives for local industrial development; (6) incentives for foreign investment; (7) countercyclical investment incentives; (8) incentives for energy conservation and environmental protection; (9) incentives for resources development; (10) incentives for business; reorganization; and(11) incentives for social welfare¹⁾.

Since the first 3 types of incentives among the 11 are the most important in terms of size and structural implications, they will be summarized in detail.

1. Tax incentives for export promotion

A fully-fledged tax incentive system for export promotion was not introduced until 1960. A 30 percent corporate tax exemption was allowed on income from export business, and a 20 percent exemption was given to income from the sale of goods and services to foreign military forces based in Korea and from foreign currency income from tourism. In the following year, this system was reinforced by raising the exemption rate to a uniform 50 percent for all foreign-exchange-earnings activities.

The system was replaced in 1973 by two tax-free reserve systems: reserves for losses in the export business and reserves for overseas market development. Under the overseas market development reserves system, 1 percent of the value of total exports can be deducted from

1) See Choi (1988) and Choi et al. (1985) for detailed discussion of the current structure and historical development of tax incentives in Korea.

taxable income for tax-free reserves, and after a two-year grace period, the amount is evenly spread over the following three years and added to taxable income. The export loss reserve system worked on a similar basis except for the method of calculating the maximum reserve amount. Under this system, the reserve amount could not exceed the lesser of either 1 percent of the total export value or 50 percent of the profit from export business.

In 1977, another tax-free reserve system - reserves for price fluctuation - was added to the list of tax incentives for export promotion. The maximum amount that can be reserved for taxable income deduction is 5 percent of the inventory asset value at the end of the accounting period. The reserved amount is added to the taxable income after a one-year grace period.

Finally, export incentives have been provided in the form of a special depreciation system. Although the special depreciation system first became effective in 1962, export industries began to receive special benefits from this system in 1963. Machinery and equipment directly employed for foreign-exchange-earnings activities could be depreciated at rates 30 percent higher than the corresponding statutory depreciation rates. In 1967, two different special depreciation rates were applied to the export share of total sales. If the share was greater than or equal to 50 percent, a 30 percent special depreciation was allowed, whereas if the share was less than 50 percent, the applicable rate was 15 percent. In 1971, the special depreciation rate for firms whose export shares were less than 50 percent was calculated by applying the formula, $30 \text{ percent} \times \text{export share} \times 2$.

Beginning in the early 1970s, however, the government tried to reduce the scope of export incentives. The above-mentioned replacement of the 50 percent corporate tax exemption by two tax-free reserves in 1973 was the most significant change in this direction. In 1975, the system of prior tariff exemptions on imported inputs used in export production was changed to a drawback system.

2. Tax incentives for key industries

Since the creation of the modern corporate tax system in 1949 and onward, a generous tax holiday was provided for the industries deemed “important” to national economic development. Such important industries were mostly heavy industries such as shipbuilding, machinery, basic metal, petrochemicals, and chemical fertilizers. The major tax reforms of 1967 replaced the tax-holiday incentive with an investment tax credit system, while generally maintaining the list of the privileged sectors. From the early 1970s, incentives for heavy industrialization were reinforced. In 1972, to cope with the serious economic recession, an extensive set of investment incentives was introduced. It was not, however, a pure countercyclical measure; instead, it reflected the strong commitment of the policymakers to heavy industrialization. In 1974, there was a major tax reform, under which all major incentives to promote key industries were unified and rearranged under the title of “special tax treatment for key industries” in the Tax Exemption and Reduction Control Law (TERCL). The special treatment provided three optional sets of incentives - tax holidays, investment tax credit, and special depreciation - to qualified firms in the selected heavy industries. Another major tax reform was implemented in 1981, which abolished the tax-holiday option altogether and limited eligibility for the investment tax credit option to the machinery and electronic industries. Hence, the special depreciation system became the most important source of incentive measures for key industries.

A. Tax holiday

A very generous tax-holiday system was introduced with the enactment of the Corporation Tax Law in 1949; Under this system, selected industries were classified into one of two groups, and two

different tax-holiday schedules were applied. To the first group, which included oil refining, steel, shipbuilding, iron and steel making, copper refining, cement manufacturing, and chemical manufacturing industries, a five-year corporate tax exemption of 100 percent was provided. The second group, to which a three-year corporate tax exemption of 100 percent was given, included most of the mining industries and plate-glass manufacturing.

Since then the tax-holiday system underwent several changes. The levels of benefit were substantially reduced in 1954, and later, in the early 1960s, the mix of the two industrial groups was rearranged. In 1963 the benefit to the first group was reinforced by lengthening the 100 percent exemption period to four years. This was later followed by the extensive revision of the Corporate Tax Law in 1967, which completely abolished the tax holidays for the key industries.

However, a few exceptions were still allowed from time to time, by providing tax holidays to such industries as the livestock-breeding industry in 1969 and the naphtha cracking plants in 1970.

B. Investment tax credit

The investment tax credit system became effective in 1968 as part of the tax reform package of 1967. A 6 percent investment tax credit was given to qualified firms operating in selected industries. The eligible industries were shipbuilding, steel and iron, chemical fertilizer, synthetic fiber, automobile, machinery, straw pulp, food processing, petrochemicals, electronic equipment, electrical machinery and equipment, construction, and some mining industries. The introduction of this system was to replace the tax holiday provided under the old tax law. Since tax holidays generally do not influence the level of investment in the replacement or expansion of production facilities, they may have some distortionary effects on the behavior of firms. In this sense, the introduction of investment tax credits was an

improvement, but the actual benefit level was substantially reduced.

In 1970, the TERCL provided a 6 to 10 percent investment tax credit for machinery and equipment investment to the iron and steel manufacturing industries, with the higher rate being applied to larger firms. With the tax reform of 1974, which went into effect in the following year, the 6 percent investment tax credit provided by the Corporation Tax Law and the 6 to 10 percent investment tax credit provided by the TERCL were both replaced by “special tax treatment for key industries.” as discussed in detail below.

C. Tax incentives under the presidential emergency decree of 1972

For the first time in Korea’s modern history of taxation, tax incentives were employed as the centerpiece of the countercyclical investment promotion policy as mandated by the Presidential Emergency Decree for the Stabilization and Growth of the Economy of 1972.

A 10 percent temporary investment tax credit was granted for investments using domestic capital goods manufactured before the end of 1974. At the same time, a special depreciation in the range of 40 percent to 80 percent was allowed for fixed assets directly employed by firms in the key industries. The incentives provided by the Presidential Emergency Decree were absorbed by the “special tax treatment for key industries” clause in the TERCL, and the special depreciation system was provided by the enforcement decree of the corporation tax law of 1975,

D. Special tax treatment for key industries

The special tax treatment for key industries, first introduced by an article in the TERCL at the end of 1974, replaced most of the major

industry-specific incentives provided by the corporation tax law, by the Presidential Emergency Decree of 1972, and by the old TERCL.

Under the new system, eligible firms were given the right to choose one of the following three sets of incentives: (1) a tax holiday of five years, 100 percent tax exemption for the first three years, and 50 percent exemption for the ensuing two years; (2) an investment tax credit of 8 percent for machinery and equipment investment (10 percent for investments using domestic capital goods); or (3) a 100 percent special depreciation. The supported key industries included petrochemicals, shipbuilding, machinery, electronics, iron and steel. Furthermore, in place of the special depreciation provided under the Presidential Emergency Decree, a uniform 60 percent special depreciation was offered to firms that did not qualify for the three optional benefits but were investing in machinery and equipment in the iron and steel, petrochemicals, shipbuilding, and other industries, that is, chemical-fiber, chemical-pulp, marine food processing, and other food processing.

Although the tax reform of 1981 retained the basic framework of the special tax treatment for key industries, it introduced substantial alterations into the system. First, some industries were deleted from the beneficiary list. Second, the method of providing incentives was changed. The investment tax credit option was no longer confined to the machinery and electronics industries. At the same time, the investment tax credit rate was reduced to 6 percent (10 percent for investments using domestic capital goods) from 8 percent. For most of the beneficiaries, therefore, the 100 percent special depreciation system became the only available option. This reform went into effect in 1982, and as a transitory measure, the 100 percent special depreciation was reinforced by a 5 percent investment reserve for that year only, as described previously. In 1983, the investment tax credit rate was halved to 3 percent (5 percent for investments using domestic capital goods), reflecting the downward adjustment of the corporate tax rate.

E. Special depreciation for manufacturing and construction

The special depreciation system was first incorporated into Korea's corporate tax system in 1962. Machinery and equipment that were utilized directly 16 hours or more per day, on an average, qualified for a special 20 percent depreciation. At the same time, a different type of special depreciation was provided to mining, fishing, and electrical power generation industries; this provision, however, was terminated at the end of 1962. The new type of incentive reduced the asset lifetime for tax purposes to two thirds of the statutory lifetime.

In 1969, the 16-hour, 20 percent special depreciation rule was made applicable to heavy construction equipment employed by construction firms. From 1972 on, the 16-hour condition was relaxed to 12 hours. Hence, heavy construction equipment and machinery and equipment utilized directly 12 hours or more per day could enjoy a 20 percent special depreciation as stated in the enforcement decree of the corporation tax law.

In addition, beginning in 1975, a 40 to 80 percent special depreciation was given to newly installed assets using domestic machinery and materials; this provision partly replaced the special depreciation provided by the Presidential Emergency Decree of 1972. The 80 percent special depreciation was applied to the mining, fishing, manufacturing and construction sectors, while the 40 percent version was applied to other sectors. However, this system was discontinued at the end of 1982.

F. Tax Incentives for Small and Medium Firms

When preferential tax treatment is not constrained by industry specification, such a tax incentive scheme I called functional tax incentive. The functional incentive scheme is closer than the industry-specific incentive scheme to the original purpose of providing tax

incentives to correct market failures arising from various causes. In recent years, Korea has seen a growing dominance of the functional tax incentive scheme over the industry-specific scheme, which implies a reduction in distortion in the operation of the market. In the following, a summary is made for two functional tax incentive schemes: tax incentives for small and medium firms (SMFs), and tax incentives for research and development (R&D).

During the 1960s and 1970s, the tax incentives geared specifically to promote SMFs were nominal. In 1968, a 30 percent special depreciation was granted to SMFs operating in the mining or manufacturing sectors for their investment in machinery and equipment. The special depreciation rate was raised to 50 percent by the reform implemented in 1977.

In the 1981 revision of the TERCL, which went into effect in the following year, the investment reserve system was made available to SMFs. The annual reserve limit is 15 percent of the book value of fixed business assets, as evaluated at the end of the previous accounting period. This amount is deducted from taxable income and, if after a grace period of four years the actual investment expenditures exceed the reserve amount, it is evenly spread over the following three years to be added to taxable income. If actual investment expenditures are below the reserve amount, the difference is immediately added to taxable income in the fourth year.

For a market economy to function properly, it must be competitive. Competition depends on the presence of many small firms and the absence of overwhelmingly large ones. In Korea, conglomerates have been dominant forces in domestic production and employment. Switching from the precious policy of the 1960s and 1970s under which most tax incentives were targeted at large firms to capitalize on economies of scale, the government has adopted the policy of helping people with entrepreneurial inclinations and know-how to establish themselves in independent businesses. This change in policy direction

has been revealed by a series of tax incentive measures taken by the government in the early 1980s.

Tax incentives for the establishment of SMFs include those for newly organized firms and those for companies investing in newly organized firms. When SMFs are newly established in the rural districts to run business in the manufacturing, mining, construction, transportation, or fishing industries, or when SMFs are organized in technology-intensive industries, the personal income tax is exempted for the first four years and reduced to 50 percent for the subsequent two years. Furthermore, the property tax on the business assets of newly organized SMFs is reduced by 50 percent for five years, and the acquisition tax and the registration tax are reduced by 50 percent for two years.

Tax incentives for companies investing in newly organized SMFs include (1) nontaxation of capital gains; (2) tax-free reserves for investment loss; and (3) separate taxation on dividend income at a 10 percent rate. With respect to capital gains accruing from the transfer of real estate for business purposes at the time of merger, the personal income tax and the special surtax on corporate income are waived.

III. Effective Tax Rates and Cost of Capital

Computing the benefits of tax incentives and evaluating the extent of their effectiveness are not easy tasks. The benefits of tax incentives can be measured in terms of tax concessions per unit of tax revenue collected, benefit per dollar invested, effective tax rates, and cost of capital. Of course, since all these measurements are interrelated with each other, one can be translated into another.

1. Tax expenditures and benefits from tax incentives

A yearly amount of tax exemption and reduction, usually called tax expenditures under the provision of TERCL and other tax laws in Korea, is summarized in <Table II -1>²⁾. Although the trend is not smooth throughout the whole period covered, tax expenditures as a percentage of tax revenue collected have been declining. The share of tax exemption and reduction in the national tax revenue collected decreased drastically from about 30 percent in the early 1970s to about 10 percent in the mid-1980s. There was a decrease in the absolute amount of tax expenditures in 1983 and 1984 for national taxes and in 1982, 1984, and 1985 for local taxes³⁾.

2) Since the Korean government has not adopted the tax expenditure budget officially, the figures in <Table II -1> are not necessarily exact to a theoretical extent.

3) For more details of tax expenditures in Korea, see Choi (1988).

<Table II -1> Estimates of Tax Exemption and Reduction

(Unit: 100 million won, %)

Year	National Taxes			Local Taxes		
	Tax Revenue (A)	Tax Exemption and Reduction (B)	A/B	Tax Revenue (A)	Tax Exemption and Reduction (B)	A/B
1970	3,648	1,457	30.3	332	n.a.	n.a.
1975	13,910	4,636	28.0	1,588	n.a.	n.a.
1981	58,077	7,657	14.7	7,677	1,084	14.1
1980	72,579	9,157	14.3	9,144	1,379	15.1
1982	83,964	10,470	14.3	11,192	1,240	11.1
1983	100,507	8,304	9.7	13,972	1,727	12.4
1984	108,997	7,899	8.6	15,084	1,506	10.0
1985	118,764	10,668	11.8	16,546	1,400	8.5

Source: Ministry of Finance and Ministry of Home Affairs

<Table II -2> Net Benefit from Tax Incentives per One Dollar Invested in Machinery by Firms in Typical Key Industries(Manufacturing) for Selected Years

Year ^a	Dis-count Rate ^b	Tax Rate ^c	20%(80%) ^{d,e} Special Depreciation	Incentives for Key Industries ^{d,e}				Total ^{e,f}
				Tax Holiday	Special Depreciation	Investment Reserves	Investment	
1963	.525	.20	.008	.185	-	-	-	.186
1968	.560	.45	.017	-	-	-	.060	.077
1970	.498	.45	.018	-	-	-	.060	.078
1973	.333	.40	.056	-	-	-	.060	.166(.156)
1976	.405	.40	.017(0.55)	.367	.065	-	.080(100)	.369(.374)
1982	.305	.38	.016(0.55)	-	.062	.034	.060(100)	.096(.096;.153)
1983	.258	.33	.014	-	.052	-	.030(050)	.052(.052;.064)

Notes: a. The selected year are when major tax reforms were effected.

b. Curb market interest rate is used as a proxy for discount rate.

c. Surtaxes to the corporation tax are not considered.

d. Assumed asset lifetime for tax purposes is 11 years and assumed economic depreciation rate is 11%.

e. The figures in parentheses represent the benefit of investment made with domestically produced machinery. Incentives for export promotion are not considered.

f. Interactions and overlappings of incentives are taken into account when the figures in the Total column are calculated. The figures with asterisks are applicable to the machinery or electronic industries.

Source: Kwack(1984c).

<Table II -2> shows the net benefits from various tax incentives for one dollar of investment for those years during which the major tax reforms were effective. Several interesting features are observed. First, tax incentives rendered the highest benefit during the latter half of the 1970s, as shown in the last column of <Table II -2>. Among the types of preferential tax treatment for key industries provided by TERCL, the tax-holiday option generated the highest support. In fact, one of the main reasons for the 1981 tax reform was to terminate this option. Third, the recent decrease in the interest rate and the statutory corporate tax rate has drastically reduced the benefits of tax incentives.

2. Effective tax rates

In order to examine the role various tax incentives have played in allocating resources among industrial sectors, it is necessary to calculate the effective tax rate by sector. Using a modified version of the effective tax rate formula by D. W. Jorgenson and M. A. Sullivan (Hulten, 1981), Taewon Kwack(1984c) estimated the effective tax rate by sector, as shown in <Table II -3>. According to the estimation, which incorporated a detailed account of Korea's complicated tax incentives over time, the relative size of the incentives provided for the key industries was substantial, particularly so during the latter of the 1970s.

<Table II -3> Effective Marginal Tax Rates by Sector

(Unit: %)

	1973	1975	1978	1980	1981	1982	1983
Processed food, Beverage & Tobacco	50.6	55.1	42.8	46.7	57.1	58.6	39.5
Textile, Leather, Paper & Printing	49.8	54.3	42.1	46.1	56.2	57.6	38.7
Construction materials	50.3	54.6	42.8	46.5	56.6	58.1	39.7
Chemical products (General)	48.9	54.2	41.1	45.3	55.8	57.1	37.6
(Special)	46.3	38.8	29.5	32.0	42.4	50.8	34.8
Basic metal & Metal products (General)	49.0	53.2	41.9	45.5	55.0	56.4	38.4
(Special)	46.0	38.7	31.0	32.9	42.6	50.8	36.0
Machinery, Electrical & Electronic equip (General)	49.3	53.7	42.0	45.8	55.6	57.0	38.4
(Special)	47.1	39.1	30.9	33.0	43.0	51.2	36.0
Statutory maximum tax rates	40.0	40.0	40.0	40.0	40.0	38.0	33.0
Inflation rates in capital goods market(3 year moving average)	17.0	33.7	8.2	19.4	24.3	21.5	9.7

Notes: "General" rates are applicable to firms which are not qualified to get the special tax treatment and the "Special" rates are for qualified firms.

Source: Kwack (1984b)

<Table II -3> also shows that a typical Korean firm has been paying corporate income taxes at an extremely high effective rate in spite of the complicated and numerous tax incentives. It should be noted that the effective tax rate is affected not only by the statutory tax rate and tax incentives but also by the discount rate and the inflation rate. The major reason for the high effective tax rate in Korea is the high inflation in the capital goods market and the tax depreciation system based on historical cost⁴⁾.

3. Cost of capital

One very common and accepted method of examining the effects of

tax incentives on corporate investment behavior is to estimate the marginal cost of capital. There are several different approaches to deriving a cost-of-capital formula for a given economy using a specific type of financial and tax system.

Using the Hall-Jorgenson scheme of the cost of capital, Kwack developed a cost-of-capital formula applicable to the Korean economy. Based on the assumption that the financial resources have been allocated efficiently through the perfectly competitive curb market, his model incorporates not only tax incentives such as tax holidays, tax credit, and tax-free reserves, but also other unique features of the Korean economy including the collateral loan system and export loan system⁵).

4) It should be noted that the model on which the estimation of the cost of capital is based assumes that firms, at the margin, rely on the curb market for their investment financing. Because, in general, firms depend on multiple sources for financing their investments, the assumption that investments are financed through the curb market is somewhat vulnerable. However, in characterizing the investment and financing behavior of Korean firms in the 1960s and 1970s, the assumption made by Kwack can be reasonably justified. First of all, most firms actually relied on the curb market to finance investments even though they also used other financial means. Furthermore, the neoclassical concept of marginal cost of capital is defined on the assumption of perfect financial market. In Korea the curb market can be regarded as an efficient market, though not perfect.

5) The estimation of the cost of capital is based on a rather complicated formula, which incorporates not only the tax system but also the financial system in Korea. For details see Choi et al. (1985, pp. 71-92).

<Table II -4> Cost of Capital by Type of Asset and a Measure of Distortion(all industries)

(Unit: 100 million won, percent)

	Estimated Cost of Capital				Neutral of Capital ^{a)}		Measure of Distortion ^{b)}	
	Buildings & Construction	Machinery & Equipment	Transportation Equipment	All Assets	Machinery & Equipment	All Assets	Machinery & Equipment	All Assets
1963	.365	.426	.430	.391	.546	.507	-.120	-.116
1964	.392	.423	.448	.407	.585	.556	-.162	-.149
1965	.484	.517	.564	.502	.578	.545	-.061	-.043
1966	.529	.601	.717	.600	.597	.546	.004	.054
1967	.497	.581	.694	.578	.595	.536	.014	.042
1968	.524	.589	.669	.582	.591	.533	.002	.049
1969	.570	.649	.742	.657	.552	.491	.097	.166
1970	.491	.603	.665	.586	.539	.466	.064	.120
1971	.438	.541	.612	.529	.508	.440	.033	.089
1972	.297	.401	.488	.402	.422	.362	-.021	.040
1973	.223	.300	.415	.305	.330	.285	-.030	.020
1974	.265	.324	.414	.330	.362	.327	-.038	.003
1975	.314	.371	.489	.394	.349	.316	.022	.078
1976	.309	.385	.495	.392	.371	.328	.014	.064
1977	.263	.371	.496	.376	.369	.315	.002	.061
1978	.263	.416	.542	.408	.420	.351	-.004	.057
1979	.239	.429	.551	.398	.437	.345	-.008	.053
1980	.234	.414	.524	.380	.442	.353	-.028	.027
1981	.168	.318	.419	.296	.333	.261	-.015	.035
1982	.239	.375	.462	.350	.308	.240	.067	.110
1983	.176	.297	.384	.278	.277	.218	.020	.060

Notes: a) Real discount rate and economic depreciation rate.

b) Estimated cost of capital minus neutral cost of capital.

Source: Choi et al. (1985)

An empirical estimation of the cost of capital by Kwack is presented in <Table II -4>, which shows the trends of the cost of capital by type of asset, a proxy for the neutral cost of capital and a measure of

distortion due to tax incentives. The estimated results reveal several interesting features. The absolute level of the cost of capital is rather high, mainly due to the assumption that the curb market is efficient and that firms resort to the curb market for their financing of investments at the margin. Among the types of investment assets, the estimated cost of capital is highest in transportation equipment, while the lowest is in building and construction.

The degree of distortion due to the tax system can be measured by the difference between the estimated cost of capital and neutral or distortion-free cost of capital, where the latter is, by definition, the discount rate plus economic depreciation minus the expected inflation rate. One salient feature of <Table II -4> is that the tax incentive system provided substantial support for investment in machinery and equipment in the early 1960s, the 1972-74 period and the 1978-81 period, as shown by the negative figures of tax distortion. With the introduction of the 1981 tax reform, effective in 1982, tax distortion rose substantially.

4. Effects of Export Tax Incentives

While Korea's export takeoff started from an unusually low base, and was supported by a general expansion of world trade, it would not have been possible without decisive and innovative policies. These included a rationalized exchange regime, strong tax incentives, selective import liberalization, directed credit, and a host of finely tuned, export-promoting schemes. Any proper investigation into the effects of government policy on exports should take into account not only tax incentives but also other policy instruments.

In a recent study, Kwack evaluated the effectiveness of export incentives in promoting exports. One notable aspect of his study is that he provides a base for comparing effects of tax incentives, as explained in some detail above, with those of financial incentives. Kwack based

his estimates of the effects of export incentives on the concept of cost of capital, as shown in <Table II -5>. The effects of the tax and financial incentives are measured by variations in cost of capital when the incentives are individually or jointly introduced. The first four columns of <Table II -5> show the cost of capital based on alternative assumptions about the nature of export incentives, while the last three represent the historical effects of export incentives. The first of the last three columns shows the aggregate effects of both tax and financial incentives because it represents the difference in the cost of capital without either tax or financial incentives, and the cost of capital with both. Likewise, the second-to-last column shows the partial effects of financial incentives, and the last column shows the partial effects of tax incentives.

Several interesting features can be observed from <Table II -5>. First, measured in terms of the cost-of-capital effects, the export sector has been enjoying substantial benefits from the export incentive scheme. Second, the most lavish provision of export incentives was during the 1960s and 1970s, while the effects of the export promotion scheme were notably reduced. Third, the tax incentives to promote exports have played only a minor role, while financial incentives have assumed a major role in the export-led development process, as a comparison of the last two columns shows. The relatively strong effects of the tax incentives during the early 1970s was due to the existence of tax-free reserves. Fourth, the fact that in the 1960s the effects of the financial incentives were greater than the total effect means that, in that period, the tax incentives had actually had a negative effect on export promotion.

<Table 5> Effects of Export Incentives: Cost of Capital

(Unit: %)

Year	Reference Case (A)	All Incentives (B)	Financial Only (C)	Tax Only (D)	(A-B)	(A-C)	(A-D)
1960	40.61	22.58	20.80	38.41	18.02	19.80	2.20
1961	35.87	28.40	26.74	34.76	7.47	9.13	1.11
1962	35.78	24.95	23.63	34.83	10.38	12.15	0.95
1963	42.11	29.98	28.57	39.67	12.13	13.54	2.44
1964	42.56	32.73	29.26	38.21	9.83	13.30	4.36
1965	53.35	38.90	35.71	46.63	14.45	17.64	6.71
1966	63.44	46.89	42.29	53.58	16.55	21.15	9.87
1967	60.03	38.57	34.76	52.48	21.46	25.27	7.55
1968	62.29	37.39	31.95	51.74	24.90	30.34	10.55
1969	66.15	40.03	35.12	53.51	26.11	31.03	12.64
1970	61.85	35.08	30.35	50.74	25.77	31.51	11.11
1971	58.03	33.46	28.81	47.83	24.58	29.22	10.21
1972	42.96	29.28	25.25	37.36	13.68	17.71	5.60
1973	33.29	23.23	24.59	31.15	10.05	8.70	2.13
1974	35.28	21.97	23.23	32.88	13.31	12.05	2.40
1975	42.47	27.50	29.26	39.46	14.97	13.31	3.01
1976	44.94	30.85	32.73	41.85	14.09	12.21	3.09
1977	45.85	32.65	34.64	42.77	13.20	11.21	3.08
1978	54.03	35.88	37.92	50.45	18.15	16.11	3.57
1979	56.08	34.58	36.59	52.29	21.51	19.58	3.79
1980	52.38	32.35	34.11	48.96	20.02	18.27	3.42
1981	38.19	26.07	27.62	35.67	12.12	10.57	2.52
1982	48.09	35.10	36.84	45.48	12.99	11.25	2.60
1983	37.00	30.36	31.66	35.37	6.64	5.34	1.62
1984	35.83	29.93	31.22	34.26	5.90	4.61	1.56
1985	34.89	29.00	30.24	33.37	5.89	4.65	1.52
1986	33.84	28.40	29.62	32.37	5.44	4.22	1.47

Source: Kwack(1988).

IV. Indirect Taxes and Resource Allocation

Indirect taxes have an impact on the sectoral allocation of investment through differences in tax burdens and variations in relative price effects among sectors. <Table II -6> shows an estimate by Kwack (1984a) of average indirect tax rates by sectors and the effects of indirect taxes on the relative price structure, based on the input-output table.

<Table II -6> Average Indirect Tax Rates by Sector and Their Effects on the Relative Price Structure

(Unit: %)

	Indirect Tax Rate			Relative Price Effects		
	1973	1975	1980	1973	1975	1980
Primary	.0047	.0045	.0042	1.0247	1.0227	1.0223
Processed Food	.1018	.1369	.1475	1.1486	1.1827	1.1731
Textile & Leather	.0126	.0245	.0180	1.0711	1.0744	1.0360
Chemicals (Coal & Petroleum Excluded)	.0129	.0101	.0247	1.0878	1.0410	1.0575
Construction Mat.	.0188	.0296	.0249	1.0798	1.0783	0.9998
Basic Metal & Met. Products	.0077	.0151	.0064	1.0755	1.0751	0.9953
General Machinery	.0063	.0189	.0268	1.0592	1.0664	1.0497
Electrical Equipment	.0387	.1150	.0665	1.0999	1.1799	1.0805
Electronic Equipment	.0400	.0714	.0397	1.0974	1.1357	1.0713
Transportation Equip.	.0483	.0417	.0574	1.1057	1.0896	1.0758
Other Manufacturing	.0113	.0256	.0232	1.0657	1.0703	1.0419
Coal & Petroleum Products	.1291	.1214	.0702	1.2014	1.1820	1.0908
Electricity & Gas	.1245	.0510	.0220	1.2250	1.1333	0.7463
Constructing	.0065	.0127	.0551	1.0538	1.0584	1.0624
S.O.C. and Other Service	.0467	.0255	.0167	1.0813	1.0538	1.0071

Source: Kwack(1984a).

As the first three columns of <Table II -6> show, industries with low indirect tax rates are primary, textile and related products, chemical products, construction materials, basic metals and metal products, general machinery, and other manufacturing, while the sectors with relatively high indirect tax rates are processed food, electrical equipment, and coal and petroleum products.

The estimated results of the relative price effects of Korea's indirect tax system⁶⁾, shown in the last three columns, clearly indicate that indirect taxes in Korea have played a noticeable role in affecting the relative price structure.

In 1973 and 1975, before the value-added tax was introduced, the relative price effect did not show much variation, except for the processed food industry, the consumer durable goods sector (such as electrical and electronic equipment industries), and the energy sector (such as coal products and electricity and gas). Due mainly to the VAT

6) The relative price effect is calculated from input-output data based on the following equation:

$$P = \{(C^{-1} - A') + (V - I)C - (V - I)DB' (C^{-1} - A')^{-1}\}P^*$$

where

P is the relative price vector;

C is a diagonal matrix when: diagonal elements are (1 + commodity tax rate) of each sector;

A' is the transpose of the domestic I-O coefficient matrix;

V is a diagonal matrix whose diagonal elements are (1 + VAT rate) of each sector;

I is an identity matrix;

D is a diagonal matrix whose *i*th element is (K_{*i*}/Q_{*i*}), the marginal capital output ratio of the *i*th sector;

B is a capital coefficient matrix;

P* is the vector of value added ratio.

The commodity tax refers to all indirect taxes other than VAT. The first term (C - I - A')⁻¹P* is the relative price vector when there is no VAT. The second term (V - I)CP* is the VAT effect. VAT is levied on the output price, which includes other indirect taxes. The last and most complicated term reflects the VAT return on the purchase of capital goods.

refund on the purchase of capital goods, the uneven effect of indirect taxes on the relative price structure became significant. Throughout the whole period under investigation, the relative price effect of indirect taxes is most notable in the processed food sector, to which the alcoholic beverage industry belongs. The indirect tax system in Korea embodies the will of the government to curtail expenditures on sumptuous goods such as alcoholic beverages and high-priced consumer durables.

V. Concluding Remarks

The characteristics of Korea's fiscal policy during the industrialization period include a relatively small public sector, adherence to a balanced budget, comparatively low taxes, liberal use of tax incentives for investments, heavy reliance on indirect taxes, little significance of property taxes, increased public saving, relatively little spending for redistributive social services, and the budgeting of scarce resources for industrial development.

Long before supply-side economics gained a prominence in theoretical and policy discussions, Korea had practiced the policy implied in supply-side economics. The fact that the fiscal policy in Korea was geared to the policy line of supply-side economics is borne out by the low share of tax and expenditures in GNP, heavy reliance on indirect consumption tax, extensive tax incentives for saving and investment, and less emphasis on welfare spending.

The most important aspect of the tax policy in Korea in connection with her rapid industrialization has been the tax incentive system. The Korean government has applied various tax incentives to induce the private sector to engage in economic activities that seem desirable for industrial development and export growth. Most enterprises have engaged in heavy and chemical industries, and export industries have benefited from these tax incentives.

The question arises as to whether and in what respect the lessons of the Korean experience in tax policies can be transferred to other countries, developed or developing. Although Korea's success in industrialization cannot be attributed to tax policy alone, the Korean experiences do deserve further attention. There has been less appreciation of the role of tax policy in the development of Korean economy mainly because not much has been written in English about its role.

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Chapter III. Tax Policy and Corporate Financial Structure in Korea

I. Introduction

One of the issues of great concern to economists, policymakers, and members of business community in Korea has been the unusually high degree of financial leverage and the continuous deterioration of corporate capital structure in Korea. There seems to be a consensus that the current corporate capital structure is unbalanced and that a balanced and healthy financial structure is a prerequisite for stable and sustained growth of the private sector.

Many involved in the debate over the means to improve the corporate financial structure in Korea have insisted on reforming the Korean tax system without a detailed and rigorous examination of tax factors and nontax factors that led to excessive financial leverage. The tax system has played an important role in the recent increase in corporate debt, but the tax factor alone appears insufficient to explain the trends in the corporate capital structure.

The financial capital structure of business corporations, either individually or in the aggregate, is the joint product of decisions taken by claim-issuing corporations on one side and by claim-holding investors on the other. The capital structure existing at any one time reflects the cumulative result of the entire prior history of corporate decisions on what kind of claims to issue, and how much of each, in response to the circumstances surrounding. Changes in the capital structure over time reflect corporate responses either to changing nonfinancial influences or to changes in the financial market environment, which in turn stem from investors' responses to a wide variety of further economic and noneconomic factors.

In order to interpret and predict the trends in the corporate capital structure, a theory is needed to identify the causal factors underlying them. Since the seminal paper on the theory of capital structure by Modigliani and Miller(1958), several explanations on the causal factors have been offered to answer the questions such as what determines the optimal capital structure, how important are specific institutional factors like taxes, does the external environment exert influence on firms' debt and equity decisions, etc.

Taggart(1985) identifies four classes of theories: the tax savings-bankruptcy costs theory of Modigliani and Miller(1963), the agency costs theory of Jensen and Meckling(1976), the "debt and taxes" model of Miller(1977), and the Miller model combined with the agency costs. These four theories are primarily distinguished by their implications for the shapes and positions of the aggregate supply and demand curves for corporate debt. Taggart uses four frameworks of existing theories on the U.S. experiences to examine a series of measurable influences on corporate capital structure including tax factors, price inflation, supplies of competing securities, and the physical characteristics of corporate investment.

This chapter has two objectives. The first is to develop a theoretical model which accounts for the capital structure of Korean business firms and its change over time and which pays due attention to the factors unique to the Korean environment as well as general in other countries. The second is to examine the validity of the theoretical model by testing the hypotheses derived from the theoretical on the corporate capital structure against the Korean data of the last 25 years.

The chapter consists of six sections. After the introduction in Section I, Section II provides an overview of the corporate capital structure in Korea and makes an intercountry comparison of capital structure among several major countries. Section III undertakes a preliminary step in investigating the determinants of corporate capital structure by examining the tax and nontax factors. Section IV develops

a model of corporate financial structure that extends Miller's model and incorporates the dual structure of financial institutions in Korea. Section V presents an empirical testing of the theoretical model's ability to explain the corporate capital structure trends described in Section II. In Section VI concluding remarks are made.

II. Corporate Capital Structure in Korea: Extent of the Problem

Attempts to identify the trends in corporate financing encounter a variety of measurement problems in terms of relevant indicators and types of data. The simplest approach to assessing patterns in corporate financing is to examine changes in the composition of the liability side of corporate balance sheets, as was adopted by Miller. Since our primary concern is with corporations' relative use of debt and equity financing, we trace developments in the financing of corporations by looking at a few major financial ratios for the corporate sector.

<Table III -1> shows that there has been an undeniable trend toward greater use of debt financing by corporations in Korea over the last 25 years and that Korean corporations are highly leveraged, as reflected in the ratios of net worth to total assets, borrowing to total assets, and debt to equity.

During the early 1960s the ratio of net worth to total asset was 0.5 and the debt to equity ratio was close to 1. Since 1965, the net worth to total asset ratio decreased, and the ratio of debt to equity increased, until 1980, when the economy contracted due to political disturbances. The decrease in the net worth to assets ratio and the increase in the debt to equity ratio during the 1980-1981 period were largely due to a sharp decline in profits during 1980-1981. It is interesting to note that the ratio of borrowing to total assets remained stable during the 1975-1981 period and declined since 1982, indicating that most of the growth in liabilities during 1980 and 1981 was not in the form of loans.

<Table III -1> Financial Structure of Manufacturing Firms in Korea

(Unit: %)

Year	Net worth to total assets	Borrowing to total assets	Debt to equity	Current profit to total assets	Financial expenses to total borrowing
1961	42.4		135.9	5.3	
1962	39.5		153.5	9.1	
1963	52.0		92.2	9.8	
1964	49.9		100.5	7.5	
1965	51.6		93.7	7.9	
1966	45.9		117.7	7.8	
1967	39.8		151.2	6.8	18.1
1968	33.2		20.19	5.3	14.8
1969	27.0	49.6	270.0	3.7	13.4
1970	23.3	47.5	328.4	2.5	14.7
1971	20.2	55.9	394.2	1.0	13.4
1972	24.2	51.4	313.4	3.8	12.0
1973	26.8	38.5	272.7	7.9	8.6
1974	24.0	59.7	316.0	5.7	10.5
1975	22.8	48.3	339.5	3.9	11.3
1976	21.5	48.7	364.6	4.6	11.9
1977	21.4	47.0	350.7	4.5	13.1
1978	21.4	48.0	366.8	5.0	12.4
1979	21.0	48.4	377.1	3.4	14.4
1980	17.0	49.3	487.9	-0.2	18.7
1981	18.1	49.4	451.5	0.0	18.4
1982	20.6	45.9	385.8	1.0	16.0
1983	21.7	43.7	360.3	3.3	13.6
1984	22.6	41.5	342.7	3.4	14.4
1985	22.3	46.7	348.4	3.0	13.4

Source: Bank of Korea, *Financial Statements Analysis*, various issues.

<Table III -2> provides an intercountry comparison of corporate capital structure based on book values. Current debt levels of Korean corporations are clearly high by international standards. The ratio of

net worth to total assets in Korea in recent years is lower than that of Japan, Taiwan, the U.S., and W. Germany while the debt to equity ratio of Korea is higher than that of those countries under comparison.

<Table III -2> Intercountry Comparison of Corporate Capital Structure (Manufacturing)

(Unit: %)

Financial Ratios	Korea		Japan		Taiwan		U.S.A		W. Germany	
	1975	1985	1975	1985	1975	1985	1975	1985	1975	1985
Net worth to total	22.8	22.3	17.0	27.1	38.4	42.7	53.4	45.2	32.1	32.1
Fixed assets to equity	193.1	218.9	218.6	137.8	125.2	104.5	98.7	131.0	151.3	130.6
Debt to equity	339.5	348.4	474.6	268.8	160.6	134.5	86.2	121.2	210.4	211.2

Note: 1) represents the figure for 1977.

Source: Bank of Korea, *Financial Statements Analysis*, various issues.

<Table III -3> Equity to Total Asset Ratios of Listed Firms in Korea, Japan and U.S.A.

(Unit: %)

	Book Value-based			Market Value-based		
	Korea	Japan	U.S.	Korea	Japan	U.S.
1977	29.7	27.6	48.1	27.7	40.6	43.1
1978	22.3	28.1	46.3	28.2	47.1	42.4
1979	21.6	29.1	46.6	17.4	44.1	44.9
1980	17.3	30.1	46.1	11.0	45.4	49.4
1981	18.1	31.7	47.1	11.3	43.8	46.4
1982	19.2	n.a	n.a	10.2	n.a	n.a
1983	19.8	n.a	n.a	11.2	n.a	n.a
1984	19.9	n.a	n.a	12.4	n.a	n.a

Source: E. Han Kim, "Corporate Financial Structure in Korea: Theory, Evidence, and the Need for Reform," *Proceedings of International Convention of Korean Economists*, Korean Economic Association, August 18-19, 1986.

The fact that the ratios of net worth to total assets and debt to equity are about equal in both Korea and Japan should not lead one to conclude that the corporate sectors in both countries have equally high degrees of financial leverage. The intercountry comparison in <Table III-2>, which is based on book values, is highly misleading because book values understate real values in Japan, whereas book values overstate real values in Korea. This difference arises from the fact that in Japan most of the corporate assets have not been revalued since the Second World War, whereas in Korea there have been frequent revaluations of corporate assets.

<Table III-3> reports the market value-based measure of the equity to total asset ratio computed for nonfinancial firms listed on the stock exchange in Korea, Japan, and USA. The market value-based measure shows that Korean corporations have a much lower equity ratio than Japanese corporations and that Japanese corporations' equity ratio is no less than that of American corporations

III. Causes of the Weak Financial Structure

The financial structure of business firms in Korea is unique, and the excessive financial leverage has been caused by factors which are country-specific. By identifying the tax and nontax factors that led to the weak financial structure in Korea, this section attempts to provide a broad perspective of the problem and a background framework for the model to be developed in the next section. The financial structure of Korean business firms has been influenced by many factors. Among the nontax factors, the most important are inadequate development of the financial sector, credit and financial policies characterized by policy loans and artificially low interest rates, structure of savings that has favored debt formation, frequent bail-outs of large corporations, and a variety of social and institutional factors that have impaired the diversification of corporate ownership. Tax factors that have influenced financial decisions of corporations include tax deductibility of corporate interest payments, taxation of presumptive dividends, incomplete adjustment of the tax system for inflation, and incomplete globalization of interest income.

The financial system of Korea has a dual structure, consisting of a highly regulated formal financial sector and an unregulated informal (curb-market) sector. The curb market offers loans to large firms in need of working capital and to small and medium-sized firms that do not have access to the organized financial sector. In an attempt to promote and sustain high rate of economic growth, the Korean government in the past often interfered with market mechanisms and maintained artificially low interest rates. Low interest rate loans deteriorated corporate financial structure, because the subsidized loans replace equity which eligible firms would have raised had there been no such loans. The dual structure of interest rates is a peculiar feature

of Korea. Thus, this characteristic is incorporated into our theoretical model below.

The structure of savings in Korea has changed in a way that favored debt over equity formation. The share of foreign savings was very high. Most foreign savings reached the private sector in the form of loans as a result of restrictions imposed of direct foreign investment. Government savings were channeled to the private sector largely in the form of loans. The government's frequent bail-outs of large corporations have prolonged the lives of many unprofitable corporations. These bail-outs have raised expectation by large firms with regard to their perceived down-side risk of their businesses. These revised expectations have exacerbated the moral hazard problems and magnified the incentive to maximize borrowing.

In Korea, there are several social and institutional factors that deter the diversification of corporate ownership. The desire to solidify the corporate ownership has led shareholders to dislike issuing more stocks.

The Korean tax system is highly responsible for the weak corporate capital structure. It distorts the marginal cost of capital, favoring debt over equity financing. The main features of the Korean tax system that affect the financial decisions of corporations are tax deductibility of corporate interest payments, double taxation of dividends, taxation of presumptive dividends, incomplete adjustment of the tax system for inflation, incomplete loss offset, tax incentives to investment in relation to the total value of investment, and incomplete globalization of interest income. Among these, the first and the last factors merit our discussion below.

Corporate interest payments are tax deductible, whereas returns to stockholders are not. Since the tax deductibility of interest payments reduces the after-tax cost of debt, the unequal tax treatment of debt and equity creates a tax advantage for corporate debt. The tax advantage of debt relative to equity increases with the rate of corporate income tax.

It must be noted that this tax advantage of debt exists not only in Korea but also in other countries.

What distinguishes the tax system of Korea from that of other countries is not at the corporate level but at the personal level. Not only are interest payments fully deductible at the corporate level but also interest income is, at the personal level, subject to separate taxation at a rate much lower than that applicable to dividends under the global income tax. In the process of globalization, the pace of dividend globalization has been much faster than that of interest income. Globalization of interest income has not been as extensive as that of dividend income. The unequal degree of globalization of dividend and interest income and the low effective tax rate on interest income relative to dividend income have made investors prefer debt securities to common stocks. A substantial tax advantage of holding debt securities relative to equities at the personal income tax level is quite a unique Phenomenon in Korea compared with other countries.

IV. A Model of Corporate Financial Structure

1. Formulation of the Model

This section develops a model of corporate financial structure by extending the Miller's model to the Korean tax and financial environment. Consider an investment project which a firm decides to undertake requires I dollars, which will be financed by issuing new stocks, by borrowing, or by a combination of issuing new stocks and borrowing. Assume the operating income from the project to be Y , irrespective of its financing method.

When a firm decides to finance the project by issuing new stocks of $E (= I)$ dollars, without borrowing, after-tax income of the stockholder of the unleveraged firm, X_0 , is

$$X_0 = Y - (Y - pE)t_c = (1 - t_c)Y + pEt_c \quad (1)$$

where p is a fixed percentage of income credit offered to encourage equity financing and t_c is the corporate tax rate.

Now consider an otherwise identical firm which finances the project of I dollars by borrowing only. The firm borrows B_1 dollars from the official financial institution at the regulated interest rate r_1 and B_2 dollars from the curb market at the market interest rate r_2 . Since total proceeds from debt financing is B dollars, $B_1 + B_2 = B = I$. After-tax income of the leveraged firm, X_1 , is

$$\begin{aligned} X_1 &= Y - (Y - r_1B_1 - r_2B_2)t_c - r_1B_1 - r_2B_2 + r_2B(1-t_i) - L(B) \\ &= (1 - t_c)Y + r_2B_2(t_c - t_i) + B_1[r_2(1 - t_i) - r_1(1 - t_c)] - L(B) \end{aligned} \quad (2)$$

where t_i is the personal income tax rate and $L(B)$ is the leverage-

related cost, which mainly comprises of bankruptcy cost and agency cost. The term $r_2B(1 - t_i)$ is the after-tax interest income the stockholder of the firm can receive when he lend B dollars at the market rate instead of making an equity investment in his own company. Since the cost related to leverage increases as the amount of debt financing increases, $\partial L/\partial B > 0$. In reality, $r_2 > r_1$ and $r_2 = f(B_2)$.

When a firm finances the project of I dollars by issuing new stock of E dollars and by borrowing B_1 dollars from regulated financial institutions and B_2 dollars from the curbmarket, after-tax income of the firm, X_2 , is

$$X_2 = Y - (Y - r_1B_1 - r_2B_2 - pE)t_c - r_1B_1 - r_2B_2 + r_2B(1 - t_i) - L(B) \quad (3)$$

Since $I = E + B = E + B_1 + B_2$, Equation (3) can be rewritten as follows:

$$X_2 = (1 - t_c)Y + pIt_c + r_2B_2(t_c - t_i) + B_1[r_2(1 - t_i) - r_1(1 - t_c)] - pBt_c - L(B) \quad (3')$$

The stockholder of the firm will borrow that amount of fund that maximizes the value of the leveraged firm. The optimum amount of debt that guarantees the maximum value of the firm can be found by taking a derivative of X_2 with respect to B .

$$\begin{aligned} \frac{\partial X_2}{\partial B} &= \frac{\partial r_2}{\partial B} B_2(t_c - t_i) + r_2 \frac{\partial B_2}{\partial B} (t_c - t_i) + \frac{\partial B_1}{\partial B} [r_2(1 - t_i) - r_1(1 - t_c)] \\ &\quad + B_1 \frac{\partial r_2}{\partial B} (1 - t_i) - pt_c - \frac{\partial L}{\partial B} \\ &= \frac{\partial r_2}{\partial B_2} B_2(t_c - t_i) + r_2(t_c - t_i) + [r_2(1 - t_c) - r_1(t_c - t_i)] \\ &\quad + B_1 \frac{\partial r_2}{\partial B_2} (1 - t_i) - pt_c - \frac{\partial L}{\partial B} = 0 \end{aligned} \quad (4)$$

Letting $v = \frac{\partial L}{\partial B} = g(B)$ and $r_2 = f(B_2)$ and rearranging Equation (4), we obtain

$$v = g(B) = f'(B_2) B_2(t_c - t_i) + r_2(t_c - t_i) + [r_2(1 - t_i) - r_1(1 - t_c)] + f'(B_2) B_1(1 - t_i) - pt_c \quad (5)$$

The solution to Equation (5) in terms of B will give the optimum amount of debt, B^* , which maximizes the value of the leveraged firm. In order to understand the meaning and to clarify the implication of Equation (5), let's consider the two extreme cases: one where the firm relies solely on the official financial institution to borrow $B = B_1$ dollars at the regulated interest rate and the other where the firm borrows the necessary fund of $B = B_2$ from the curb market at the market rate of interest.

Suppose that the firm raises funds of B through bank loans at low interest rate of r_1 . Under the condition, $B = B_1$ and $B_2 = 0$. Thus, Equations (4) and (5) become

$$\frac{\partial X_2}{\partial B_1} = r_2(t_c - t_i) + (r_2 - r_1)(1 - t_c) - pt_c - \frac{\partial L}{\partial B_1} = 0 \quad (6)$$

$$v_1 = \frac{\partial L}{\partial B_1} = r_2(t_c - t_i) + (r_2 - r_1)(1 - t_c) - pt_c \quad (7)$$

Now consider a firm that finances the project solely by issuing corporate bonds or by mobilizing resources from the curb market. Total amount of borrowing $B = B_2$ and $B_1 = 0$. Now Equations (4) and (5) become

$$\frac{\partial X_2}{\partial B_2} = r_2(t_c - t_i) + B_2 \frac{\partial r_2}{\partial B_2} (t_c - t_i) - pt_c - \frac{\partial L}{\partial B_2} = 0 \quad (8)$$

$$v_2 = \frac{\partial L}{\partial B_2} = r_2(t_c - t_i) + B_2 \frac{\partial r_2}{\partial B_2} (t_c - t_i) - pt_c \quad (9)$$

From Equations (5), (7) and (9), we obtain the following relation:

$$v = v_1 + v_2 + B_1 \frac{\partial r_2}{\partial B_2} (1 - t_i) + pt_c \quad (10)$$

to repeat where

$$v = \frac{\partial L}{\partial B} g(B), v_1 = \frac{\partial L}{\partial B_1} = h(B_1), \text{ and } v_2 = \frac{\partial L}{\partial B_2} = j(B_2) \quad (11)$$

When we denote the optimum amount of borrowing in each case of Equation amount of borrowing in each case of Equations (5), (7) and (9) by B^* , B_1^* and B_2^* , respectively, and when we recognize from Equation (11) that B , B_1 , and B_2 are inverse functions of v , v_1 , and v_2 , respectively, the following relation should hold as long as the relation in Equation (10) holds:

$$B^* > B_1^* + B_2^* \quad (12)$$

Equation (12) shows clearly that the optimum amount of borrowing when the firms rely on two sources of financing, regulated and unregulated, is greater than the optimum amount of borrowing when they rely on one source of financing, regulated or unregulated. As discussed in Section III. Korean firms have been operating under a dualistic financial structure. Therefore, according to the result of Equation (12), Korean firms are more leveraged than their counterparts in the USA and West Germany, where firms rely largely on one unregulated official modern financial institutions for their external financing.

2. Comparative Static Analysis

Discussion of the theoretical model above shows clearly that the optimum amount of debt is influenced by the personal income tax rate, t_i , the corporate income tax rate, t_c , the regulated interest rate, r_1 , and the market interest rate, r_2 . This part of the paper examines how a change in one of these determinants affects the optimum amount of debt or the optimum leverage level of the firm.

For simplicity and without loss of generality, we make the following

assumptions: first, $L(B)$ is twice differentiable and

$$\frac{\partial L}{\partial B} > 0, \quad \frac{\partial^2 L}{\partial B^2} > 0, \quad i, e., \quad \frac{\partial v}{\partial B} > 0;$$

second, as r_1 increases, r_2 increases,

$$i, e., \quad \frac{\partial r_2}{\partial r_1} > 0; \text{ and}$$

third, rates of corporate income tax and personal income tax have no impact on the market interest rate, i.e.,

$$\frac{\partial r_2}{\partial t_c} = 0, \quad \frac{\partial r_2}{\partial t_i} = 0.$$

A. Effects of Change in the Corporate Income Tax Rate

Equation (10) can be rewritten in terms of optimal amount of debt as

$$\begin{aligned} v^* &= v_1^* + v_2^* + B_1 \frac{\partial r_2}{\partial B_2} (1 - t_i) + pt_c \\ &= [r_2(1 - t_i) - r_1(1 - t_c)] + [r_2(t_c - t_i) + B_2 \frac{\partial r_2}{\partial B_2} (t_c - t_i)] \\ &\quad + B_1 \frac{\partial r_2}{\partial B_2} (1 - t_i) + pt_c \end{aligned} \tag{13}$$

Differentiation of v^* with respect to t_c gives

$$\frac{\partial v^*}{\partial t_c} = r_1 + r_2 + B_2 \frac{\partial r_2}{\partial B_2} + p > 0 \tag{14}$$

Since $\frac{\partial B^*}{\partial t_c} > 0$ from the first assumption above, and $\frac{\partial v^*}{\partial t_c} > 0$ from Equation

$$\frac{\partial B^*}{\partial t_c} = \frac{\partial B^*}{\partial v^*} \cdot \frac{\partial v^*}{\partial t_c} > 0 \tag{15}$$

Equation(15) implies that the optimum amount of debt increases as the government raise the rate of corporate income tax.

Furthermore, since

$$r_1 = \frac{\partial v_1^*}{\partial t_c} < \frac{\partial v_2^*}{\partial t_c} = r_2 + B_2 \frac{\partial r_2}{\partial B_2} \quad (16)$$

we can conclude that corporate tax rate increases, the firms that rely on the curb market use more debt than those firms relying on borrowing from the official financial institutions.

B. Effect of Change in the Personal Income Tax Rate

When the personal income tax is raised, the optimum amount of debt de creases, as the following shows. From Equation(13)

$$\frac{\partial v^*}{\partial t_i} = -2r_2 - \frac{\partial r_2}{\partial B_2} (B_1 + B_2)$$

$$\text{Since } \frac{\partial v^*}{\partial t_i} < 0 \text{ from Equation (17) and } \frac{\partial B^*}{\partial v^*} > 0 \text{ as before,} \quad (17)$$

$$\frac{\partial B^*}{\partial t_i} = \frac{\partial B^*}{\partial v^*} \cdot \frac{\partial v^*}{\partial t_i} < 0$$

Since, as similar in Equation(16),

$$-r_2 = \frac{\partial v^*}{\partial t_i} > \frac{\partial v_2^*}{\partial t_i} = -r_2 - B_2 \frac{\partial r_1}{\partial B_2} \quad (18)$$

we can conclude that when the personal income tax rate on interest income increases, the decrease in the amount of debt will be larger with firms that rely on borrowing from the curb market than with firms that rely on official intermediaries lending at low regulated interest rate.

C. Effect of Change in the Regulated Official Interest Rate

By differentiating v^* with respect to r_1 we obtain

$$\frac{\partial v^*}{\partial r_1} = -(1 - t_c) + \frac{\partial r_2}{\partial r_1} [(1 - t_i) + (t_c - t_i)] + \frac{\partial^2 r_2}{\partial B_2 \partial r_1} [B_2(t_c - t_i) + B_1(1 - t_i)] \quad (19)$$

Since the first term on the RHS of Equation (19) has a negative value, and the second and third terms have positive values, the sign of $\partial v^*/\partial r_1$, and therefore for $\partial B^*/\partial r_1$, is indeterminate. There is no way of knowing beforehand whether a change in the official interest rate increases or decreases the optimum amount of debt.

Though the effect of r_1 on B^* cannot be determined, quantitative examination of each term in Equation (19) predicts the negative value for $\partial v^*/\partial r_1$, and therefore for $\partial B^*/\partial r_1$. From practical experience in Korea, $\partial r_2/\partial r_1$ is positive in value by the second assumption above but negligibly small in magnitude because of a time lag effect. If it is accepted that the magnitude of $\partial r_2/\partial r_1$ is small, then the second-order derivative of r_2 , $\partial^2 r_2/\partial B_2 \partial r_1$, can be ignored. The sign of $\partial v^*/\partial r_1$ from Equation (19), therefore, depends on the relative magnitudes of the direct effect, $(1 - t_c)$, and the indirect effect, $\partial r_2/\partial r_1 [(1 - t_i) + (t_c - t_i)]$. Since the direct effect is larger than the indirect effect, one can reasonably assume that $\partial v^*/\partial r_1$ will have negative value. Under the practical assumptions discussed so far we can conclude safely that as the official interest rate increases the optimal amount of debt decreases since

$$\frac{\partial B^*}{\partial r_1} = \frac{\partial B^*}{\partial v^*} \cdot \frac{\partial v^*}{\partial r_1} < 0 \quad (20)$$

Since $\frac{\partial v_1^*}{\partial r_1} = -\frac{\partial r_2}{\partial r_1} (1 - t_i) - (1 - t_c)$, and

$$\frac{\partial v_2^*}{\partial r_1} = \frac{\partial r_2}{\partial r_1} (t_c - t_i) + \frac{\partial^2 r_2}{\partial B_2 \partial r_1} (t_c - t_i)$$

under the practical assumptions discussed above, we have

$$\frac{\partial v_1^*}{\partial r_1} < \frac{\partial v_2^*}{\partial r_1} \quad (21)$$

Equation (21) indicates that when the government increases the official interest rate; *ceteris paribus*, firms relying on borrowings from the official financial intermediaries use less debt than firms relying on the curb market. The reason for this results is quite obvious, *i.e.*, the increase in r_1 exerts a significant influence on the financial cost of the firm when it borrows heavily from the official financial institutions.

D. Effects of Inflation on the Financial Leverage

Popular discussions often mention inflation as a determinant of corporate financial structure. While financial economists would reject the notion that debt financing is advantageous under inflation because it can be repaid in “cheaper dollars,” there is, nevertheless, some basis in capital structure theory for an inflation-induced effect on aggregate financing patterns. Since Korea’s high rate of economic growth was accompanied by a high degree of inflation, it is necessary and worthwhile to examine how inflation has affected the capital structure of corporations in Korea.

Let’s denote nominal interest rates by r_{1n} and r_{2n} real interest rates by r_{1r} and r_{2r} and the inflation rate by i . For the relationship among these variables we have

$$\begin{aligned} (1 + r_{1r})(1 + i) &= 1 + r_{1n} \\ (1 + r_{2r})(1 + i) &= 1 + r_{2n} \end{aligned} \quad (22)$$

From Equation (22) we obtain

$$\frac{\partial r_{1n}}{\partial i} = 1 + r_{1r} > 0$$

$$\frac{\partial r_{2n}}{\partial i} = 1 + r_{2r} > 0 \quad (23)$$

By following the same procedure as in the previous three cases and by incorporating the result of Equation (23) we get

$$\begin{aligned} \frac{\partial v^*}{\partial i} &= \frac{\partial v_1^*}{\partial i} + \frac{\partial v_2^*}{\partial i} + \frac{\partial}{\partial i} [B_1 \frac{\partial r_1}{\partial B_2} (1 - t_i)] \\ &= 2(t_c - t_i) + (r_{2r} - r_{1r}) + t_c(r_{1r} - r_{2r}) \\ &\quad - 2t_i r_{2r} + \frac{\partial^2 r_{2n}}{\partial B_2 \partial i} [B_2(t_c - t_i) + B_1(1 - t_i)] \end{aligned} \quad (24)$$

A priori we cannot tell whether the sign of $\partial v^*/\partial i$ of Equation (24) is positive or negative. However, since $t_c > t_i$, $r_{2r} > r_{1r}$, $t_c < 1$, $r_{1r} < 1$ and $r_{2r} < 1$ and given the fact that multiplication of fractions produces a much smaller number, in the Korean setting, we can conclude that $\partial v^*/\partial i > 0$. Since $\partial B^*/\partial i = (\partial B^*/\partial v^*)(\partial v^*/\partial i)$, we can deduce that $\partial B^*/\partial i > 0$ as long as $\partial B^*/\partial v^* > 0$. In sum, a higher inflation rate leads to higher financial leverage.

V. Empirical Testings

This section attempts to link the theory developed in the preceding section with the financing trends observed in Section 2 in an attempt to interpret and predict the trend and structure of corporate financing. We can summarize the results of the comparative static analysis in the previous section and put them in operational hypotheses. Verbally, financial leverage or the debt-equity ratio(Y) increases as the corporate income tax rate(T_c) or the inflation rate(I) increases and as the personal income tax rate(T_i) or the official interest rate(R_1) decreases. Econometrically,

$$Y = \alpha_0 + \alpha_1 T_c + \alpha_2 T_i + \alpha_3 R_1 + \alpha_4 I + \varepsilon \quad (25)$$

where it is expected that $\alpha_1 > 0$, $\alpha_2 < 0$, $\alpha_3 < 0$ and $\alpha_4 > 0$.

We subjected Equation (25) to empirical testing by using data presented in the appendix and we found the following ordinary least square estimation:

$$Y = -35.415 + 13.533T_c - 5.79T_i - 6.397R_1 + 0.339I \quad (26)$$

(5.02) (1.90) (1.68) (1.87)

$$F(4, 20) = 18.98 \quad R^2 = 0.79$$

where the numbers in parentheses are the values of the t-statistics for the coefficients estimated.

The regression result shows that the signs of the calculated coefficients are in the expected direction and the variables in our model explain about 80 percent of the variations in the trend of debt-equity ratio in Korean business firms over the last 25 years. This result supports our hypothesis quite strongly.

One interesting question to raise at this moment is whether policy variables such as the corporate income tax or the personal income tax affect the optimum amount of debt and therefore the debt-equity ratio with time lag or time lead. It takes time for corporate managers or owners to adjust the debt-equity ratio to changes in policy variables. At the same time it is conceivable that from past experience managers or owners adjust the debt-equity ratio in advance, anticipating changes in policy.

To examine the lead and lag effects of tax rates on the actual debt-equity ratio, following two equations were estimated using the same data set presented in the appendix.

$$Y_t = \alpha_0 + \alpha_1(T_c)_{t-1} + \alpha_2(T_i)_{t-1} + \alpha_3(R_1)_t + \alpha_4 I_t + \varepsilon$$

$$Y_t = \beta_0 + \beta_1(T_c)_{t+1} + \beta_2(T_i)_{t+1} + \beta_3(R_1)_t + \beta_4 I_t + \varepsilon$$

The results of regression analysis of the above different specifications are as follows :

$$Y_t = -69.386 + 14.195(T_c)_{t-1} - 6.589(T_i)_{t-1} - 4.620(R_1)_t + 0.276I_t$$

$$(6.73) \quad (2.43) \quad (1.53) \quad (1.73) \quad (27)$$

$$F(4, 20) = 28.0 \quad R^2 = 0.86$$

$$Y_t = -47.405 + 10.291(T_c)_{t+1} - 1.227(T_i)_{t+1} - 4.410(R_1)_t + 0.628I_t$$

$$(2.80) \quad (0.34) \quad (0.9) \quad (2.9) \quad (28)$$

$$F(4, 20) = 10.16 \quad R^2 = 0.68$$

Comparison of estimated results in Equations (27) and (28) in terms of explanatory power and statistical significance of independent variables shows that there exists a time-lag effect rather than time-lead effect for tax policy variables. That is, Korean firms adjust their debt-equity ratio some time after the change in personal and corporate tax rates.

VI. Concluding Remarks

Every physical investment decision has its financial counterpart. Financial allocations do not simply mirror corresponding physical allocations that would take place in any case. In order to interpret the trends in the corporate capital structure a theory is needed to identify the causal factors underlying them.

This chapter develops a model to account for the excessive leverage and the changes in the corporate capital structure in Korea over the last 25 years, identifying the tax and nontax factors that are general as well as country-specific. The general tax factor includes the deductibility of corporate interest payments, and the country specific tax factor is the effective low tax on interest income relative to dividend income. The inflation rate and a dual financial structure are nontax factors which are general in all countries and unique in Korea, respectively.

An analysis of comparative statics shows that the debt-equity ratio increases as either the corporate income tax rate or the inflation rate increases; it decreases as either the personal income tax rate or government regulated interest rate increases. The empirical testing confirms the prediction of the comparative static analysis. Empirical analysis also supports that Korean business firms adjust their corporate capital structure with some time lag rather than with an anticipation of new tax rates.

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<Appendix Table> Data Used in Empirical Testing

(Unit: %)

Year	Debt-Equity Ratio	GNP Deflator (1975=100)	Corporate Income Tax Rate	Personal Tax Rate on Interest Income	Official Interest Rate
1961	135.9	9.8	21.7	5	17.5
1962	153.5	11.6	19.3	12	15.7
1963	92.2	15.0	23.9	12	15.7
1964	100.5	19.5	28.5	12	16.0
1965	93.7	20.7	28.5	12	26.0
1966	117.7	23.7	32.5	12	26.0
1967	151.2	27.4	32.5	12	26.0
1968	201.3	31.8	43.2	15	25.2
1969	270.0	36.5	40.9	15	24.0
1970	328.4	42.2	40.9	15	24.0
1971	394.2	47.3	40.9	15	22.0
1972	313.4	54.7	36.6	20	15.5
1973	272.7	61.9	36.6	20	15.5
1974	316.0	80.2	36.6	20	15.5
1975	339.5	100.0	35.7	5	15.5
1976	364.6	117.7	35.7	5	18.0
1977	350.7	136.9	35.7	5	16.0
1978	366.8	165.1	35.7	5	19.0
1979	377.1	197.0	36.0	5	19.0
1980	487.9	247.9	36.0	5	20.0
1981	451.5	286.1	37.3	10	17.0
1982	385.8	350.2	36.1	10	10.0
1983	360.3	317.2	31.9	10	10.0
1984	342.7	329.2	31.9	10	10.0
1985	348.4	341.1	31.9	10	10.0

Sources: Bank of Korea, *Yearbook of Economic Statistics*, various issues, and *Financial Statements Analysis*, various issues, and Ministry of Finance, *History of the Korean Tax System*, 1970.

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Chapter IV. Distributional Effect of Taxes in Korea

I. Introduction

The use of micro-data has been popular in evaluating tax and benefit policies around the world, especially in developing the microsimulation mode⁷⁾. In Korea, empirical studies based on micro-data have not been possible as data were strictly closed to the public. Recently, the government changed its policy on data release, making research based on micro-data possible. There are several data-sets in Korea which can be used for research purposes, for example, for the development of a microsimulation model. The most popular micro-data is family income and expenditure survey data, which have been collected every year. It has rich information on various incomes and expenditures. Thus it is useful for research related to income distribution, tax incidence and so on.

Recently, Na and Hyun(1993) developed a microsimulation model based on 1991 family income and expenditure data. It is a comprehensive model that is comparable to the tax-benefit model in England and was used to evaluate several taxes and social security benefits. In particular, it shows an important empirical result on the distributional effect of income tax and indirect taxes.

The purpose of this paper is to show the distribution of income and the distributional effect of taxes by using Na and Hyun's(1993)

7) There are several publications concerning the microsimulation model; Merz(1991) provides a comprehensive survey on the microsimulation model. OECD(1988) explains several models, Feldstein(1983) and the Office of Tax Analysis(1990) show the case of the United States. Bahl, et al.(1993) discusses its use in developing countries.

microsimulation model based on Korean household data, and social security benefits. We used two data-sets; urban household and rural household. These two data-sets have been merged into one for our model. We use the method developed by Atkinson, Gomulka, and Sutherland(1988) to gross-up our dataset for an exact representation of the population for urban household data.

This chapter is organized as follows: First, we review existing studies on distribution of income and tax burden. Second, we explain our data and the methodology for grossing-up. Third, we show our usage of data and several indices to measure the distributional effect. Fourth, we show our empirical results. Finally, we summarize our findings, and make concluding remarks.

II. Distribution of Income and Tax Burden: Existing Studies

This section shows a survey on distribution of income and tax burden in Korea. As micro-data was not accessible by the public, most studies were based on aggregate statistics published by government. As our study uses micro-data, which leads to more rigorous analysis, a survey related to our topics might be useful to highlight our empirical results.

1. Distribution of Income and Wealth

In view of Korea's rapid economic growth the present distribution of income in Korea is judged by many observers to be rather equitable by international standards.

Available figures on the distribution of income in Korea are summarized in <Table IV -1>. The overall distribution of income improved during 1965~70, deteriorated somewhat during 1970~1976, and then improved again during the 1980s, as evidenced by the fact the Gini coefficient fell from 0.344 in 1965 to 0.332 in 1970, rose to 0.391 in 1976, and then fell to 0.336 in 1988. Improvements in the distribution of income during 1965~70 were due to the creation of employment through labor-intensive, export-led growth strategies while the deterioration in income distribution during the late 1970s was caused by large capital-intensive investment and severe inflation. Improvement in the overall size distribution of income can be attributable to price stability, realignment of the industrial incentive system and several government measures targeted at low-income groups.

<Table IV - 1> Income Distribution in Korea

(Unit: %)

Income Decile	1965	1970	1976	1980	1985	1988
1	1.32	2.78	1.84	1.56	2.06	2.80
2	4.43	4.56	3.86	3.52	4.02	4.46
3	6.47	5.81	4.93	4.86	5.24	5.47
4	7.12	6.48	6.22	6.11	6.39	6.39
5	7.21	7.63	7.07	7.33	7.47	7.35
6	8.32	8.71	8.34	8.63	8.76	8.43
7	11.31	10.24	9.91	10.21	10.21	9.79
8	12.00	12.17	12.49	12.38	12.41	11.64
9	16.03	16.21	17.84	15.93	15.42	14.58
10	25.78	25.41	27.50	29.46	28.29	29.09
Bottom 40%(A)	19.34	19.85	16.85	16.06	17.71	19.12
Top 20%(B)	41.81	41.62	45.34	45.39	43.71	43.67
A/B	0.4626	0.4716	0.3716	0.3538	0.4052	0.438
Gini Coefficient	0.3439	0.3322	0.3908	0.3891	0.3631	0.350

Sources: Korea Development Institute and Economic Planning Board.

Though statistics show a recent improvement in the income distribution in Korea, it should be noted that the incomes of self-employed households and unrealized capital gains from real and financial assets were ruled out in these statistics.

Recent reports on wealth and land distribution by S. Kwon at Korea Development Institute and the Public Concept of Ownership of Land(PCOL) Committee provide notions that there might be a discrepancy between statistics and the actual or perceived state of income distribution. According to Kwon, the distribution of wealth was far worse than that of income. The Gini coefficient of wealth distribution is 0.58, while that of income distribution is 0.35. As shown in <Table IV-2> distribution of financial assets is relatively more concentrated on the well-to-do, with the upper 10% of sample households owning 61% of total financial assets, while the bottom 30%

does not own any financial assets. The top 30% of assets holders own 72.1% of financial and real assets in nominal terms.

<Table IV –2> Distribution of Wealth and Land(1988)

(Unit: %)

Income Decile	Wealth			Land
	Financial assets	Real assets	Total assets	
1	0.00	0.00	0.005	0.000
2	0.00	0.01	0.013	0.002
3	0.00	0.02	0.022	0.003
4	0.00	0.03	0.034	0.005
5	0.02	0.05	0.049	0.010
6	0.04	0.07	0.066	0.019
7	0.06	0.09	0.090	0.032
8	0.10	0.12	0.120	0.054
9	0.17	0.17	0.170	0.108
10	0.61	0.44	0.431	0.769

Source: Kwon(1990).

The other report, by PCOL Committee, shows that the Gini coefficient of land ownership distribution is 0.85, and the top 10% of holders own 76.9% of privately held land. It is quite likely that the unequal distribution of financial and real assets (in particular land) severely deteriorates income distribution, partly because the assets are the main sources of income, and partly because the rapid price increase of real assets such as land and housing generate a lot of unearned capital gains.

2. Distribution of Tax Burden

A. Tax Policy and Administration and Tax Burden

Even though enhanced welfare through more equal distribution of

income and wealth has been one centerpiece of every Five-Year Economic Development prepared by the Korean government, no measure of any substance has been taken. Although the litany of equity or better income distribution was always one of the state objectives in all tax reforms in Korea, the Korean tax system does not have a capacity for income redistribution and retains a significant regressive element, as all the empirical studies examined below quite strongly suggest. The method most frequently relied upon to improve equity in the distribution of the tax burden in almost all previous tax reforms has been to change the personal income tax by increasing tax exemptions for low-income groups. This approach has weakened the role that personal income tax plays in the Korean tax structure, thereby reducing the redistributive capacity of the whole tax system.

The public's major discontent lies in their belief that governmental activities themselves have generated rather than reduced income inequalities in Korea. Government policies responsible for worsening income inequities include: (1) subsidies implicit in huge sums of domestic and foreign loans which have accrued mainly to big business at lower effective interest rates, thus contributing to asset formation among the high income bracket; (2) tax policy which has relied heavily on consumption tax rather than on income or property tax and has made excessive tax concessions to capital income; and (3) development-first oriented policy which resulted in many cases in large windfall gains or capital gains, which were not absorbed by the national treasury through the tax system.

The grudge of the typical Korean taxpayer seems to lie not in the fact that tax burdens are unbearably high, but in the fact that he pays more taxes than others of the same income as his. Three major features of the tax system which generate both horizontal and vertical inequities in the tax burden are (1) relatively heavy reliance of tax revenues on indirect taxes; (2) the provision of various tax incentives along with incomplete globalization of personal income tax, and (3) the erosion of

the tax base due to tax evasion and underground activities.

Since Korea depends heavily on indirect taxes for its revenue, the incidence of the indirect tax burden plays a large role in determining the regressiveness or progressiveness of the overall tax burden in Korea. The share of indirect taxes in the total tax revenue is more than 65%. Since, as discussed below, the burden of indirect taxes are quite regressive, the overall tax burden in Korea is nothing but regressive. The major problem is that the special consumption tax, whose very purpose of introduction was to inject some progressiveness into the consumption tax burden, reveals regressiveness in its burden.

One may claim that the various tax incentives rendered to stimulate investment, exports, and economic growth have benefitted many low income earners, not so much by reducing their tax burden, as by creating additional employment. Too many special tax provisions introduced into tax law to accelerate economic growth benefitted only selected groups of taxpayers. The special application of reduced tax rates to certain capital incomes favored high income classes against low wage and salary earners. Likewise, special exclusions, deductions and tax exemptions eroded the tax base and provided higher tax benefits for the high income class than for the low income class.

Within the income tax system the burden has continued to be concentrated on the middle-income class and on wage and salary earners. This is because the government has traditionally mobilized domestic resources for development by reducing the level of consumption through the use of indirect taxes. Expansion of the scope of exemptions in the personal income tax schedule under various tax incentives, which was a ritual in all major and minor tax reforms in Korea, has led the income tax burden to fall more heavily on the middle-income class. A major culprit to this area has been the separate taxation of interest and dividend incomes, which has led to the disparity in income distribution and to the concentrated tax burden on the middle-income class.

The inadequate taxation of interest and dividend incomes has represented one of the most serious problems in Korea's personal income tax system. The problem exists for two reasons. First, most forms of interest and dividend incomes are subject only to a final, separate withholding tax rate of 5 or 10%. Second, a significant amount of such income is unreported, and effectively completely free of tax. A loss of revenue due to separate taxation or tax evasion implies a serious departure from both horizontal and vertical equity in income taxation, and welfare loss due to inefficiencies generated thereby.

<Table IV -3> Separate and Global Taxation of Interest and Dividend Income

(Unit: billion won, %)

	1982		1986		1992		1995	
	Amount	Share	Amount	Share	Amount	Share	Amount	Share
Interest Income:								
Separate taxation	181.2	97.7	281.9	99.9	13,671.2	99.4	20,628.9	99.9
Global taxation	4.3	2.3	1.9	0.1	84.3	0.6	22.9	0.1
Dividend Income:								
Separate taxation	16.1	58.3	23.8	66.5	674.7	59.1	1,489.6	78.7
Global taxation	11.5	41.7	11.9	33.5	466.2	40.9	402.2	21.3

Source: Ministry of Finance.

As shown in <Table IV-3>, in 1995, 99.9% of interest incomes reported to National Tax Administration were separately and finally taxed at the lower withholding rates. Only 0.1% of interest were included in the global income tax base. Among the dividends, only presumptive dividends, dividends from major stockholders of open corporations, and dividends from closed corporations were subject to global taxation and these together account for only 21.5% of reported dividends in 1995. The separate rates of 5%, 10% and 20% (including defence and education surcharges and the inhabitant tax) on interest

and dividend incomes is a very high rate to the low-income people because their income level is well below that bracket whose marginal tax rate attains that level, and a relatively low rate to the rich because their marginal tax rate usually exceeds the separate rate.

The high degree of erosion of the income tax base has been the major source of various problems facing the Korean tax system. The erosion of the tax base arises from two sources: non-taxation or exclusion of some incomes from the tax base and tax evasion. In Korea, income tax on capital gains from the transfer of real properties is administered as a separate tax and capital gain from stock exchanges are accorded non-taxable privileges. Non-taxation of capital gain from selling stocks is a major cause of the substantial erosion of the personal income tax base and provides the greatest advantage to high-income taxpayers, resulting in a big disparity in tax burdens among the different income classes.

The issue of tax evasion is particularly important in the light of evidence that the tax system fails to capture a significant amount of various types of income, as reported in the national income account, shown in <Table IV-4>. One very important point that <Table IV-4> shows is that there are big variations among types of income in the “capture ratio”, defined as income reported on tax returns as a percentage of factor income in the national income account. For example, in 1983 40.2% of the interest income and 51.0% of the dividend income reported in the national income account were subject to taxation. In particular, tax is levied on only 11.8% of rental income.

**<Table IV -4> Comparison of Factor Income Implied by
Personal Income Tax Returns with Factor Income
of National Income Statistics**

(Unit: billion won, %)

	1977			1983		
	National Income (A)	ONTA Returns (B)	B/A	National Income (A)	ONTA Returns (B)	B/A
Compensation of employee	5,845	4,077	69.2	255,875	191,855	75.0
Income from property:	1,886	594	31.6	77,316	34,811	32.1
Rent	670	111	16.6	23,772	2,799	11.8
Interest	844	282	33.4	49,247	19,794	40.2
Dividend	372	134~201	35.9~54.0	4,347	2,218	51.0
Income from unincorporated enterprises:	4,517	2,572	56.9	-	-	-
Non-agriculture	1,956	925	47.2	27,952	21,053	75.3
Agriculture	2,561	1,648	64.4	-	-	-

Source: IMF(1985).

**<Table IV -5> Compare of Under-reported Business Income and
Tax to the Actuality**

(Unit: %)

	Under-reported Income		Tax to the Actual Income	
	At average	Upper limit	At average	Upper limit
1986	12.1	24.8	18.2	39.0
1987	11.3	11.3	17.7	17.0
1988	7.9	14.8	12.8	21.4
1989	11.9	18.4	19.8	24.5

Source: Roh(1992).

The business income and tax are vulnerable to under-report. Keesung Rho recently estimated the magnitude of under-reported business income and tax. <Table IV-5> show that the estimated ratio of the under-reported income and tax to the actual income and actually

tax paid, by the expenditure method, falls in the range of 8~25% and 13~39% in the latter 1980s.

B. Distribution of Tax Burden: Existing Empirical Studies

The study of the effect of a particular tax or a tax system on the distribution of income or economic welfare is what the tax burden or incidence analysis is about. The key question is who actually bears the burden of the resources transferred to the government by tax. The estimation of tax incidence or burden in a country requires the development of a detailed microeconomic data base relating to the level and distribution of consumption of specific commodities. Since sufficient data for an accurate study of tax incidence are not available, empirical studies of tax incidence have been made on rough estimates of many underlying variables and highly simplified analytical assumptions.

A number of empirical studies on tax burden in Korea are available, though they are based on different data and different assumptions. Major results are summarized in <Table IV-6>, <Table IV-7>, <Table IV-8>.

The study by Peter S. Heller of the redistributive impact of the Korean tax system in 1976 shows that regardless of assumptions chosen for the shifting of taxes, the burden of the tax system relative to income is roughly proportional for the top 10%. More specifically, Heller finds that under a regressive set of assumptions the poorest 10% pay about 16.4% of income, almost constant up to the ninth income decile, and then rising to 21.9% in the highest income decile, is shown in <Table IV-6>.

The global income tax, the gift and inheritance tax, the assets revaluation tax, and the farm land tax are the principal progressive elements of the tax system. While indirect taxes such as the VAT, the special consumption tax, the liquor tax, monopoly profits and customs duties are regressive.

Heller's study shows that under more progressive assumptions the direct tax burden is only 0.9% of the income in the lowest decile, 3.65% in the ninth decile, and 11.7% in the highest decile. Under more regressive assumptions the direct tax burden rises from 2.17% of income in the lowest decile to 8.84% in the highest decile. The movement from the schedular income tax to the global income tax increased the income tax burden of the first, sixth and tenth decile of the population by a small margin while for all other decile the burden decreased rather drastically.

According to the study by Seung-Soo Han, the overall tax burden in Korea varies irregularly. Han's study has, for all the years examined, found a U-shaped pattern of tax incidence, with effective tax rates for both the poor and the rich being higher than for the middle-income groups. In the U-shaped incidence pattern, until 1976 the richest group was shouldering a substantially heavier effective burden than the poorest group but thereafter the poorest 40% income decile were shouldering a higher tax burden than the remaining income decile groups. The U-shaped pattern of tax burden is also confirmed by a study by Sang-Dal Shim.

In the study by Han direct taxes and indirect taxes exhibit a very uniform pattern of incidence. The former is progressive along the entire range and the latter regressive in all income brackets.

<Table IV -6> Overall Tax Burden in Korea

(Unit: %)

Income Decile	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . Heller										
National taxes (1976);										
Progressive set assumptions	12.67	13.78	11.69	13.63	13.04	13.81	13.35	12.70	14.02	22.79
Regressive set assumptions	14.35	14.97	12.62	14.88	14.22	15.02	14.55	13.53	14.59	20.10
Local taxes (1976):										
Progressive set assumptions	0.99	0.86	0.76	0.82	0.93	1.05	1.06	1.28	1.60	2.16
Regressive set assumptions	2.06	1.60	1.18	1.44	1.52	1.72	1.55	1.68	1.78	1.51
II . Han										
National taxes (1970)	13.1	12.1	12.2	11.7	11.6	14.9	15.6	15.2	17.1	25.7
National taxes (1976)	15.7	13.4	12.9	13.0	13.0	13.4	13.4	14.5	16.4	22.8
National taxes (1978)	20.4	16.3	14.7	14.3	13.7	13.6	13.2	13.3	13.7	20.2
National taxes (1980)	28.0	19.9	17.6	16.7	15.7	15.3	14.9	14.7	14.8	20.6
III . Shim and Park										
National taxes (1984)	27.33	21.76	20.48	19.76	19.19	19.80	19.97	21.61	23.57	29.00
National taxes (1986)	35.17	20.08	21.25	20.45	20.38	20.45	20.93	21.90	24.10	29.83

<Table IV - 7> Burden of Direct Taxes and the Property Tax in Korea

Income Decile	(Unit: %)									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . Heller										
Corporate income tax (A)	0.04	0.23	0.16	0.20	0.20	0.33	0.28	0.31	0.42	5.03
Corporate income tax (B)	2.12	1.89	1.41	1.93	1.82	1.99	1.99	1.58	1.54	2.17
Schedular income tax	0.04	0.17	0.10	0.17	0.52	1.81	1.81	1.58	4.08	6.07
Global income tax	0.05	0.07	0.04	0.06	0.26	1.42	1.42	1.54	3.23	6.67
II . Han										
Direct taxes:										
1970	2.3	2.4	2.7	2.4	2.5	5.9	6.7	6.4	8.4	16.8
1976	0.0	0.3	0.5	1.1	1.5	2.2	2.6	4.1	6.7	13.7
1978	0.0	0.5	0.9	1.2	1.6	2.2	2.6	3.4	4.7	13.1
1980	0.0	0.5	1.0	1.6	1.8	2.3	2.8	3.5	4.7	11.6
III . Shim and Park(1985)										
Direct taxes										
Corporate income tax	1.85	0.43	1.51	1.48	1.70	1.65	1.85	1.88	2.33	2.88
IV . Heller(1976)										
Property tax (C)	0.15	2.05	0.12	0.15	0.14	0.16	0.15	0.16	0.20	0.56
Property tax (D)	0.54	1.18	0.34	0.37	0.37	0.39	0.33	0.35	0.29	0.14
V . Kim(1985)										
Property tax (E)	0.54	0.45	0.39	0.35	0.38	0.42	0.42	0.45	0.54	0.64
Property tax (F)	0.29	0.25	0.22	0.20	0.27	0.34	0.37	0.41	0.60	0.84

Notes: The following assumptions are made in each case:

A: Recipients of corporate property income bear the tax burden.

B: Burdens are divided: 37.5% on wage earners, 37.5% on consumers, and 25.0% on corporate property income.

C: Consumers of housing services. D: Recipients of property income.

E: Old view of property tax incidence. F: New view of property tax incidence.

<Table IV - 8> Burdens of Domestic Indirect Taxes

(Unit: %)

Income Decile	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . Heller										
1. All households										
(a) Pre-VAT regime	7.42	7.29	6.30	6.73	6.76	7.14	6.73	6.43	6.22	7.00
(b) Post-VAT regime	7.81	7.57	3.29	7.15	6.85	7.22	6.80	6.20	6.20	6.85
2. Nonfarm households										
(a) Pre-VAT regime	7.64	7.83	8.14	7.57	7.73	7.92	7.73	8.31	7.49	7.00
(b) Post-VAT regime	8.39	8.40	8.70	8.29	8.07	8.15	8.03	8.38	7.71	6.85
II . Oh										
1. Based on 1976 data										
(a) Pre-VAT regime	5.93	4.75	4.91	4.79	4.61	4.67	4.51	4.47	4.53	4.12
(b) Post-VAT regime	4.93	4.07	4.22	4.13	3.98	4.01	3.87	3.82	3.92	3.54
2. Based on 1978 data										
(a) Pre-VAT regime	5.82	5.15	5.14	5.09	5.07	4.99	4.90	4.81	4.78	4.54
(b) Post-VAT regime	5.71	4.98	4.97	4.96	4.93	4.85	4.75	4.68	4.62	4.34
III . Han										
1. 1976	15.7	13.1	12.4	11.9	11.5	11.2	10.8	10.4	9.7	9.1
2. 1980	28.0	19.4	16.6	15.1	13.9	13.0	12.1	11.2	10.1	9.0
IV . Lee and Bae	7.34	4.27	3.95	3.89	3.59	3.47	3.37	3.25	3.10	2.85
V . Shim	17.66	13.57	12.55	11.67	10.99	10.72	10.48	10.47	10.14	9.65

Empirical analyses show that the distributional impact of the property tax in Korea is rather sensitive to the assumptions made about the shifting of taxes in question. According to Heller's study the property tax burden is more or less proportional except for the top two decile under the assumption of full shifting of the tax burden to consumers and somewhat regressive under the assumption of the property tax being borne by recipients of property income. In contrast, Kim's study shows that regardless of the "old" or "new" views, the burden exhibits a skewed U-shaped pattern of tax incidence, implying that both the rich and the poor bear a higher burden than the middle-incomes groups.

III. Distributional Effect of Taxes Based on Household Micro–Data

1. Data Description

The data for this study are 1991 household survey data in both urban and rural areas. They are the Family Income and Expenditure Survey data obtained by National Statistical Office for urban area, and Farm Household Economy Survey data obtained by Ministry of Agriculture, Forestry and Fisheries for rural area. As they have different patterns in variable classification, these data were merged into one database for this study.

Population coverage for each data set is shown in <Table IV-9>. Urban and rural households represent 68.2% and 14.2% of total population, respectively, which means that the dataset for our study represents 82.4% of the total population. These data include information about income and expenditure for each household. Rural data was surveyed on an annual basis, however, urban household were surveyed on a monthly basis. Therefore, we need to adjust urban household data to an annual base. For this process, we exclude households for which the information is less than 4 months. This should reduce bias toward some groups, e.g. those who moved, etc.

<Table IV –9> Number of Households in Urban and Rural Areas

(Unit: No. of household, %)

Total Household	Urban Household(A)		Urban Household(B)		A+B	
	No. of household	Ratio	No. of household	Ratio	No. of household	Ratio
11,986,988	8,169,874	68.2	1,702,302	14.2	9,872,176	82.4

We have information about household size and home ownership in urban household. If we know the distribution in population characteristics, it might be possible to intercept our sample as representative of an urban population. However, although we were provided with a separate distribution for each characteristic, we have developed a joint distribution with respect to these two characteristics. To do so, we applied the grossing up methodology developed by Atkinson, Gomulka, and Sutherland(1988) to urban household data.

**<Table IV –10> Comparison between Sample and Population:
Number of Households**

(Unit: No. of household, %)

No. of Household	Population		Sample	
	Size	Ratio	Size	Ratio
2	1,094,763	13.4	520	12.4
3	1,748,353	21.4	928	22.2
4	2,851,286	34.9	1,582	37.8
5	1,707,504	20.9	758	18.1
6	482,023	5.9	269	6.4
7	187,907	2.3	91	2.2
8	65,359	0.8	24	0.6
more than 9	32,679	0.4	10	0.3
Total	8,169,874	100.0	4,182	100.0

2. Grossing-Up for Urban Household Data

<Table IV-10> and <Table IV-11> show comparisons between the sample and population distribution of urban household sample with respect to household size and home ownership.

**<Table IV – 11> Comparison between Sample and Population:
Home Ownership**

(Unit: No. of household, %)

	Population		Sample	
	Size	Ratio	Size	Ratio
Own	3,529,386	43.2	1,727	41.3
Rent with deposit	2,720,568	33.3	1,468	35.1
Rent with deposit and monthly Payment	792,478	9.7	622	14.9
Rent with monthly payment	923,196	11.3	273	6.5
Free	204,246	2.5	92	2.2
Total	8,169,874	100.0	4,182	100.0

Our sample may be divided into two categories, home ownership ($i = 1, \dots, 5$) and household size ($j = 1, \dots, 8$). We denote a set of sample households in i and j group by S_{ij} , and a set of population households in i and j group by N_i and N_j . The total number of population households is denoted by N . Then the relationship among them is as follows:

$$\sum_{i=1}^5 N_i = \sum_{j=1}^8 N_j = N \tag{1}$$

Let P_{ij} denote a weight of i and j sample group to represent the i and j population. Then the sample group (S_{ij}), the i population (N_i) and the j population (N_j) will have the following relations:

$$\sum_{i=1}^5 S_{ij} P_{ij} = N_j \tag{2}$$

$$\sum_{j=1}^8 S_{ij} P_{ij} = N_i \tag{3}$$

where P_{ij} is estimated by using the above relations. Suppose that we know the initial value for Q_{ij} to estimate P_{ij} . Then P_{ij} should be close to Q_{ij} .

We first assume that there is a distance function $d(P, Q)$ to show the distance between P_{ij} and Q_{ij} . We should minimize this distance function, so that it will lead to an estimated P_{ij} . We use the function of Atkinson, Gomulka, and Sutherland (1988) as follows:

$$d(P, Q) = \sum \sum P_{ij} \log(P_{ij} / Q_{ij}) \tag{4}$$

Thus we can estimate P_{ij} by minimizing (4) under the restriction of (2) and (3). We solve this optimization equation, and get the following necessary condition.

$$\log(P_{ij} / Q_{ij}) - S_{ij} (\lambda_i + \lambda_j) + 1 = 0 \tag{5}$$

Where λ is a Lagrangian multiplier, and initial value Q_{ij} should satisfy the following condition. We use an equal weight for the value of Q_{ij} .

$$\sum \sum S_{ij} Q_{ij} = N \tag{6}$$

3. Grossing-Up for Rural Household Data

Our rural household data also need to be grossed-up to represent the population household. We use just one characteristic, that of household size, as we do not have enough information about the population. <Table IV -12> shows the weight for each sample group of rural household. We find that our sample for single household has a much lower proportion than that in the population, which means a higher weight than others.

**<Table IV –12> Comparison between Sample and Population:
Rural Household**

(Unit: No. of household, %)

No. of Household	Population		Sample		Weight
	Size	Ratio	Size	Ratio	
1	127,497	7.5	5	0.5	25,499.4
2	465,231	27.3	262	26.2	1,775.7
3	316,678	18.6	197	19.7	1,607.5
4	296,111	17.4	178	17.8	1,663.5
5	246,775	14.3	186	18.6	1,310.6
6	154,306	9.1	107	10.7	1,442.1
7	69,061	4.1	51	5.1	1,354.1
8	21,534	1.3	13	1.3	1,656.5
more than 9	8,114	0.4	1	0.1	8,114.0
Total	1,702,307	100.0	1,000	100.0	

4. Grossing-up of Financial Income

Our data show several sources of total income for each household: earnings, business income, financial income, rental income. It is well known that financial income is usually under-reported in survey data. <Table IV -13> shows comparisons of various sources of income between our data and aggregate total in National Account. Our data show 74.3% of earnings and other income, and 97.6% of business and agricultural income from the National Account. As our data represent 82.4% of the total population, those figures do not differ significantly. However, we find that financial and rental income in our data were under-reported, with only 27.8% of aggregates in the National Account. We gross-up the financial income of each household by multiplying by this difference⁸⁾.

<Table IV –13> Comparisons between Our Data and National Account

(Unit: billion won, %)

	Urban and Rural Household(A)	National Account (B)	Ratio (A/B)
Earnings and other income	73,288.0	98,697.8	74.3
Business and agricultural income	42,395.5	43,438.2	97.6
Interest, dividend, and rent	4,180.5	15,013.7	27.8
Total	119,864.0	157,149.7	76.3

8) The underreporting behavior differs according to income group. It is generally accepted that high income people underreport their financial income more than low income people. We do not have empirical evidence about under-reporting behavior, so we weight the adjustment equally for each household irrespective of income level.

5. Analysis

A. Calculation of Taxes and Social Security Benefits

We need the information about incomes, taxes, and social security benefits for analysis. Our data contain information about various kinds of income, including interest, dividend, rental income. We use the economic income to measure the degree of income distribution, which includes all types of income before tax and social security benefit.

Our data include the information about tax, however, we have only an aggregated sum from the survey. Our analysis needs detailed information about each type of tax, income tax, value added tax. We calculate the amount of each tax by using the information about income and expenditure for each household. First, we use demographic and economic information to calculate the amount of income tax. We calculate the amount of deduction and expense deduction by considering the size of the household, the age of the people, and the expense for medicine and education. Then we derived an estimate of income tax for each household. Also, we calculate the amount of social security benefit based on demographic and economic characteristics. For indirect taxes, we use expenditure patterns for each household. Our data have more than 500 items that each household spends per year. Some items have exemptions for value added tax, or special excise taxes. We clarify all items for value added tax, special excise tax, liquor tax, and calculate the total amount of each tax for each household. We simulate our data to calculate an amount of taxes and social security benefits.

B. Measurement of Income Distribution

We measure and compare the levels of income distribution before and after taxes and social security benefits. We divide all household

into 10 income groups, and use the income share for each income group. This is the most popular index to find roughly the effect of taxes and social security benefits on income distribution. We also use the Gini coefficient, Atkinson index, and Berliant-Strauss index to summarize the degree of income distribution and the effect of taxation. The Gini coefficient and Atkinson index are frequently used for measuring income distributions. However, they do not provide a full explanation about the characteristics of taxes. Therefore we also use the Berliant-Strauss index to obtain characteristics of taxes, including horizontal equity. The appendix shows an algebraic expression for these three indices.

6. Empirical Results

<Table IV-14> shows the empirical results for income distribution and the effects of taxation and social security benefits. The distribution pattern of economic income before taxes and social security benefits indicates that the lowest 10% income group has 3.09% of total income, and the highest 10% income group has 25.01% of total income. Thus, the income level in the highest income group is 8 times higher than that in the lowest 10% income group. The corresponding Gini coefficient is 0.3138.

We analyze the effect of taxes and social security benefits. The income distribution after income tax has a Gini coefficient of 0.2974, Incorporately this coefficient reduces the level of income inequality. The level of income inequality is decreased as a result of the progressive nature of the income tax structure. The income distribution after adjusting for social security benefits has a coefficient of 0.3127, revealing a slight reduction in income inequality. As social security benefits are given to only a fraction of the households under the poverty line, its distributional effect is negligible.

We analyze the effect of indirect tax on the income distribution. At

<Table IV – 14> Empirical Results on Distributional of Taxes and Social Security Benefit

(Unit: %)

Income Group	Income before Tax and SSB	Income after Income Tax	Income after SSB	Income after SET	Income after LT	Income after VAT	Income after Indirect Tax	Income after Income Tax and SSB	Income after Tax and SSB
Bottom									
10%	3.09	3.25	3.18	3.10	3.09	3.08	3.09	3.35	3.35
20%	4.86	5.08	4.86	4.88	4.86	4.85	4.86	5.08	5.09
30%	6.02	6.25	6.01	6.03	6.01	6.01	6.02	6.24	6.26
40%	7.02	7.27	7.02	7.04	7.02	7.03	7.04	7.27	7.29
50%	7.98	8.23	7.97	7.99	7.98	7.97	7.98	8.22	8.23
60%	9.04	9.23	9.03	9.04	9.04	9.02	9.02	9.22	9.20
70%	10.29	10.39	10.28	10.29	10.29	10.28	10.29	10.38	10.38
80%	11.98	11.98	11.97	11.97	11.98	11.95	11.94	11.97	11.93
90%	14.69	14.48	14.68	14.66	14.70	14.66	14.63	14.47	14.39
100%	25.01	23.82	24.98	24.99	25.02	25.13	25.14	23.80	23.88
Gini	0.3138	0.2974	0.3127	0.3132	0.3141	0.31512	0.3153	0.2962	0.2974
Atkinson	0.0827	0.0749	0.0815	0.0825	0.0829	0.0837	0.0838	0.0737	0.0746
$\epsilon = 0.5$	0.1434	0.1307	0.1395	0.1450	0.1441	0.1488	0.1489	0.1268	0.1282

Notes : SSB(Social Security Benefit), SET(Special Excise Tax), LT(Liquor Tax), VAT(Value Added Tax)

first, the income distribution after compensating for special excise taxes has a Gini coefficient of 0.3132, implying no change in income inequality. The income distribution after liquor tax and value added tax have Gini coefficients of 0.3141 and 0.3152, respectively which are a little higher than those described above. Indirect taxes, including special excise tax, liquor tax, and value added tax, make income inequality worse, as indicated by the Gini coefficient of 0.3153. As indirect taxes are regressive in general, they exacerbate income inequality.

The Gini coefficient of the income distribution after taxes and social security benefits is 0.2974, similar to the distributional effect attributable to income tax alone. Thus, we find that income tax has the most distributional effect, and indirect tax slightly increases income inequality. [Figure IV-1] shows the distributional effect of taxes and social security benefits for each income group. We examine the properties of the Korean tax system by using the effective tax rate for each income group and the Berliant-Strauss index as shown in <Table IV-15>. [Figure IV-2] shows the tax burden for each income group for income and indirect tax. It is clear that income tax is very progressive and indirect tax is proportional and slightly regressive. The average tax burden is 5.79% in income tax, and 3.61% in indirect tax. Thus, the total tax burden in Korea is 9.4% on average.

We measure the properties of each tax by using the Berliant-Strauss index. Income tax shows a high level of progressivity with an indexing of 0.8509. However, special excise tax and liquor tax show proportional properties, which are 0.5910 and 0.7200. Value added and indirect taxes have a regressive property with indices of 0.5697 and 0.5607 and a combined index of 0.7418.

Horizontal equity, which reflects “equal treatment of equals” according to its traditional definition, is high for the special excise tax and liquor tax, with indices of 0.6160 and 0.7439, respectively. However, value added tax shows a higher level of horizontal inequality

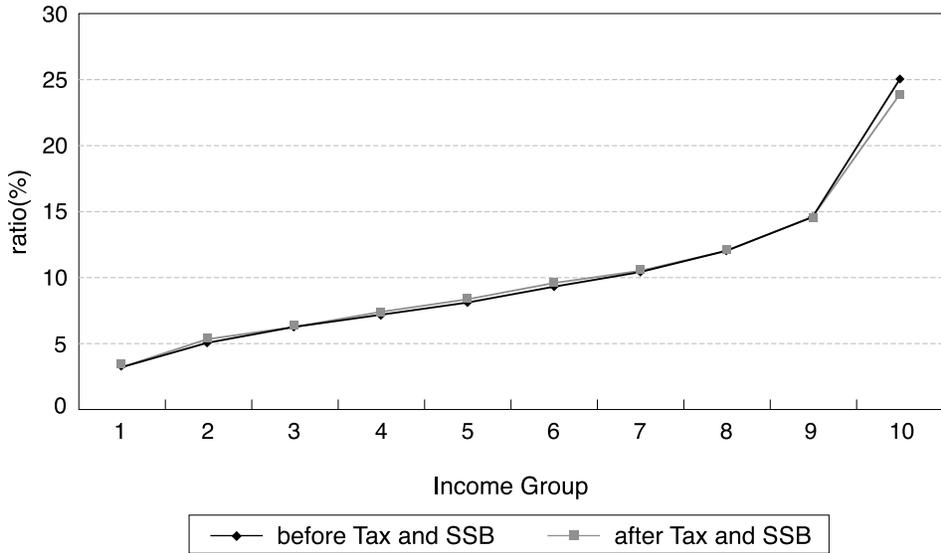
with an index of 0.8455. Income tax shows a high level of horizontal inequality with an index of 0.9122. The income tax system shows a relatively high level of horizontal inequality, as it has many deductions corresponding to demographic characteristics.

<Table IV – 15> Tax Burden by Income Group

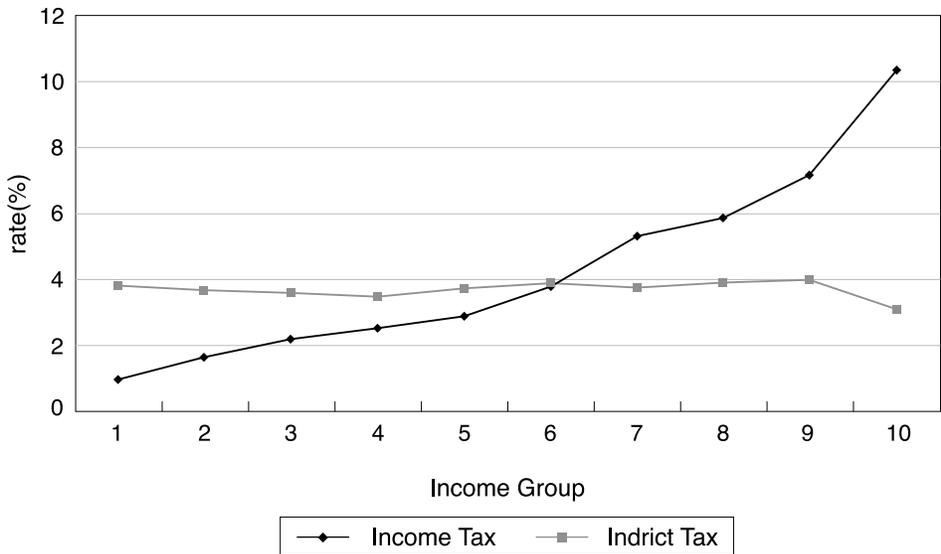
(Unit: %)

Income Group	Income Tax	Indirect Tax	Special Excise Tax	Liquor Tax	Value Added Tax
Bottom					
10%	0.91	3.86	0.31	0.22	3.33
20%	1.58	3.58	0.31	0.20	3.07
30%	2.14	3.52	0.33	0.23	2.97
40%	2.44	3.42	0.40	0.18	2.83
50%	2.86	3.68	0.52	0.16	3.02
60%	3.85	3.88	0.65	0.14	3.08
70%	4.87	3.69	0.59	0.13	2.96
80%	5.77	3.91	0.69	0.12	3.09
90%	7.14	4.05	0.85	0.10	3.09
100%	10.26	3.12	0.66	0.07	2.39
Average Rate	5.79	3.61	0.61	0.13	2.88
B-S Index					
Progressive	0.8509	0.3417	0.2436	0.1388	0.3051
Proportionate	0.0182	0.0976	0.5910	0.7200	0.1252
Regressive	0.1308	0.5607	0.1654	0.1412	0.5697
Horizontal Inequity	0.0878	0.1204	0.6160	0.7439	0.1545

[Figure IV –1] Distributional Effect of Taxes and Social Security Benefits



[Figure IV –2] Tax Burden for Each Income Group



IV. Summary and Concluding Remarks

This study shows the distributional effect of taxes by using micro-data. Urban and rural household data in 1991 were used, and they are merged into one dataset for the analysis. We gross-up urban household survey data following the method developed by Atkinson, Gomulka, and Sutherland(1988).

Our data on income distribution in Korea before taxes and social security benefits shows that the bottom 10% income group has 3.09% of the total income, and the top 10% income group has 25.01%, corresponding to a Gini coefficient of 0.3138. The Korean progressive income tax system shows distributional effects, yielding Gini coefficients that ranged from 0.3138 to 0.2974. However, indirect taxes including the special excise tax, liquor tax, value added tax, do not have a distributional effect.

The use of Berliant-Strauss index shows the properties of the Korean tax system. Income tax has 0.8509 of the progressivity. Special excise tax and liquor tax have 0.5910 and 0.7200 of the proportional relation, respectively. However, value added tax has 0.5697 of the regressivity. Indirect taxes represent the regressive property, which is 0.8798 of the regressivity.

Our study has the following limitation. Our data does not represent the whole population because we do not include about 18% of the households which are single, salary paid households in rural areas. We will incorporate that data when it comes available.

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Appendix: Measurement Indexes

1. Gini Coefficient:

$$G = \sum_i \sum_j \frac{|Y_i - Y_j|}{2 N^2 \mu} P_i \cdot P_j$$

where the subscript i and j represent each household, and income for i is expressed by Y_i . P_i is the weight for each household, and N is the total sample size. μ is the average income for the sample.

2. Atkinson Index:

$$I = 1 - \left[\sum_i \left(\frac{Y_i}{\mu} \right)^{1-\epsilon} \cdot \frac{P_i}{N} \right]^{\frac{1}{1-\epsilon}}$$

$$\mu = \sum_i \frac{Y_i}{N}$$

where income for household i is expressed by Y_i , N is the sample size, and P_i is a weight of each household i . ϵ indicates the degree of inequality.

3. Berliant-Strauss Index:

The Berliant-Strauss Index is a useful construct for measuring the vertical and horizontal equity of the tax system. As this index is fully explained in Berliant and Strauss (1985, 1983), we only show algebraic expressions for the measurement. Each household can be classified into a group according to its effective tax rate (i or $h = 1, \dots, m$) and incomes (j or $k = 1, \dots, n$). Thus, each household will be included in one of mn groups. The Berliant-Strauss index compare each household with the others for all groups, but not with itself. It shows

proportionate, progressive, and regressive relationships with respect to total comparisons. Let's denote that N_{ij} and Y_{ij} are the number of taxpayers and the income in the group with effective tax rate i and income j .

1) Proportionate Relation

$$\theta = \frac{1}{\Delta} \sum_{i=1}^m \sum_{j=1}^n \sum_{\substack{k=1 \\ k \neq j}}^n [N_{ij} \cdot N_{ik} \cdot |Y_{ij} - Y_{ik}|]$$

Where Δ represents the total number of comparison among taxpayers and is expressed as follows:

$$\Delta = \sum_{i=1}^m \sum_{j=1}^n \sum_{h=1}^m \sum_{\substack{k=1 \\ k \neq j}}^n [N_{ij} \cdot N_{hk} \cdot \max \left\{ \frac{i}{h}, \frac{h}{i} \right\} \cdot |Y_{ij} - Y_{hk}|]$$

2) Progressive Relation

$$\begin{aligned} \phi = & \frac{1}{\Delta} \sum_{i=1}^m \sum_{j=1}^n \sum_{h < i}^m \sum_{k < j}^n [N_{ij} \cdot N_{hk} \cdot \frac{i}{h} \cdot |Y_{ij} - Y_{hk}|] + \\ & \frac{1}{\Delta} \sum_{i=1}^m \sum_{j=1}^n \sum_{h > i}^m \sum_{k > j}^n [N_{ij} \cdot N_{hk} \cdot \frac{h}{i} \cdot |Y_{ij} - Y_{hk}|] \end{aligned}$$

3) Regressive Relation

$$\begin{aligned} \gamma = & \frac{1}{\Delta} \sum_{i=1}^m \sum_{j=1}^n \sum_{h < i}^m \sum_{k < j}^n [N_{ij} \cdot N_{hk} \cdot \frac{i}{h} \cdot |Y_{ij} - Y_{hk}|] + \\ & \frac{1}{\Delta} \sum_{i=1}^m \sum_{j=1}^n \sum_{h > i}^m \sum_{k < j}^n [N_{ij} \cdot N_{hk} \cdot \frac{h}{i} \cdot |Y_{ij} - Y_{hk}|] \end{aligned}$$

4) Horizontal Inequity

Horizontal inequity represents the ratio of the number of comparisons which show the relation of unequal effective tax rate for

equal income groups, with respect to total number of comparisons.

$$\beta = \frac{1}{\delta} \sum_{i=1}^m \sum_{j=1}^n \sum_{\substack{h=1 \\ h \neq i}}^m [N_{ij} \cdot N_{hj} \cdot \max(\frac{i}{h}, \frac{h}{i})]$$

$$\delta = \sum_{i=1}^m \sum_{j=1}^n \sum_{\substack{h=1 \\ h \neq i}}^m [N_{ij} \cdot N_{hj} \cdot (\frac{i}{h}, \frac{h}{i})] + \sum_{i=1}^m \sum_{j=1}^n [N_{ij} \cdot (N_{ij}-1)]$$

Chapter V. Environmental Protection and the Role of Tax Policy

I. Introduction

Environmental policies must deal with not only localized pollutions from domestic industrial effluents but also newly recognized international pollutions such as green house effect, the ozone depletion and acid rain. While there are various environmental policy instruments available, different pollution problems may require different policy measures.

It has long been recognized that market-based instruments such as environmental taxes are more cost-effective than command and control systems of regulation. Despite this recognition, most countries have so far been more dependent on the regulatory instruments for various reasons.

However, the new pollution problems and renewed interest in more cost-effective policy instruments to tackle those problems have recently brought attention to the potential benefits of using market mechanisms in environmental policy, such as environmental taxes.

The purpose of this chapter is to examine the role of tax policy for environmental protection and to make some policy suggestions for environmentally related taxes. In doing so, we will draw particular attention to the recent experiences of some Asian-Pacific countries such as the U.S. and Korea.

The organization of the chapter is as follows. Section II briefly surveys and compares merit and demerits of various environmental policy instruments, which include command and control policy, market incentive-based policy and government production/expenditure. Section III then examines, in detail, the types and role of

environmental tax instruments. In particular we will analyze the pros and cons for the tax policy in connection with the environmental protection. Section IV surveys the current status of environmental tax policy in Asian-Pacific countries. Section V examines the effects of environmental tax instruments, collecting some empirical evidences from various countries. Such effects include environmental quality improvement, efficient use of energy, government revenue, price level and income distribution. Section VI then touches on the issue of international aspects of environmental taxes. Finally, in section VII, we will examine how various environmental tax instruments can be used to make the market economy more environmentally friendly.

II. Policy Instruments for Environmental Protection

The efficiency argument for public intervention to solve pollution problems is well established⁹⁾. Therefore, we shall not reiterate the rationale for government intervention for environmental protection here. All we would like to say is that when there exists a negative externality like pollution, the free market mechanism fails to bring about the optimal allocation of resources, i.e., the optimal level of pollution¹⁰⁾. This is because the polluters whose activity imposes harmful effects and costs on other people have no inducement to reduce the damage since the costs are largely borne by others. Therefore, the government must intervene to make the social marginal cost - the sum of original production cost and additional costs due to the damages from pollution - balanced by the marginal benefit from the polluter's activity.

The government interventions, i.e. the environmental policy instruments can broadly be categorized as market (market-based incentive) instruments, command and control instruments and government production/expenditure. These instruments are also distinguished between direct instruments which are directly associated with the amount of damage created or pollutants emitted and indirect instruments which deal with pollution indirectly via related variables such as inputs and outputs. <Table V -1> summarizes these instruments.

9) Baumol and Oates(1979, 1988), Tietenberg(1988)

10) The exception is the Coase(1960) proposition, according to which the government intervention is unnecessary (except to help property rights to an unpolluted environment) if the costs of negotiating and enforcing agreements are zero or negligible and if the income distribution effects can be ignored. In practice, these assumptions are rarely met.

<Table V –1> A Taxonomy of Environmental Policy Instruments

Policies	Direct instruments	Indirect instruments
Market instruments	effluent charges; tradable permits; deposit refund system	environmental taxes and subsidies; earmarked taxes
Command and control instrument	emission regulations	regulations of equipment, processes, inputs, and outputs
Government production/ expenditure	regulatory agency expenditures for purification, cleanup, and enforcement	development of ‘clean’ technologies

Next, we compare the merits and demerits of various environmental policies.

1. Market instruments versus regulation

In principle, any target level of pollution reduction can be achieved either by regulations or economic instruments. In practice, however, each instrument has both advantages and disadvantages. Market mechanisms such as environmental taxes and effluent charges have the following merits:

A. Cost-effectiveness

The principal argument in favor of market-based instruments such as effluent charges is that they are more likely to achieve the pollution abatement at the least cost. This is because while regulatory approaches require extensive information about individual costs and circumstances, using the price mechanism in the form of a tax per unit of emissions economizes on the information needed.

B. Dynamic incentives for innovation

Environmental taxes and other market mechanisms would provide a dynamic incentive for the development of further cost-reducing methods of pollution control, because, even at the static optimum, the environment tax continues to be paid on remaining units of emissions. Environmental tax instruments will give a greater incentive for such innovations than command-and-control regulations, which merely constitute an incentive for the minimum necessary compliance.

C. The lesser risk of regulatory failure

One important source of regulatory failure is the asymmetry of information between regulators and polluters, when the latter can control the flow of information to the regulator. This is the case if a substantial amount of information about the circumstances of individual polluters is required for the regulator to implement a particular policy. Market instruments such as environmental taxes may be less exposed to the risk of such regulatory failure.

D. Revenues

The revenue raised from environmental tax instruments may be regarded as an additional benefit from their use, in that it may reduce the amount of revenue to be raised by other distortionary taxes. Thus they can reduce the net aggregate dead-weight loss from raising revenues.

On the other hand, regulatory measures have the following merits:

- ① The government can exert the maximum direct control over the polluting activities.
- ② Emissions can be eliminated or limited prior to production.

2. Environmental taxes versus subsidies

In principle, both instruments can provide a similar incentive to reduce pollution and reduce pollution by the same level if set at the appropriate levels. They differ, however, on the following four points:

A. Definition of the subsidy baseline

Since the subsidy equivalent to the environmental tax has to be paid on each unit of pollution abated, rather than on each unit of pollution emitted, it is necessary to define a baseline level of emissions against which current emissions will be compared. This requires a complex ‘counterfactual’ assessment of what would have happened in the absence of policy. However, the usual practice is to use the emission levels at the start of the policy as the baseline. The problem with this practice is that it could encourage polluters to increase pollution at the outset, to qualify for higher subsequent subsidy.

B. Effects on entry and exit

The pollution abatement subsidy can reduce the rate of exit from the industry, affecting the evolution of the industry structure over time. The level of pollution from the industry as a whole can actually rise, if the pollution abatement subsidies are used.

C. Public expenditure/revenue

Subsidies add to the public expenditure, and thus require other distortionary taxes to be raised to finance them, whereas environmental tax instruments raise tax revenue, permitting other distortionary taxes to be reduced.

D. Concealed protection

One important practical consideration against the use of subsidies is the risk that over time they may come to constitute a form of protection for the industries concerned. This is because the appropriate level of subsidy to reflect environmental objectives may be difficult to define with any precision, and thus the borderline between justified and unjustified subsidy may be blurred. It may be relatively easy for protectionist pressures to lead the subsidy to be increased.

On the other hand, Bovenberg(1992) argues that subsidies may be promising instruments for unilateral environmental policy, since they will lead to smaller changes in the pattern of trade and factor flows than environmental taxes, and thus involve smaller economic adjustment costs. Thus the subsidy is preferred in the context of the gradual adoption by countries of policies to control an international environmental externality, such as greenhouse effect and acid rain.

3. Environmental taxes versus tradable permits

The principal theoretical consideration in the choice between taxes and tradable permits relates to the impact of uncertainty. Where policy can be based on complete information about both the costs and benefits of pollution control, a chosen optimal level of pollution abatement can be either of the two methods. However, the outcomes of the two methods can be affected differently by the uncertainty about the costs and benefits of abatement.

A system of tradable permits guarantees the quantitative reduction in pollution, but at uncertain cost, while a price-based mechanism such as an environmental tax fixes the marginal cost to polluters of emission controls, but with an uncertain impact on the quantity of emissions. The choice between the two methods thus depends on whether policy error regarding the costs of pollution control would be more damaging

than uncertainty about the quantitative reduction in pollution.

Apart from the uncertainty issue, the tradable permits have the merit of easy introduction without significantly increasing the financial burden on existing polluters by distributing freely the permits to existing polluters. At the same time, however, tradable permits might have the problem of inefficient market. This can occur when permit markets are thin and the supply of permits for trading is small and if polluters are large and can affect the price of tradable permits.

Advantages and disadvantages of various environmental policy instruments are summarized in <Table V -2>.

<Table V –2> Advantages and Disadvantages of Environmental Policy Instruments

	Advantages	Disadvantages
Regulatory Instruments: Emission standards	maximum government control	high monitoring/ enforcement costs
Product/process standards	eliminate/limit emissions prior to production	require close substitutes for banned products
Economic Instruments: Effluent charges	raise revenue; encourage polluters to reduce discharges; encourage innovations in control technology; promote cost savings	involve complex implementation /high monitoring costs
Environmental taxes	encourage consumers to reduce use of products; raise revenue cost-effective	low linkage effect
Earmarked tax	raise revenue; cost-effective	low linkage effect
Tradable permits	promote cost-savings; raise revenue; promote reduction in discharges beyond requirements; encourage innovation in control technology	high transaction costs for firms; complex implementation and high monitoring/ enforcement costs; required well- organized markets
Subsidies	provide incentive to control pollution require low monitoring costs; promote innovation in control technology	perpetuate polluting industries; impose costs on tax payer rather than polluter
Deposit-refund system	encourage recycling; require little government involvement	impose management costs on private sector; may create incentive for counterfeiting

III. Types and Role of Environmental Tax Instruments

The term, 'environmental taxes', seems to be used too vaguely. Therefore, we need to define it clearly before embarking on detailed discussion on this issue. Basically we call as environmental tax instruments all types of tax measure that are employed to reduce environmental damages or to raise revenue for public expenditure related to environmental protection.

These environmental tax instruments in turn consist of three distinct types of taxes: effluent charges, environmental taxes, and earmarked (mutualization) taxes.

Firstly, effluent charges are a sort of direct tax which is directly imposed on the polluters based on the measured quantities of polluting effluent. This tax is most close to the so-called Pigouvian tax, which corrects the externalities of polluting activities.

Secondly, environmental taxes are a sort of indirect tax which is imposed on goods and services associated with environmental damage in production and consumption. Examples include carbon taxes, sulphur taxes, and taxes on batteries and fertilizers, etc.

Thirdly, earmarked (mutualization) taxes are those to raise revenues for particular public expenditures related to environmental protection - e.g., to recover the costs of administering a system of environmental monitoring or regulation, or to pay for public or private expenditures on pollution abatement measures -, rather than to provide incentives to reduce polluting emissions. These revenues are earmarked according to a 'principle of mutualization' to expenditures on pollution abatement which benefit the taxpayers of the tax concerned. Examples are various specific taxes on polluting emissions, such as water pollution. These taxes may or may not have an incentive effect on the level of polluting emissions.

1. Optimal level of an environmental tax

The need for public intervention to control environmental pollution arises because of the externalities of pollution, which are the costs that the polluting individual or firm imposes on other members of society. Government intervention is needed because, without it, the polluter may have no reason to take these external costs into account. The optimal level of an environmental tax can be set by achieving the optimal level of pollution abatement where the marginal social cost of reducing pollution by an additional unit is equal to the marginal social benefit of a one-unit reduction in pollution. Achieving this level requires information on both the structure of marginal abatement costs and the structure of marginal damage costs of pollution. We also need to know the scale of the response to tax change, in terms of the price elasticity of demand for the taxed products.

2. Choice between effluent charges and environmental taxes

The choice between an effluent charge and an environmental tax depends on consideration of two sorts: administration cost and linkage effect. There is trade-off between lower administrative cost and better linkage. Namely, emission charges directly related to the quantity emitted will have higher administrative costs than environmental taxes based on an indirect relationship between the amounts paid in tax and the environmental problem which the tax seeks to correct.

With regard to the administrative costs, the more scope there is for the tax to be incorporated in existing systems of administration and control, the lower will the administrative costs of any new tax be. For example, where the assessment, collection or enforcement of the tax can be 'piggy-backed' on to corresponding operations already undertaken for existing taxes, the costs of an environmental tax instrument may be significantly less than where wholly new

administrative apparatus and procedures are required.

The environmental tax instruments are compared in <Table V -3>.

<Table V -3> Comparison between Environmental Tax Instruments

	Effluent charge	Environmental tax	Earmarked tax
Type of tax	direct	indirect	indirect
Administrative cost	high	low	low
Linkage effect	high	low	low

A number of considerations should be taken into account when choosing among the environmental tax instruments. The factors to be considered are summarized in <Table V -4>.

<Table V -4> Factors to be Considered in Choosing among Various Environmental Tax Instruments

	Effluent charge	Environmental tax	Earmarked tax
Stage of economic development	developed	developed	developing/ developed
Level of information required	high	low	low
Existence of efficient markets	not required	required	required
Priority of policy objectives	pollution abatement	pollution abatement, raising revenue	raising revenue
Effective monitoring/ enforcement capacities	required	not required	not required
Compatibility with existing tax structure	not required	required	required
Complexity of application(method of computing charges)	high	low	low
Compliance with international agreements /appliances.	not required	required	not required

IV. Environmental Tax Policies in Asia–Pacific Countries

1. United States

The United States environmental policy has been dominated by instruments of the command and control type. Recently, deregulation efforts and the success of certain economic instruments (some air emission trading transactions) have given economic instruments a somewhat better chance, although the focus is expected to remain on direct regulation for the time being.

Direct regulations are particularly strong in the field of air pollution control, while economic instruments such as user charges and subsidies have played a stronger role in the field of water pollution control. However, recently, in the field of air pollution control, emissions trading (tradable permit) policies have been introduced, due to the fact that the strict regulatory policies threatened to disrupt economic development.

However, recently, the environmental tax instruments are beginning to draw attention for two reasons. First, there is a widespread sense that regulatory approaches have not proved fully effective in achieving environmental objectives. Second, the huge budget deficit problems have sent policy makers searching for new sources of revenues.

The followings are environmental tax instruments employed at the federal, state and local government levels of the U.S.

A. Effluent charges

1) An annual use tax on “heavy vehicles(trucks)”

The federal government imposes this tax related to the usage of the

heavy vehicles such as trucks.

2) User fees for local solid waste disposal services

There is a limited use of fees for municipal waste services that vary with the level of refuse discarded. Such fees will, in principle, provide a direct incentive to reduce the household's quantity of solid wastes.

B. Environmental taxes

1) An ozone-depleting chemical tax

Introduced on January 1, 1990 and extended effective January 1, 1991, this is a federal excise tax imposed on each pound of ozone-depleting chemicals such as chlorofluorocarbons (CFCs) and halons. The exact amount of tax for a specific chemical is determined by taking a base amount¹¹⁾ for the tax and multiplying it by an ozone-depleting factor¹²⁾ applicable to the particular chemical.

2) An excise tax on trucks and trailers

The federal government levies a 12 percent manufacturers excise tax on trucks and trailers.

3) Excise tax on tires

The federal government levies an excise tax on tires that weigh in excess of 40 pounds.

4) A "Gas Guzzler" tax

The federal government levies this tax on automobiles with

11) The base amount rises over time with an initial value of \$1.37 per pound in 1990, increasing to \$3.10 in 1995 and an additional \$0.45 per year thereafter.

12) The chemical-specific multiplication factors range from 0.1 to 10.0 so that the taxes applicable to particular chemicals vary widely in accordance with their presumed contributions to ozone depletion.

unsatisfactory fuel economy ratings.

5) Severance taxes

These taxes, employed primarily at the state level, are excise taxes levied on the extraction of mineral resources (notably petroleum). Both the level of rates and the definition of the tax base vary widely among the states.

C. Earmarked taxes

1) Gasoline taxes

The primary objective of gasoline taxes has historically not been an environmental one. These taxes have been raised mainly for financing the construction and maintenance of roads and highways. While the tax is not primarily an instrument for environmental management, it clearly has some side effects on environmental, especially air, quality. Gasoline taxes are levied both by the federal and by state government, although, even in combination, the total level of tax rates is low by most European standards.¹³⁾

2) A “feedstock” charges

The federal government levies an excise tax called a “feedstock” charge in order to finance the Superfund program, which provides for cleaning up or removal of inactive or abandoned hazardous waste sites. The feedstock charge is a varying, per-unit levy on a wide range of primary inputs to the production of chemical and petroleum derivatives. The feedstock tax has been supplemented by an “environmental tax”, consisting of an assessment on every corporation of 0.12 percent of the corporation’s minimum taxable income over \$2 million.

13) The federal tax is currently \$ 0.14 per gallon (\$ 0.2 per gallon for diesel fuel), while state gasoline taxes ranges from a high of \$ 0.22 to a low of \$0.4.

3) A federal excise tax on coal sales and on crude oil

There is a federal excise tax on coal sales of \$0.10 per ton for underground mines and \$0.55 per ton for surface mines, and a tax on crude oil of \$0.082 per barrel of domestically produced oil and of \$0.117 per barrel of imported crude. The revenues from most of these excise taxes flow into trust fund for the support of programs related to the taxed activity.

2. Korea

Since the establishment of Office of Environmental Affairs in 1980, Korea has mainly relied on the regulatory measures for environmental protection, such as environmental and emission standards for air and water pollutants. It is as recently as in 1990 that Korean government began to pay attention to the economic instruments, even though charge for synthetic resin waste treatment was introduced in 1980. In 1990, the Office of Environmental Affairs became the Ministry of Environmental Affairs. While Korean government currently uses six market instruments as shown in <Table V -5>, their role in environmental protection is still meager, reflected in their total revenue of US \$ 630 million in 1992. Thus, the effects of these instruments are to be examined as yet. However, interests in these instruments are increasing. Furthermore, the possibility of introducing environmental taxes are being studied in depth by several research institutes, including the Ministry of Finance.

<Table V -5> Current Status of Market Instruments in Korea

(Unit: billion won)

	Payers	Revenue raised for 1992
Effluent charges:		
Charge for environmental improvement	polluting sources such as buildings/facilities and diesel-using car	50 (to be raised in 1993)
Charge for environmental protection project	polluters in environmental protection projects such as waste water treatment facilities	-
Charge for synthetic resin waste treatment	importers/manufacturers of synthetic resin	
Deposit-refund system:		
Deposit for waste recovery/treatment	glass bottle, canned food, cosmetics, batteries, tires, TV, washing machine	28.9
Deposit for managing waste treatment system	installers of burial sites of used waste	-
Effluent charge as penalty	companies violating emission standards	10

Note: 800 won is approximately equivalent to US \$1.

V. The Effects of Environmental Taxes

The environmental tax instruments would affect the price and demand of goods taxed, the quality of environment, revenue, the distribution of income, and the international competitiveness. Those effects will differ depending on the exact type of environmental tax instruments. We shall discuss mainly the effects of environmental taxes here. However, the effects of other measures can be discussed in a similar manner.

1. Effects on the price, demand of goods and on the environmental quality

The primary effects of an environmental tax would be to raise the price of goods concerned, so reducing the amount of the goods demanded by the economy, and also encouraging a reduction in the amount of pollution generated in the production or consumption process of the goods.

For example, a carbon tax would raise the price of energy (coal, oil, gas), so reducing the amount of energy demanded and consequently the amount of carbon used per unit of energy generated. The level of reduction in carbon dioxide emissions would depend on the elasticities of demand for energy. In case of the U.K., it has been calculated that, in order to reduce the U.K. carbon dioxide emissions by 20%,¹⁴⁾ the tax rates for gas, oil and coal would have to be 40%, 54% and 67% respectively in the short term (about one year).¹⁵⁾ These rates could be lower if the aim of reducing pollution is longer term.

14) A 20% target reduction in the level of carbon dioxide emission by 2005 was called for at the meeting in Toronto, 1988.

15) Scott Barrett's example in Pearson and Smith(1990, P. 7)

In the U.S., the ozone-depleting chemical tax has been reported to reduce the demand for CFCs in the manufacture of soft foams.¹⁶⁾ The demand for certain uses of halons, in contrast, appears quite price inelastic because the absence of good substitutes, and is hence unlikely to be affected by the tax. Oates(1992) also estimated that gasoline taxes at the current rates in the U.S. would raise the “typical” price of motor fuels by around 25 percent. This would subsequently encourage the use of more fuel-efficient cars, reducing commuting distances, and increasing the use of mass-transit forms of transportation. Such changes in behavior would reduce auto emission and contribute to improved air quality. Taking -0.7 as a representative estimate of the long run price elasticity of the demand for gasoline, the gasoline taxes in the U.S. were estimated to reduce auto emissions by something on the order of 15 percent. In the case of the severance taxes in the U.S., Deacon(1990) estimated reduction in total oil production resulting from these taxes is 10 to 15 percent.

2. Effects on the revenue

One important argument in favor of the environmental taxes is that the tax raises revenue and at the same time improves economic efficiency, whereas all other tax instruments of raising revenue cause distortion in resource allocation. According to some commentators, this fact allows the environmental taxes a ‘double dividend’¹⁷⁾ in that, in addition to their environmental benefits, they have a second source of gains with their revenue allowing other distortionary taxes to be reduced.

The revenue that would be raised from environmental taxes can be

16) OECD, Environment Committee and Committee on Fiscal Affairs, *Taxation and Environment Country Positions*(A Note by the Delegate from the United States), Paris, 21 May 1991.

17) Pearce(1991), Oates(1991)

substantial, even though its exact level will depend on the rates and price elasticities of supply and demand. What is interesting is that the more effective the tax is, the lower will be the revenue derived from the tax. This means that raising revenue should not be the main objective of designing the environmental taxes.

In the U.S., the ozone-depleting chemical tax was projected to produce revenues of \$890 million in 1991, rising to \$1,380 million by 1996.¹⁸⁾ The federal gasoline taxes generated \$9.96 billion in 1989, while state government revenues were \$18.0 billion.

How the revenue derived from the environmental taxes should be used is an open question, depending on the objective of policy makers and current economic situations. Those revenue could be used for investment for environmental improvement. However, it can be used for other distortionary taxes such as a corporation tax to be reduced. This fact may be particularly useful at the time of the introduction of a new environmental tax, since it may mitigate most producers' concern about the imposition of a new tax. The revenue might be able to be used to redress regressive redistributive effects of the environmental taxes if there exist such effects at all as shown below. This can be done through a package involving increases in state pensions, social security benefits and income tax allowances.

3. Effects on the international competitiveness

In the debate over the introduction of environmental taxes, the issue of international competitiveness normally comes to the fore. In particular, it has been argued that environmental taxes imposed in a country may burden its domestic industries with additional costs and put them at a competitive disadvantage relative to their counterparts in certain other countries that did not introduce such taxes.

18) Oates(1992).

This concern has become that the less developed countries, with their efforts directed toward economic growth rather than environmental protection, will tend to develop a comparative advantage in pollution-intensive industries.

This concern, however, has turned out to be groundless according to a few empirical studies, at least to this point in time. For example, Leonard(1988), in a case study of international trade and investment flows for several key industries and countries, finds little evidence that pollution control measures have exerted a systematic effect on international trade and investment. He concludes that “the differentials in the costs of complying with environmental regulations and in the levels of environmental concern in industrialized and industrializing countries have not been strong enough to offset larger political and economic forces in shaping aggregate international comparative advantages” (p. 231). Tobey(1989, 1990) has also studied the same issue in a large econometric study of international trade patterns in “polluting-intensive” goods. After estimating two sets of equations that explain, respectively, patterns of trade in pollution-intensive goods and changes in trade patterns from 1970 to 1984, Tobey could not find any effects of domestic environmental policies on trade patterns. According to Oates(1992), there are two main reasons for this. One is that the costs of pollution control have not, in fact, loomed very large, even in heavily polluting industries. Such small increments to costs are likely to be swamped in their impact on international trade by the much larger effects of changing differentials in labor costs, swings in exchange rates, etc. The other reason is that all the industrialized nations have introduced environmental measures - and at roughly the same rate - so that such measures have not been the source of significant cost differentials among major competitors. Furthermore, there seems not to have been a discernible movement in investment in these pollution-intensive industries to the developing countries because major political and economic uncertainties have apparently loomed much larger in

location decisions than have the modest savings from less stringent environmental controls.

4. Effects on the distribution of income

The introduction of environmental taxes raises significant distributional concerns. This is because while the tax is normally imposed on energy, the expenditure on energy tends to occupy a significant proportion in the budgets of poorer households.

What matters in assessing the distributional incidence of the burden of an environmental tax is the final incidence rather than the formal incidence. However, assessing the pattern of final incidence of an environmental tax such as a carbon tax would be complex. This is because such tax will have not only direct distributional effects but also indirect distributional effects. The former works through the prices of direct households purchase of energy containing carbon and the latter is due to the tax imposed on industrial purchases of energy whose burden can be shifted to the households or individuals who are the shareholders of each business or employees or customers. Therefore, it is very difficult to quantify all these aspects of the distributional incidence of a general energy tax, which will require sophisticated general equilibrium modelling.

All we can say at the theoretical level regarding the distributional effects of environmental taxes is that the extent to which the burden of the tax will be borne between energy consumers and energy producers will depend on the price elasticities of energy supply and demand. Given the likely low price elasticity of energy demand, there is good reason to believe that a large part of the burden of a carbon tax would be borne by energy consumers.

As far as the direct distributional effect of environmental taxes is concerned, there is a broad measure of agreement that such taxes would be likely to have a regressive distributional impact. For

example, Poterba(1991), Pearson and Smith(1991) and Scott(1991) show such regressive effects in the case of a carbon tax in the U.S., the U.K. and Ireland, respectively.

As regards the indirect distributional effects, it is far more difficult to quantify such effects than the direct ones due to much more substantial data requirement and the complexity of the effects involved.

VI. International Aspects of Environmental Taxes

An environmental tax like a carbon tax is the policy measure required for international pollution problems such as greenhouse effect. This raises an important question: should a country impose a carbon tax only if there is international agreement or is there a case for introducing it regardless of the actions of other countries?

If a country decides to introduce a carbon tax unilaterally, without internationally co-ordinated action, this would have negative effects on the economy of that country. While any reduction in the country's carbon emission would reduce the rate of global warming to the benefit of all countries, but the costs of the carbon tax would be felt mainly in that country. Other countries should in principle compensate that country for the unilateral imposition of a carbon tax, but this seems politically implausible.

Therefore, global introduction of a carbon tax would be the most desirable option. Public finance theory calls for the internalization of international environmental externalities such as greenhouse effect. However, the absence of sovereign international government makes such internalization extremely difficult. Recently, two proposals, international carbon tax and a global commons trust financed by earmarked excise taxes or charges have been proposed.¹⁹⁾ Political realities appear to preclude the early adoption of such measures, but modest improvements in the design and implementation of existing instruments in that direction may be feasible.

In the absence of any international agreement, individual country can still take certain actions which would minimize the industrial

19) Herber(1992).

effects.

For example, changing the relative price of energy inputs is possible with a much smaller impact on the price of energy than the introduction of a full-blown carbon tax - for example, by imposing a tax on coal use, but a subsidy for gas and oil. Another way of reducing the amount of carbon dioxide generated domestically without introducing a carbon tax is to tax 'domestic' use of fuel, but not fuel used as inputs to make other 'tradable' goods. The prices of goods traded in the world market would, then, not be affected.

VII. Conclusion: Scope for Environmental Taxes in Environmental Policy

It seems to be in general agreement that the environmental tax measures are more cost-effective than the regulatory policies which are limited by the informational capacity of regulatory authorities. In spite of its cost-effectiveness, however, there were various reasons why policy makers have been reluctant to apply such measures more actively. The foremost objection to the introduction of such measures normally came from industries and representatives of labor, who claimed that the cost increases and lost jobs would result from the new taxes. Many environment advocacy groups were also very much hostile to such measure by calling them “licenses to pollute” or “putting the environment on for sale”. Even environmental experts often dismissed them as “impractical” and “ineffective”.

However, many countries are now beginning to show considerable interests in exploring the scope for practical applications of environmental tax measures. This trend is partly associated with the current worldwide sentiment in favor of the “market-oriented” economy after the collapse of many centrally planned economies. Moreover, the more traditional command and control policies have not, in the view of many, been highly successful in resolving our environmental problems.

To conclude the paper, we shall return to a number of major issues in the design and introduction of environmental tax measures that should be taken into account to make better use of the tax system for environmental protection.

1. Optimal mix of regulatory and economic instruments

Environmental tax instruments are not likely to replace traditional regulatory instruments, even if effective monitoring and enforcement capacities could be established. Given the experiences so far, efficient environmental management calls for the optimal mix of regulatory and economic instruments, taking into account the following factors (refer to section II):

- stage of economic development of the country concerned;
- level of information required;
- existence of efficient markets for pollution rights;
- necessity of revenue;
- administration costs;
- cost-effectiveness from polluter's viewpoint;
- priority of policy objectives;
- existence of effective monitoring and enforcement capacities;
- desire for economic efficiency;
- compatibility with the existing administrative, political, and judicial frameworks, economic conditions, and tax structure;
- political acceptability of policy instruments;
- complexity of application (e.g., method of computing charges);
- consistency with overall environmental policy;
- compliance with relevant international agreements or appliances.

2. Quantity versus price instruments

In using the market-based incentives for environmental protection, the specific form of these instruments has been the subject of intense debate, especially the choice between the quantity instruments such as tradable permits and price instruments such as environmental taxes. The choice between the two measures depend on the following factors:

- possibility of existence of sufficiently large and competitive permit markets;

- choice between uncertainty over costs and uncertainty over quantity of emissions;
- degree of familiarity of the new policy measures;
- necessity of raising public revenue.

3. The choice among the environmental tax instruments

Once we have decided to introduce the environmental tax measures, the emphasis must be on how such tax measures might be used to make the market economy more environmentally friendly. The key issue to consider would be the choice among the three different measures - effluent charges, environmental taxes and earmarked taxes. The choice would depend on the trade-off between the administrative costs involved in introducing new tax measures and the risks of inadequate linkage between tax base and pollution. The factors considered in choosing among the broad environmental policy instruments as mentioned in 1) above need to be taken into account here as well (refer to section V).

Provided that adequate monitoring and enforcement mechanisms are already in existence, charges would have the most potential for contributing to the achievement of pollution control objectives, among the various environmental tax instruments. This is because charges, based on polluters pay principle, are subject to less resistance. Presumably, starting out with a relatively low charge is a way to test the political waters as well as to determine whether the instrument will have the desired effect.

If raising revenue for financing environmental projects is the main objective and existing monitoring and enforcement mechanisms are not adequate, environmental taxes or earmarked taxes may be the right instrument. While earmarking for the revenues from pollution taxes in several EC countries including France, Germany, and the Netherlands, we need to note that it has some troubling aspects. This is because the

trust funds based on such earmarked tax revenue may have perverse allocative effects when the revenues would be used, as in many cases, to assist polluters in covering their control costs. While the tax is itself to serve as a signal to polluters to guide their decisions on levels of control activities, rebates on control costs would distort this signal.

4. Preexistence of effective monitoring and enforcement capacities

In order for environmental tax instruments to be successfully implemented, preexisting appropriate standards and effective monitoring and enforcement capacities are essential. This is because if monitoring is uncertain and enforcement doubtful, there is little or no reason for a firm to report its emission and pay a tax.

5. Issue of raising revenue

If there is an need for new revenues as in developing countries or developed countries with a chronic budget deficit problem, the environmental tax measures would be preferred to regulatory ones. In this case, a “grandfathering” form²⁰⁾ of tradable permits cannot be used.

6. International competitiveness and international issue

When introducing environmental taxes or earmarked taxes, international competitiveness of goods to be taxed should be taken into account. This is because an environmental tax such as a carbon tax introduced unilaterally in a country, without internationally co-ordinated action, would put its domestic industries at a competitive disadvantage relative to their counterparts in other countries.

20) The environmental authority distribute permits freely among existing polluting sources, rather than allocating the permits by auction.

7. Environmental policies in developing countries

The environmental policy instruments the developing countries should choose must be the ones that are efficient, practical, and equitable under the constraints those governments are subject to. Eskeland and Jimenez(1992) argues that less sophisticated instruments should be considered wherever they can potentially do much of the job in an easy-to-implement, low-cost way. Then monitoring and enforcement capacity can be developed and priorities set for remaining problem sectors or pollutants. Schemes that encourage self-compliance, such as deposit refund systems, should also be considered. The stringent budgetary restrictions in these countries probably strengthen the case for price-based interventions, particularly if the instruments are related only indirectly to damages or emissions.

8. The role of public agencies in the design and administering taxes

The design and administration of environmental taxes should reflect both environmental and taxation objectives. The tax rate should be set so as to realize the joint gains from pollution control and a reduced reliance on other distorting taxes. In practice, however, such an integrated approach to tax policy may not always be possible. The issue here is which public agency would play a dominant role in the design and administering of such taxes, i.e. environmental regulators (such as Ministry of Environmental Affairs and EPA) or a taxing agency. Oates(1992) argues that the environmental regulators must do so. This is because while environmental tax instruments are one of important pollution control measures, to remove such taxes from the environmental authority is likely to constrain quite severely the policy options for environmental management. Consequently, it may force environmental regulators to turn to less effective command and control instruments for pollution control. According to Oates, the tax authority

can view the revenues from such taxes as exogenous (but welcome) revenue source and would then determine rates on other tax bases so as to produce the requisite overall level of revenues.

9. The role of central and local governments in environmental management

Finally, we need to comment on the respective roles of central (or federal) and local governments in environmental management. For issues that clearly transcend local boundaries, such as greenhouse effect and acid rain problems, the centralized management must be responsible. On the other hand, for environmental problems that are of a local character, decentralized environment regulation may be required.

Especially, for those environmental phenomena which are essentially localized in terms of their effects, the optimal standards for environmental quality are likely to vary among jurisdictions in accordance with local preferences and cost conditions. An optimal outcome will thus involve differentiated environmental standards across jurisdictions. Cumberland(1981) objected to this proposition on the grounds of political naivete, because in their eagerness to attract new business investment and jobs, local government may tend to set excessively lax environmental standards. Consequently, they will set too low tax rates on polluting levels of activities. It is feared therefore that economic competition among localities will undermine efforts for environmental protection. Oates and Schwab(1988a, 1988b) have constructed a series of prototypical models of economic competition among decentralized jurisdictions that do not exhibit the kinds of distortions that Cumberland fear. However, their results are not especially robust.

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Chapter VI. Value-Added Taxation: Experiences and Lessons of Korea

I. Introduction

The value-added tax (VAT) is a tax system whereby enterprises are taxed on the value that they add to the goods and services that they purchase from other enterprises. Unlike a retail sales tax, VAT is collected at each stage in the production and distribution process.

VAT was initiated by those with a desire to generate a neutral tax that would provide substantial revenues without reducing the effectiveness and efficiency of the market system in the allocation of capital, labor, and land. The VAT originated in the industrialized countries of western Europe and America. The first suggestions were made in America in 1911 and in Germany in 1918 and the first implementations at the local level were in Michigan in 1953 and at the national level in France in 1954.

In December 1976, the Korean government passed a legislation to bring VAT into effect on July 1, 1977. The introduction of VAT in Korea as a substitute for a plethora of then existing indirect taxes was part of a large scale tax reform in 1976, in which eighteen taxes were newly enacted or amended.

The original interest in VAT in Korea stemmed from the government's efforts to streamline the indirect tax system. Until July 1, 1977, Korea had a complicated system of excise and turnover taxes. The tax reform of 1976 to improve the national tax structure led to the replacement of eight of these taxes by two, the VAT and the special consumption tax, as <Table VI-1> illustrates. The concurrent introduction of the special consumption tax along with the VAT was designed to inject some progressivity into the indirect tax system

through higher taxes on goods and services consumed disproportionately by high income groups.

<Table VI – 1> Indirect Tax Regimes of Pre- and Post-VAT

Pre-VAT regime	Post-VAT regime
Business tax	
Commodity tax	
Textile tax	
Petroleum product tax	Value-added tax
Gas and electricity tax	Special consumption tax
Travel tax	
Admissions tax	
Entertainment and food tax	
Liquor tax	Liquor tax
Telephone tax	Telephone tax
Stamp tax	Stamp tax
Defense surtax	Defense surtax
Profits of fiscal monopolies	Profits of fiscal monopolies

1. Reasons for and Objectives of the Introduction of VAT

The introduction of VAT in Korea was a response to a complex network of political, economic, administrative, budgetary, and tax goals. The reasons for the introduction of VAT in Korea, as announced by the government, include the simplification of the indirect tax system and its administration, the promotion of exports and capital formation, and the preservation of the neutrality of indirect taxes.

VAT was introduced to simplify the previous indirect tax system and its administration. Each of the previous indirect taxes replaced by VAT had its own rate structure as well as a different tax base and administrative procedure. The consolidation and incorporation of numerous indirect taxes into the VAT would simplify the rate structure,

tax base, and administration of the indirect tax system, thereby eliminating the overlapping auditing practices that had plagued the previous system. VAT also represents an important instrument against tax evasion by means of the reciprocal controls exercised by taxpayers themselves.

VAT was implemented to promote exports and capital formation, with the introduction of VAT, exports are zero rated at the final stage of production and rebates are available on taxes paid at earlier stages of production, while the cumulative taxes at earlier stages of transactions in exported goods were either not rebateable or only partly refundable under the previous system. Therefore, it was believed that the introduction of VAT would have a favorable effect on exports which have been the driving force behind the rapid growth of the Korean economy. While the previous indirect tax system did not provide credit for the taxes paid on investment goods, taxes were not to be imposed on capital investment under the new regime of consumption type VAT. Accordingly, the substitution of VAT for previous indirect taxes was thought to encourage capital formation.

The introduction of VAT was strongly recommended because the previous cascade turnover tax system was believed to have the following disadvantages resulting in resource misallocation and inefficiency: first, the turnover tax encouraged vertical integration because the reduction of inter-firm sales reduced total tax liabilities; second, it penalized specialization for the same reason; and third, estimates of the tax content of a price at any particular stage of production were perforce arbitrary, which in turn made indirect tax adjustment at country borders arbitrary. All in all, the adoption of a VAT was regarded as a reform of an unwieldy and distortionary indirect tax system.

Although the government emphasized that the VAT was designed not to increase tax revenue but to remove the baneful effects of the previous gross turnover taxes, it must be stated that the government

expected the VAT to yield the substantial revenue necessary to meet the fiscal demands required for the successful implementation of the Fourth Five-Year Economic Development Plan. The influence of budgetary needs was, if not the only cause, at least an important reason for the decision to establish VAT in Korea.

The VAT is superior to a business tax or a sales tax from the point of view of revenue security for two reasons. In the first place, under VAT it is only buyers at the final stage that have an interest in undervaluing their purchases since the deduction system ensures that buyers at earlier stages will be refunded the taxes on their Purchases. Therefore, tax losses due to undervaluation should be limited to the value added at the last stage. Under a retail sales tax, on the other hand, both retailer and consumer have a mutual interest in underdeclaring the actual purchase price.

Secondly, under VAT, if payment of tax is successfully avoided at one stage nothing will be lost if it is picked up at a later stage, and even if it is not picked up subsequently, the government, will at least have collected the VAT paid at stages previous to that at which the tax was avoided, while if evasion takes place at the final stage the state will lose only the tax on the value added at that point. If evasion takes place under a sales tax, on the other hand, all the taxes due on the product are lost to the government.

In principle, the VAT is believed to be an improvement over other types of indirect taxes. The claimed advantages of the VAT are the following: a reduction in the distortion of trade and consumption as a result of a broader and more uniform basis of taxation; a better instrument for managing the economy; no spillover of the tax into costs, thus improving the balance of payments; and scope for a switch from direct to indirect taxation.

There is a big difference between the theoretical advantages of a hypothetical tax and the actual advantages of a particular form of tax. However simple the VAT may be in theory, the Korean experience with

the VAT in the past seven years makes it clear that it is not simple in practice. It creates a host of problems that give rise to voluminous paperwork, more or less arbitrary distortions in trade and consumption, and inequities in the tax burden.

2. VAT as a Major Source of Revenue

Since its introduction, VAT has become a major source of revenue in Korea, fulfilling the chief, if tacit, goal of the government. <Table VI-2> shows that in 1982, VAT yielded 2,094 billion won, or 22.0% of total tax revenue of the Korean government, national and local, making it by far the single largest tax in Korea. The VAT represents more than 36% of the national taxes on goods and services and accounts for approximately 6.5% of private consumption. However, the VAT, as a percentage of GNP, was only 4.4% in 1982, low compared with that in major European industrial countries.

As indicated in <Table VI-2>, the central government of Korea relies heavily on taxes on goods and services, which account for more than 68% of total national tax revenue. Though the relative importance of indirect taxes in the Korean tax system has been high, there was no significant change in their importance before and after the introduction of VAT. National taxes on goods and services as a percentage of GNP were 10.2% in 1976 and 11.0% in 1978.

The burden of VAT in Korea is still low compared with that in developed industrial countries. The VAT as a percentage of GNP has been around 4% in recent years. The relatively low overall burden of VAT in Korea can be accounted for by the fact that the ratio of total tax revenue to GNP is below 20% in Korea while the figure is well above 30% in most advanced countries.

<Table VI -2> Value-added Tax Yield

(Unit: % and billion won)

Year	Total national and local tax as % of GNP	Value-added tax						National tax on goods and services		
		Amount	as % of total national and local tax	as % of total national tax	as % of total tax on goods and services	as % of private consumption	as % of GNP	Amount	as % of total national tax	as % of GNP
1970	14.8	-	-	-	-	-	-	223	61.1	8.3
1972	13.0	-	-	-	-	-	-	296	62.2	7.3
1974	13.9	-	-	-	-	-	-	580	63.5	7.9
1976	17.4	-	-	-	-	-	-	1,358	64.9	10.2
1977	17.4	242	8.2	9.2	13.5	2.2	1.4	1,793	68.4	10.5
1978	17.9	839	20.4	23.0	33.2	5.9	3.6	2,527	69.2	11.0
1979	18.4	1,089	20.3	22.9	33.3	6.0	3.7	3,270	68.7	11.2
1980	19.2	1,471	22.4	25.3	35.8	6.4	4.2	4,104	70.7	12.0
1981	19.3	1,805	22.1	24.9	36.0	6.3	4.2	5,009	69.0	11.8
1982	19.8	2,094	22.0	24.9	36.8	6.7	4.4	5,696	67.8	11.8
1983	-	2,559	-	25.4	-	-	-	-	-	-

Sources: National Tax Service, *Statistical Yearbook of National Tax*. Various issues.

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II. Calendar of VAT Events and Implementation of VAT

The process of introducing the VAT in Korea and the major changes since its introduction can be summarized as follows:

- | | | |
|----------|------|--|
| | 1971 | The Government decided to consider the introduction of VAT under the comprehensive long-term tax reform plan. A booklet, "An Outline of Value-Added Tax," was prepared by the Ministry of Finance. |
| June | 1972 | Mr. James D. Duignan, an IMF panel member in the tax affairs division, was invited to investigate the possibility of introducing the VAT in Korea. |
| July | 1973 | Professor Carl S. Shoup was invited to study the price effect and advantages associated with the introduction of the VAT. |
| August | 1974 | A six-member team of working level civil servants was sent to observe VAT systems and practices in the EEC and the United Kingdom. |
| Dec. 21, | 1974 | The Business Tax Law was amended to extend the definition of designated withholding agent to cover all persons engaged in mining, manufacturing, or wholesale activities and to adopt new invoices withholding for the business tax, effective on January 1, 1975. |

- April 1975 The Committee on Tax Deliberation was set up.
- 1975 - 1976 Dr. Alan A. Tait, an IMF tax advisor, was invited to study the structure of VAT and the effects of VAT on price levels and income distribution.
- Jan. 19, 1976 At a press conference the government announced its intention to adopt VAT in Korea.
- June 1976 Mr. James D. Duignan was invited to make proposals regarding the administrative educational and transitional measures and to help the government draft the VAT law.
- June 16, 1976 The Committee on Deliberation of Tax submitted its report on VAT to the Ministry of Finance.
- Sep. 3, 1976 Deliberation Committee for the Implementation of VAT was set up.
- Sep. 14, 1976 Draft legislation of the VAT was published.
- Nov. 17, 1976 The budget announcement was made that the VAT would be introduced in 1977.
- Dec. 22, 1976 The VAT law was promulgated.
- June 7, 1977 Representatives of the business community met the Minister of the Economic Planning Board to request the postponement of the introduction of VAT.
- July 1, 1977 Value-added taxation commenced.

- Dec. 19, 1977 The period for the preliminary tax return and the final tax return was extended from 20 days to 25 days. The exemption limit for small tax sums for special taxpayers was increased from 7,500 won to 10,000 won.
- Dec. 5, 1978 The number of preliminary tax returns was decreased from 4 to 2 per year. The payment method of special taxpayers changed from a self-compliance system to assessment by the government.
- Dec. 30, 1978 The scope of zero rating was broadened to cover the services of processing goods for export and lodging services supplied to non-residents.
- Feb. 13, 1979 The annual turnover limit for special taxpayers increased from 12 million won to 24 million won (in the case of brokerage and intermediary services from 3 million won to 6 million won).
- Sep. 27, 1980 Food and lodging services supplied to foreign tourists were made subject to a zero rating.
- Dec. 13, 1980 Rental services from immovable property except rent of residence were made subject to the tax. The tax penalty rate applied to special taxpayers who neglected to register was decreased from 1 % to 0.5%.
- May 1982 An IMF mission, headed by M. Casanegra de Jantscher, was invited to review major issues and to make suggestions for reform.

As can be seen from the above list, the VAT was not implemented overnight. Careful examination and long preparation preceded the introduction of VAT in Korea. Much of the interest in the introduction of VAT were undoubtedly stimulated by widespread acceptance of the VAT in Europe. Although the law was enacted on December 22, 1976 and took effect on July 1, 1977, the decision to introduce VAT was made in 1971. However, it is not clear whether the intensive preparations of the last two years or so before the adoption of VAT were sufficient for its successful implementation.

In order to benefit from the European experiences, the government sent a small delegation to visit the EEC countries where VAT already existed and talk to tax officials who were running it in those countries. Extensive studies on the VAT system were conducted before the government's formal VAT announcement on January 19, 1976. The Korean VAT reflects the proposals prepared by such well-known authorities as Mr. James C. Duiguan, Professor Carl S. Shoup, and Dr. Alan A. Tait, all of whom contributed greatly to the development of the new tax law.

Educating the taxpayers and the general public about the characteristics of the new tax, as well as about the new requirements with which taxpayers would have to comply was important for the successful implementation of the VAT. Starting in September 1976, less than one year before the tax became effective, the Korean government inaugurated elaborate information and education programs aimed at both taxpayers and the general public.

The programs, which described the operation and effects of the new tax, relied heavily on newspapers, television, radio, and the dissemination of information by trade associations. The VAT guide books were published and distributed through trade associations and to businessmen registered for the business tax. The Ministry of Finance prepared four kinds of handbooks of which 7.8 million copies were distributed. 16.57 million copies of 28 different kinds of guide books

and brochures were published by the Office of National Tax Administration (ONTA). The Ministry of Finance prepared and distributed 80 films explaining the VAT, and these were shown in all cinemas during the months prior to the introduction of VAT. Officials from the ONTA attended public meetings throughout the country to explain the new tax.

In addition to guidebooks on VAT for general distribution, the government prepared a staff handbook for the officials who would be dealing with VAT. The staff handbook set out all the tax procedures in some detail and provided answers in advance to all the more important questions which were likely to be asked either by the staff themselves or by traders.

The success of the tax depends to a large extent on the degree of voluntary cooperation forthcoming from the business community. To secure the cooperation of the business community, the government set up a special committee, entitled The Deliberation Committee for the Implementation of VAT, on September 3, 1976. The Committee was composed of government officials and representatives of the Chamber of Commerce, the Korean Federations of Industries, the Korean Traders' Association, the Korea Tax Accountants Association and Korea Institute of Certified Public Accountants, and the Customs Brokers Association. Despite this effort, insufficient communication between the government and organizations of taxpayers and consumer groups damaged the prospects for close cooperation. Unhappiness with the VAT on the part of the business community was demonstrated by its call to postpone the implementation of VAT right before the VAT became effective.

Nationwide tryout exercises of filing tax returns were carried out on three separate occasions (in March, May, and July 1977) before the changeover to the VAT. On average, more than 98% of the taxpayers in the groups concerned participated in these trial runs. Important steps taken prior to the introduction of the VAT included the introduction of

new invoices for business tax with holdings at the beginning of 1975. This was a good provision for the transition to the invoicing system needed for the VAT. The withholding system under the business tax was successfully adapted to the transitional needs of the administrative structure needed for the VAT.

Concurrent with the consultation and information program, the Korean government expanded and retrained the tax administration staff. The fact that there already was a substantial reservoir of trained personnel with experience in administering the very complicated business tax and other indirect taxes made this task easier. The government provided additional training for 32,444 public officials under the auspices of the Ministry of Finance, the Office of National Tax Administration, and the Office of Customs. The number of staff at the ONTA increased by 1,999 from 9,443 in 1976 to 11,442 in 1977. Most of this increased recruitment was for the VAT. However, the new recruits did not go directly on to VAT work but were put into other sections in order to release more experienced officers for the VAT. Since the VAT replaced another kind of consumption tax, there were no structural changes in the organization of tax administration.

Passive and active opposition to the introduction of VAT came from many sources. Each interest group had its own reasons for opposing the new tax and each had different reasons. The VAT was opposed by labor as regressive. Business in general and small business in particular opposed the tax on the ground that compliance costs would be too high. Even some tax administrators did not support the tax, pointing out the administrative problems of collecting the tax from retailers and the higher cost of collecting the VAT than of collecting the taxes it would replace.

The VAT has gone through a number of changes since its introduction, although these have not been extensive. By January 1, 1984, the VAT Law had been amended three times, the VAT Presidential Decree fifteen times, and the VAT Ministerial Ordinance

twelve times. From the very fact that the government has not tried to alter the basic structure of the tax, as can be seen from the above list of legislative changes, it can be concluded that the designers of the tax did their work well. It should not be denied that a lot of difficulties remain to be overcome. However, it can be also stated that those difficulties are within the bounds of what can be expected on the occasion of any major tax reform.

III. Outline and Characteristics of the Korean VAT

The structure of VAT and its administration in Korea are basically similar to those of the EEC countries.

Businesses under the Korean VAT are permitted to treat investments exactly as they treat purchases of current inputs and to immediately deduct from sales the full value of investments made during the taxable period. So the Korean VAT is of the consumption type, the variety in use throughout Europe.

The method of collecting the VAT adopted in Korea is the invoice method, under which each firm must collect the VAT on all of its sales unless they are exempt, and it is entitled to a credit against its liability for taxes invoiced by its suppliers. Credit is allowed only if it is supported by invoices provided by suppliers. This method of administration is alleged to facilitate audits because each firm is required to supply evidence regarding taxes that should have been paid by all of its suppliers.

1. Scope and Tax Base of VAT

The scope of the VAT is usually defined with reference to both taxable transactions and taxable persons. The Korean VAT code defines taxable transactions as the supply of goods or services and importation of goods. Supply of goods is the delivery or transfer of goods based on contractual or legal actions. This includes the sale of goods on an installment basis as well as inventory goods at the closing of a business. This definition also includes the personal use of business assets. The supply of services includes the rendering of services or having a person use or utilize goods, facilities, or rights on any legal or

contractual basis. The importation of goods is simply the entry of goods into Korea from abroad.

A taxable person is anyone who independently engages in the supply of goods or services. Taxpayers include individuals, corporations, any organization of persons, foundations, or the state and local authorities, regardless of whether or not the taxable transactions generate profits. The requirement that a taxable person act in an independent capacity excludes employees from an obligation to charge VAT on services provided to their employers.

The taxable amount or tax base is the full consideration received for the supply of goods or services. It includes taxes (other than the VAT and the defence surtax), duties, and incidental expenses such as packing, transportation, and insurance costs charged to the purchases. In the case of sales on installment or credit, the tax base is the total amount of supplied goods. The taxable amount does not include discounts or rebates and the value of returned goods or goods broken, lost, or damaged before they are delivered to their purchaser.

2. Tax Rates

Before the introduction of VAT, Korea had suffered from a complicated rate structure of indirect taxes, as discussed previously in conjunction with <Table VI-1>. The business tax, which was a major target of the tax reform, had six differentiated rates ranging from 0.5% to 3.5% of turnover, depending on the categories of business. As shown in <Table VI-3>, the previous indirect tax system had more than 50 rates ranging from 0.5% to 300%. This background led to a strong desire to simplify the structure of the indirect tax system, and consequently, to adopt a single VAT rate.

Even though Korea has a single rate VAT system, as do Denmark and Sweden, an allowance is made to vary the rate, using it as an economic stimulant or brake. The VAT code allows the government to

adjust the normal rate (13 percent) up to 3 points lower or higher when deemed necessary due to the general state of the economy. The more urgent reason for granting the Minister of Finance discretion to increase or decrease tax rates was to give the authorities the flexibility to cover themselves against a tax shortfall and at the same time to allow them to react quickly if VAT revenue was larger than expected. The VAT has been implemented so far at the minimum level of 10%.

<Table VI –3> Comparison of Tax Rates between Pre-VAT and Post-VAT Regimes

(Unit:%)

Pre-VAT regime				Post-VAT regime			
	Tax rates				Tax rates		
	Number	Minimum	Maximum		Number	Minimum	Maximum
Business tax	5	0.5	3.5	VAT(General)	1	10.0	10.0
				(Special)	2	2.0	3.5
Commodity tax	17	2.0	100.0	Special consumption tax	13	10.0	180.0
Textile tax	7	10.0	40.0				
Petroleum product tax	4	10.0	300.0				
Admissions tax	12	5.0	250.0				
Travel tax	3	5.0	20.0				
Gas and electricity tax	1	15.0	15.0				
Entertainment and food tax	4	2.0	20.0				

Note: Tax rates are effective rates at the time of VAT introduction. The minimum and maximum rates of the special consumption tax as of January 1, 1984 are 5% and 100%.

Source: Ministry of Finance, *Survey and Report on the Value-Added Tax*, April 1980, P. 48.

Although Korea adopted a single 10% VAT rate, small businesses receive special treatment. Small businesses whose sales are less than

24 million won a year are taxed at a rate of 2% of turnover. Furthermore, those individuals who are engaged in brokerage and intermediary services are subject to a 3.5% tax on their turnover unless their annual turnover is more than 6 million won.

Most European countries have a multiple rate VAT structure. Multiple rate countries apply higher rates to luxuries such as automobiles, furs, jewelry, and TV sets, and lower rates to necessities like food, clothing, and medicine. Taxable items not subject to a special rate are taxed at the standard rate.

A comparison of the tax system of Korea with that of other VAT adopting countries reveals that many items subject to the special consumption tax in Korea are included in the VAT in other countries, where an increased tax rate is applied to them. Items to which a reduced or zero rate applies in many other countries are goods and services which are exempt from the tax in Korea. These differences point out one important fact: the Korean VAT system cannot be directly compared to the VAT systems of other countries. We should look at the indirect tax system as a whole to make a valid comparison of one country with another. It should also be pointed out that even though Korea does not have a multiple rate VAT system, the addition of other taxes (such as the special consumption tax and the liquor tax) on top of the VAT for many items produces the same effects as having a multiple rate VAT system. <Table VI-4> reveals the existence of this multiple imposition of taxes on a number of items.

3. Zero Rating and Exemption

A sharp distinction can be drawn between the two reasons why a particular supply of goods or services is not taxable: zero rating and exemption. Zero rated supplies are technically taxable but at a low (zero) rate; the implication is that VAT charged on inputs relating to them can be reclaimed just as were inputs relating to taxable supplies.

Exempt supplies are outside the scope of VAT altogether so there is no question of reclaiming the relevant input tax.

In Korea the zero rate applies to goods for exportation, services rendered outside Korea, international transportation by ship and aircraft, and other goods or services supplied to earn foreign exchange. Zero rating is applied only on traders who are residents or domestic corporations. However, in the case of international shipping and aerial navigation, traders who are non-residents or foreign corporations are subject to zero-rating on a reciprocity basis.

If a good or service is exempt, no tax is charged on its supply, but unlike zero rated items, no deduction is allowed for taxes on purchases. In contrast to the zero rate, exempt transactions bear some VAT. Tax is charged on purchases from the exempt supplier, but not on the value added by the exempt organization. If the exempt firm sells to households and has positive value added, exemption reduces net liabilities. If the exempt firm sells to other firms, then exemption increases tax burdens, because businesses that purchase exempt inputs have no credits to apply against their own tax liability.

The Korean VAT allows a variety of exemptions for social, political, and administrative reasons. Exemptions are awarded to basic life necessities such as unprocessed food stuffs and piped water; to certain classes of commodities that would be hard to tax, such as banking and insurance services and owner-occupied housing; and to certain commodities classified as social and cultural goods, such as medical and health services, education, books, newspapers, and artistic works. Goods and services supplied by public enterprises, independent professional services, and duty exempt goods are exempt from VAT. Monopoly goods, telephone services, postage stamps, and so forth are exempt from VAT because supplementary separate taxes are imposed.

It seems indispensable that the very small taxpayer be exempt from the VAT. By excluding those taxpayers with small turnovers, the government can reduce administrative and compliance problems. Of

<Table VI -4> Taxes Applied to Selected Goods as a Percentage of the Producer's Price

Items	(Unit: %)						
	Producer price	Special consumption tax or liquor tax	Defense tax	VAT	Education tax	Delivery price	Consumer price
A. Items subject to the special consumption tax							
T.V. (Blank and white 14 inches) (Color 20 inches)	100.0	5.0	1.5	10.6	-	117.1	140.4
Refrigerator (below 205ℓ)	100.0	28.0	8.4	13.6	-	150.0	175.2
Washing machine (W.P. 350B)	100.0	28.0	8.4	13.6	-	150.0	180.1
Piano	100.0	40.0	12.0	15.2	-	167.2	192.2
Passenger car (Pony: 1,238cc)	100.0	20.0	6.0	12.6	-	138.6	162.6
(Mark V: 1,593cc)	100.0	10.5	3.1	11.4	-	125.0	125.0
Coke (355ml)	100.0	10.5	3.1	11.4	-	125.0	125.0
Sugar (15kg)	100.0	20.0	6.0	12.6	-	138.6	170.4
Coffee (2kg)	100.0	30.0	9.0	13.9	-	152.9	168.9
	100.0	40.0	12.0	15.2	-	167.2	195.6
B. Items subject to the liquor tax							
Unfiltered liquor tax(Takju)	100.0	10.0	-	11.0	-	121.0	n.a.
Beer	100.0	150.0	45.0	31.0	15.0	341.0	n.a.
Distilled spirits (Soju)	100.0	35.0	3.5	13.8	-	152.3	n.a.
Whisky	100.0	200.0	60.0	38.0	200.0	418.0	n.a.
Wine	100.0	40.0	4.0	14.8	4.0	162.8	n.a.
Vodka	100.0	40.0	4.0	14.8	4.0	162.8	n.a.

Source: Ministry of Finance, Major Statistics on Indirect National Taxes, April 1984.

course this advantage should be weighed against other considerations like the revenue potential of those small businesses and the neutrality of a VAT. In Korea, these small taxpayers whose biannual tax liability is less than 10,000 won are not subject to the VAT.

All in all, the exemptions allowed under the VAT are more extensive than those of the old business tax.

4. Administrative Aspects

Registration with the value-added tax authorities is the initial step in the administrative process. A trader must register at the VAT office in the district in which he resides within twenty days after he commences taxable activities. A record of all registered taxpayers is maintained on a computer file. The information includes VAT registered number, taxpayers' name and residence number, firms' name and address, telephone number, business code, trade classification, date of registration, and date of commencement of business.

The Korean VAT law requires an enterprise to register separately each place of business which it carries on and to furnish a separate return for each place. These requirements for registration of each place of business and the rendering of separate VAT returns for each are a carryover from the previous business tax law and deter efficient business administration without increasing the tax yield.

When a registered trader supplies goods or services, he should issue an invoice to the other party. The Korean VAT requires an invoice to show the date of supply, the seller's name, address, and VAT registration number, customer's name and registration number, the value and identity of goods or services supplied, and the amount of the VAT.

There are two types of tax invoices, the general and the simplified form. Simplified tax invoices are for use by special taxpayers. General tax invoices are presented by the taxpayers to the district office and

numbered serially. There is no requirement for a special taxpayer to submit any invoices to the tax authority.

Each general taxpayer has to complete four invoices for each sale at the time of the supply of good and services. One copy is kept by the person or business making the sale, another copy is sent by that person to the district tax office, the third copy is kept by the purchaser, and the fourth copy is sent by the purchaser to his district tax office. The two copies of the invoice held by the appropriate tax offices are then sent to the computer data processing unit which carries out a cross-check of sales against purchases. Tax invoices issued or received should be kept for 5 years. Tax invoices in which the value of a transaction exceeds 300,000 won are computerized to audit. <Table VI-5> summarizes the number of tax invoices processed by the computer and the value of transactions involved.

<Table VI-6> shows the result of tax invoice sorting and

<Table VI-5> Tax Invoices Processed by Computer

(Unit: thousand cases and 100 million won)

Period	Tax invoices	
	Number	Value
Jan. - June 1978	55,490	305,676
July - Dec. 1978	56,649	390,100
Jan. - June 1979	51,523	432,416
July - Dec. 1979	50,543	535,897
Jan. - June 1980	43,544	586,800
July - Dec. 1980	23,001	683,054
Jan. - June 1981	24,656	792,054
July - Dec. 1981	20,767	891,907
Jan. - June 1982	15,336	861,071
July - Dec. 1982	17,496	990,136

Note: Up to the end of June 1980 computer processing was restricted to individual invoices of a value of ₩100,000 or more. After June 1980 the restriction was raised to ₩300,000 or more.

Source: National Tax Service

discrepancy checking. In the last half of 1977, 7.2% of all invoices did not match. In 1982, the proportion of mismatches decreased to 1.4%. Interestingly, output invoices caused less difficulties than input invoices. The mismatching ratio for output invoices for each year was about half of that for input invoices. This result is consistent with our expectations since the VAT tax liability can be minimized by maximizing input claims. The percentage of mismatched input invoice fell from 12.1% in 1977 to 2.4% in 1982. Erroneous data, which means that sales and purchase invoices match but the details of the invoices do not decreased from 5.9%, in 1977 to 0.3% in 1982.

<Table VI –6> Incidence of Nonmatching and Erroneous VAT Invoices

(Unit: thousand cases and %)

		Number			A/C	B/C
		Nonmatching(A)	Error(B)	Total(C)		
1977	Output	1,566	1,994	34,128	4.6	5.7
	Input	2,195	1,164	18,117	12.1	6.4
	Total	3,761	3,108	52,245	7.2	5.9
1978	Output	1,596	2,342	71,017	2.2	3.3
	Input	2,741	1,144	41,122	6.7	2.8
	Total	4,337	3,486	112,139	3.9	3.1
1979	Output	911	1,394	64,780	1.4	2.2
	Input	2,006	491	37,286	5.3	1.3
	Total	2,917	1,885	102,066	2.8	1.8
1980	Output	554	673	40,891	1.3	1.6
	Input	1,929	268	25,654	7.5	1.0
	Total	2,483	941	66,545	3.7	1.4
1981	Output	443	334	58,324	0.8	0.6
	Input	1,205	194	34,702	3.5	0.6
	Total	1,648	528	93,026	1.8	0.6
1982	Output	397	188	58,057	0.7	0.3
	Input	973	155	40,879	2.4	0.4
	Total	1,370	343	98,936	1.4	0.3

Source: National Tax Service

There are two steps in the tax payment and return procedure. First, taxpayers are required to furnish the tax authorities with preliminary returns stating their tax base and the tax amount payable or refundable within twenty five days (fifty days in the case of foreign corporations) from the date of termination of each preliminary return period: from January to March and from July through September. Second, taxpayers must file with the tax authorities the tax base and tax amount payable or refundable for each taxable period within twenty-five days (fifty days in the case of foreign corporations) after its expiration: the first tax period is from January to June and the second tax period from July to December. Taxpayers are required to submit tax invoices at the time of the preliminary or final return concerned. This quarterly payment of the VAT has proved easier to work with than the more frequent two month tax period used under the old business tax system.

The Korean VAT law requires each trader to record all transactions and to keep the files at his place of business. A trader is obliged to keep the recorded books and tax invoices, general or simplified, for a period of five years from the date of final return.

Traders who are engaged in retail business or run ordinary eating house and hotels, and so forth, must install a cash register and issue tax invoices which show the value of supply. When a trader who installs a cash register issues tax invoices and keeps audit tapes, he is deemed to have fulfilled his obligations of book-keeping and of issuance of simplified tax invoices. In return the trader gets a tax deduction equivalent to 0.5% of total sales.

Penalties sufficiently high to deter offenses, minor or serious, are imposed on the failure to register or to apply for inspection, non-issuance of tax invoices, and default on tax returns and payments. Penalties equivalent to 1% and 2% of total sales in the cases of individuals and corporations, respectively, apply for the biannual inspection. For failure to issue a tax invoice in transactions between taxable persons or failure to keep proper records, the penalty is 1% of

the sales amount in the case of individuals and 2% in the case if corporations. Where a trader fails to file a return, or does not pay the tax amount due, or files tax return underreporting his obligations, he is liable to a penalty equivalent to 10% of his tax liability. <Table VI-7> summarizes these penalty rates, and <Table VI-8> shows the VAT penalties imposed by type of violation and by type of taxpayer. Penalties have been imposed mostly on general taxpayers. General taxpayers are liable to penalties because they do not issue tax invoices or delay the submission of invoices to government or because they send in incorrect returns.

<Table VI-7> Summary of Penalty Rates

(Unit: %)

Type of Violation	Penalty base	Penalty rate		
		General Taxpayers		Special taxpayers
		Corporation	Individual	
Nonregistration Noninspection	Sales	2	1	0.5
Nonissuance of tax invoices	Sales	2	1	-
Delayed submission of tax invoices	Sales	1	0.5	-
Errors in return and payment	Tax amount	10	10	10
No return or errors in zero rating tax base	Sales	1	1	1
Default payments by proxy	Tax amount	10	10	10

Source: Government of Korea, Value-Added Tax Law

Transitional measures were necessary to eliminate certain problems of double taxation that otherwise would have arisen when the VAT was introduced in Korea. Special transitional provisions dealt with investment goods and inventories because these had borne some taxes

imposed before the introduction of the VAT. Taxpayers were allowed to take credit for previous taxes that had already been paid on inventories on the date of the changeover. Since the taxes replaced were of a multistage turnover variety, a difficult problem arose in determining the effective tax rate on the many types of goods in inventory. The government imposed the average rate on each inventory item.

5. Treatment of Small Businesses

Under any form of sales taxation, small businesses have to be granted special treatment because of their inability to cope with the requirements of keeping adequate records which larger enterprises can handle at a reasonable cost. The intent of the special treatment is to reduce the administrative burden on small enterprises, but not the taxes that normally would be charged on the goods and services they supply.

Small businesses, called special taxpayers under the Korean VAT, are those whose total sales are less than 24 million won a year. In the case of businesses engaging in transactions through a proxy, agent, intermediary, consignee or contractor, any trader whose annual sales are less than 6 million won is treated as a special taxpayer. Unlike general taxpayers whose tax base is value added, a 2% tax rate applies to calculate the amount of tax payable to the government. Small businesses engaged in transactions through a proxy, agent, intermediary, consignee, or contractor face a tax of 3.5% on their annual sales.

When a business eligible for special taxation has submitted tax invoices received to the government, an amount equivalent to 5% of the input tax amount is deducted from the tax amount payable. Special taxpayers issue simplified tax invoices and file their tax returns every six months while general taxpayers issue standard tax invoices and file returns and pay taxes every three months. Special taxpayers do not have to file a preliminary tax return but do have to pay half of their taxes paid

<Table VI -8> VAT Penalties Imposed

(Unit: million won)

Period	Type	Total	Nonregistration	Tax Invoice		Returns		
				Nonissuance Nonsubmission	Delayed submission	Errors	Proxy errors	Zero rating errors
Jan.-June 1980	Total	407	112	25	125	85	46	14
	General	318	30	25	125	78	46	14
	Special	89	82	-	-	7	-	-
July-Dec. 1980	Total	601	124	40	191	152	36	58
	General	512	41	40	191	146	36	58
	Special	89	83	-	-	6	-	-
Jan.-June 1981	Total	542	122	67	165	129	37	22
	General	496	80	67	165	125	37	22
	Special	46	42	-	-	4	-	-
July-Dec. 1981	Total	682	107	103	229	194	18	31
	General	642	71	103	229	190	18	31
	Special	40	36	-	-	4	-	-
Jan.-June 1982	Total	631	162	119	162	152	-	36
	General	577	112	119	162	148	-	36
	Special	54	50	-	-	4	-	-
July-Dec. 1982	Total	834	110	226	238	228	2	30
	General	798	77	226	238	225	2	30
	Special	36	33	-	-	3	-	-

Source: National Tax Service

to the government during the immediately preceding tax period,

<Table VI-9> shows that in Korea special taxpayers file about 76~78% of all VAT tax returns. Although general taxpayers are in the minority they are the more important source of revenue. As shown in <Table VI-10>, general taxpayers pay approximately 94~95% of the total VAT while the tax amount contributed by special taxpayers comprises only about 5~6% of the VAT collected.

<Table VI -9> Composition of VAT Taxpayers

(Unit: thousand persons and %)

Period	General Taxpayers			Special taxpayers	Total
	Corporation	Individual	Subtotal		
July-Dec. 1977	19 (2.3)	138 (16.7)	157 (19.0)	667 (81.0)	824 (100.0)
Jan.-June 1978	21 (2.5)	152 (17.8)	173 (20.3)	680 (79.7)	853 (100.0)
July-Dec. 1978	22 (22.5)	181 (20.6)	203 (23.1)	675 (76.9)	878 (100.0)
Jan.-June 1979	24 (2.6)	177 (19.4)	201 (22.0)	713 (78.0)	914 (100.0)
July-Dec. 1979	25 (2.7)	180 (19.3)	205 (22.0)	728 (78.0)	933 (100.0)
Jan.-June 1980	27 (2.8)	193 (22.1)	220 (22.9)	744 (77.1)	964 (100.0)
July-Dec. 1980	27 (2.8)	194 (19.7)	221 (22.5)	759 (77.5)	980 (100.0)
Jan.-June 1981	30 (2.7)	200 (18.3)	230 (21.0)	863 (79.0)	1,093 (100.0)
July-Dec. 1981	31 (2.8)	210 (19.0)	241 (21.8)	864 (78.2)	1,105 (100.0)
Jan.-June 1982	32 (2.9)	217 (19.4)	249 (22.3)	867 (77.7)	1,116 (100.0)
July-Dec. 1982	34 (3.0)	228 (20.2)	262 (23.2)	866 (76.8)	1,128 (100.0)
Jan.-June 1983	36 (3.1)	238 (20.7)	274 (23.8)	877 (76.2)	1,151 (100.0)

Source: Ministry of Finance

<Table VI - 10> Value-Added Tax Collected by Type of Taxpayers

(Unit: hundred million won and %)

Period	General Taxpayers			Special taxpayers	Total
	Corporation	Individual	Subtotal		
1977					2,416 (100.0)
Jan.-June 1978	2,621 (71.1)	803 (21.8)	3,424 (92.9)	263 (7.1)	3,687 (100.0)
July-Dec. 1978	3,425 (73.2)	949 (20.4)	4,374 (93.8)	290 (6.2)	4,664 (100.0)
Jan.-June 1979	3,317 (73.2)	861 (19.0)	4,178 (92.2)	353 (7.8)	4,531 (100.0)
July-Dec. 1979	4,958 (78.1)	970 (15.3)	5,928 (93.4)	418 (6.6)	6,346 (100.0)
Jan.-June 1980	5,310 (78.6)	992 (14.7)	6,302 (93.2)	458 (6.7)	6,760 (100.0)
July-Dec. 1980	6,395 (80.5)	1,114 (14.0)	7,509 (94.5)	439 (5.5)	7,948 (100.0)
Jan.-June 1981	6,280 (76.6)	1,388 (16.9)	7,668 (93.5)	530 (6.5)	8,198 (100.0)
July-Dec. 1981	7,862 (79.2)	1,363 (13.9)	9,225 (93.7)	624 (6.3)	9,849 (100.0)
Jan.-June 1982	6,852 (75.8)	1,606 (17.8)	8,458 (93.6)	579 (6.4)	9,037 (100.0)
July-Dec. 1982	9,484 (79.7)	1,931 (15.4)	11,315 (95.1)	591 (4.9)	11,906 (100.0)
Jan.-June 1983	6,142 (57.3)	3,939 (36.8)	10,081 (94.1)	628 (5.9)	10,709 (100.0)

Source: Ministry of Finance

IV. Economic Effects of VAT

Tax policy has pervasive effects on the economy, influencing the level of economic activity, prices, wages, foreign trade, and the distribution of income and wealth. Adoption of the VAT is widely viewed as a move toward a more desirable system of indirect taxation. Because so much has been happening to Korea's fiscal structure, it is difficult to sort out empirically the effects of the introduction of VAT on the economy. To encompass all of these economic effects systematically requires a fully articulated econometric model, which is almost entirely lacking at the moment.

Though the economic effects of the VAT are not known with certainty because no systematic analysis has been carried out in Korea so far, our aim here is to summarize whatever evidence is available and to point out policy issues regarding economic effects which were controversial both before and after the introduction of VAT in Korea.

With regard to the economic effects of VAT, we are concerned with four major issues: VAT's effects on price level, exports, investment, and income distribution. It seems that VAT has had less and fewer economic effects than its supporters claimed or its opponents feared.

1. Price Level

In assessing the impact of VAT on the general price level, a conceptual distinction must be made between the VAT as an additional tax and as a substitute revenue source. As a new or additional tax, a VAT is likely to increase prices, provided that there is an accommodating monetary policy. It should be pointed out that even though the VAT would be reflected in higher prices, the result would be a one-shot increase, not a recurrent increase in the price level unless

mismanagement of aggregate demand led to a wage-price spiral.

In the Strictly logical sphere, assuming parity in the yield of suppressed taxes and of the new VAT and a perfect market, it may be stated that the substitution of the VAT for existing indirect taxes should not have increased the overall price index since the level of public expenditure was not changed nor was the economic nature of taxation which, in all of these hypotheses, presents the same forward shifting characteristics.

Since the VAT in Korea was expected to yield the same amount of revenue as the replaced indirect taxes, direct effects on the general price level were expected to be small, if present at all.

Although the average effect on prices of replacing the previous taxes with the VAT was expected to be small, the effective tax rates on different goods and services were expected to change significantly because the distribution of the replacing and replaced taxes was not identical. There were some fears that the prices of goods on which the tax burdens were reduced would not fall or would fall by less than the prices of goods on which the tax liability rose. To the extent that increases in the prices of commodities on which the tax burden increased were more certain than decreases in the prices of commodities on which the tax burden decreased, some stimulus to inflation would have occurred.

<Table VI-11> compares the forecast price effects with the actual effects in major industries. It was predicted that the introduction of a 10% VAT rate would lead to an increase in the wholesale price level by 0.155% and to a decrease in the consumer price level by 0.537%. In the two months after the introduction of VAT, the wholesale price level went up 3.4%, of which the implementation of VAT is estimated to have contributed 0.061% points.

At the time the VAT was introduced, the government estimated that a 13% VAT tax rate would boost consumer prices by 3.4% and a 10% VAT rate would have no effect on the CPI. During the 6 month and 12

month periods before the introduction of VAT, the CPI rose by 6.7% and 10.1%, respectively, while consumer prices rose 3.9% and 14.0% in the first 6 and 12 months, respectively, following the introduction of VAT.

How much of the increase in prices should be attributed to the introduction of VAT is far from clear. However, it can be safely concluded that while due to the tight price controls by the government the introduction of VAT does not seem to have had a strong impact on prices, most of the increase in prices was attributable to the general inflationary situation in the economy.

<Table VI – 11> Forecast and Actual Change in Price Levels

(Unit: %)

	Forecast Change		Actual Change
	WPI	CPI	WPI
Agricultural products	0.244	-0.050	0.148
Textile products	-0.439	-0.094	-0.307
Wood products	-0.006	-0.010	0.007
Chemical products	0.136	-0.110	0.053
Ceramics and glass	-0.013	-0.039	0.034
Metal products	0.329	-0.157	0.288
Fuel and electricity	-0.153	-0.029	-0.170
Other	0.057	-0.048	0.008
Total	0.155	-0.537	0.061

Sources: Economic Planning Board and Bank of Korea

In an attempt to meet widespread uncertainty about the price effects of the VAT, the Korean government took two steps. First, the government decided to reduce the initially proposed single tax rate from 13% to 10% just before the introduction of VAT. Second, to prevent use of the new tax as an excuse for firms to raise their prices to consumers, the government imposed strong price controls. The last minute decision to reduce the rate from 13% to 10% was made to avoid

many unnecessary problems resulting from the application of the 13% rate. However, this last minute change found taxpayers already prepared to increase prices in response to the 13% rate.

The government had control over the prices charged by monopolies and oligopolies and set ceilings on factory and wholesale prices for 251 goods. A list of pre-July 1977 prices was prepared in order to hold prices to that level immediately before the tax change. The government launched a large scale campaign to publicize recommended retail prices for a variety of consumer goods. This campaign and the existence of widespread price controls curbed any price increases that could have occurred through uncertainty, increased business margins, and profiteering.

Despite the inflationary condition of the economy, as indicated by the excessive provision of domestic credit and accelerated wage increases shown in <Table VI-12>, price controls appear to have been increases shown in successful in dampening the wage-price nexus for inflation. It is also noteworthy that increases in the general price level were mainly due to a price increase in food products, which are exempt from the VAT.

Broadly speaking, the introduction of VAT does not seem to have had a major impact on the rate of price increases in Korea. The full effects on prices of the increase in the VAT depend not only on the initial impact but also on market interactions, the stage of the business cycle, and other policy measures. The experiences of other VAT adopting countries confirm the same result. According to Alan A. Tait, who analyzed the effects of introducing the VAT on the CPI, the VAT was not a contributory factor to inflation in 26 out of the 31 countries examined.

<Table VI -12> Prices, Wages and Domestic Credit Indices, Three Years Before and After VAT Introduction

Year	Quarter	CPI	WPI	Index of food prices	Index of nonfood prices	Wage index	Credit index
1974	III	63.6	65.9	54.5	72.1	42.3	45.2
	IV	65.1	68.4	58.4	73.7	47.7	52.4
1975	I	69.7	76.5	65.0	81.8	47.2	59.4
	II	75.4	80.6	71.3	84.9	50.2	62.3
	III	80.3	82.4	74.7	86.1	55.4	66.0
	IV	83.6	84.5	76.6	88.2	60.7	69.3
1976	I	85.3	88.3	80.3	92.2	62.4	72.8
	II	88.2	90.0	83.9	92.9	68.1	76.2
	III	91.5	91.6	86.6	94.0	76.7	78.6
	IV	91.3	93.1	87.6	95.6	82.1	84.3
1977	I	94.2	96.0	91.8	98.0	82.1	87.4
	II	96.9	98.0	95.7	99.3	91.0	92.1
	III	100.0	100.0	100.0	100.0	100.0	100.0
	IV	101.0	101.8	103.9	100.9	108.7	104.3
1978	I	106.5	106.5	113.7	103.3	107.7	115.5
	II	109.9	109.1	119.3	104.4	122.5	127.0
	III	114.7	111.6	124.9	105.4	136.3	136.6
	IV	117.9	114.9	128.7	108.4	149.8	152.1
1979	I	122.9	118.2	131.8	111.8	145.7	162.9
	II	132.6	126.5	136.0	122.2	158.4	171.5
	III	135.7	138.1	136.7	138.8	172.5	185.6
	IV	140.7	142.0	136.5	144.7	188.2	206.2
1980	I	156.1	165.0	153.1	170.1	180.3	226.2
	II	167.4	180.6	167.7	186.3	198.1	241.9
	III	174.9	186.8	178.4	190.8	218.6	261.1

Sources: Bank of Korea, *Price Statistics Summary*, 1982.

_____, *Quarterly Gross National Product*, 1982.

_____, *Monthly Bulletin*, various issues.

Administration of Labour Affairs, *Report on Monthly Labour Survey*, various issues.

2. Investment and Savings

Unlike most of the taxes it replaced, the VAT does not burden capital goods because the consumption-type VAT provides a full credit for the tax included in purchases of capital goods. The credit does not subsidize the purchase of capital goods; it simply eliminates the tax that has been imposed on them.

Because investment was taxed under the previous indirect tax system but was to be exempt under VAT, investment costs fell accordingly. Support for capital investment by means of the VAT refund is summarized in <Table VI-13>, which shows that the switch to the VAT provided industries such as manufacturing and electricity and gas with substantial benefits. Tax refunds for investment amounted to 18,336 million won for the second half of 1977 and for all of 1982.

Comparison of the rates of savings and investment in years before the introduction of the VAT with those in years since its adoption is not instructive enough to produce any conclusion regarding the effects of VAT on savings or investment. Though there is no evidence that investment or savings increased, a questionnaire survey by the government shortly after the adoption of VAT shows that the VAT was more conducive to investment than the old indirect tax regime.

<Table VI - 13> Support of Capital Investment Through VAT Refunds by Industry

(Unit: million won and %)

	1977		1978		1979		1980		1981		1982	
	Refund	Share	Refund	Share	Refund	Share	Refund	Share	Refund	Share	Refund	Share
Manufacturing	13,449	73.3	34,135	62.1	32,241	58.1	24,045	66.4	23,867	65.9	16,323	25.2
Mining	12	0.1	32	0.0	27	0.0	139	0.4	284	0.8	28	0.0
Construction	418	2.3	1,055	1.9	121	0.2	175	0.5	3,628	10.0	2,159	3.3
Electricity and gas	1,693	9.2	11,502	20.9	18,422	33.2	3,559	9.8	7,734	21.3	30,642	47.4
Wholesale and retail trade	86	0.5	304	0.6	496	0.9	1,377	3.8	1,588	4.4	2,781	4.3
Transport and storage	1,064	5.8	2,142	3.9	739	1.3	1,601	0.4	1,796	5.0	2,384	3.7
Others	1,614	8.8	5,789	10.5	3,422	6.2	5,333	14.7	10,606	29.3	10,338	16.0
Total (A)	18,336	100.0	54,959	100.0	55,468	100.0	36,229	100.0	49,503	100.0	64,655	100.0
Capital investment (B)	2,689,040		7,023,070		9,458,180		11,240,030		12,097,100		14,139,970	
Support Ratio (A/B)	0.7		0.8		0.6		0.3		0.4		0.5	

Source: Ministry of Finance

3. International Trade

It is commonly agreed that the introduction of VAT with zero rating on exports has a very favorable influence on exports. Zero rating removes any tax paid on a good at any stage because zero rated goods are fully exempt from any tax when sold, and producers of such goods are entitled to a refund of any tax paid on purchases to produce such goods.

In abstract terms, VAT is neutral in what concerns international trade if exports are exempt from payment of tax and imports are subject to the tax. The exported commodity is totally exempt from any taxes while the imported commodity pays a tax equal to that levied on the commodity sold in the domestic market. In actual fact, these neutral characteristics of the VAT are under two limitations. The first, the difficulty of verifying the forward shift in the incidence of tax burdens; the second is that the technical regulations needed to enforce the tax limit its neutral characteristics.

Giving greater tax benefits to exporters was one of the stated goals of introducing the VAT into Korea. Much of that claim is incorrect, but it is politically appealing, and a lot has been said and written about the effects that the adoption of VAT would have on the competitiveness of Korean industry, and therefore on Korean exports and the balance of payments.

In order to examine the effects of VAT on exports, we have to distinguish between two cases: substitution of VAT for direct taxes and replacement of indirect taxes by VAT. When a country adopts a VAT as a replacement for direct taxes or with a reduction in direct taxes, it gains a trade advantage because the government can rebate a larger proportion of the tax content of exports and collect VAT on imports. When a country substitutes a VAT for indirect taxes, as in Korea, the trade advantage of the VAT substitution is negligible because the refund system on export goods is a part of the replaced indirect tax system.

Regardless of which tax the VAT replaces, many believe that a rebate in itself, will expand exports and that a VAT levy will retard imports. This belief might have a positive effect on trade if it encourages businesses to compete more rigorously in international markets. This result would depend on the importance of nonprice considerations in explaining export activity. In a questionnaire survey conducted by the government, a large number of Korean businessmen expressed the view that the new VAT was more favorable to exports than the old indirect taxes.

The effect of the VAT on exports can be indirectly investigated by comparing the general characteristics of the new VAT system with those of the previous tax system and by looking at the trend of the indirect tax rebates in supporting exports.

The exact determination of taxes paid under the turnover tax scheme was generally difficult and frequently impossible to calculate. Since the business tax and other indirect taxes were hidden in the price of export goods, they could not be readily rebated even though rebates of all indirect taxes were permissible under the law. Because of the cumulative nature of the turnover type business tax, export goods were exempt only at the final sales stage, and the government had to estimate the border tax adjustment for export rebates on the taxes previously paid in the production and distribution process. The awareness of the problem that it is impossible to calculate the tax content of prices was one of the factors behind the reform of the indirect tax system in Korea.

Since it was difficult to determine the amount of taxes included in the price of export goods under the previous indirect tax system, the government had to issue rules prescribing how much tax was buried in the price of each type of export good. The average rate on the credit for export goods was imposed by the government. Therefore, the prescribed average rate was normally lower than the actual payment in some cases and higher in others. As a result, export prices usually

included either a hidden penalty or a hidden subsidy.

The substitution of VAT for the previous indirect tax system has made the determination of taxes paid on exporters much easier because the characteristics of a typical VAT can overcome the problem of calculating the taxes paid. This so-called border tax adjustment merely guarantees that both imports and domestically produced goods consumed in Korea bear the same tax and allow Korean exports to enter the world markets free of tax. However, it should be noted that this border adjustment does not stimulate exports and inhibit imports more than would a comparable turnover tax imposed on sales to Korean consumers.

By examining the trend in the average indirect tax rebate per dollar of exports, one can indirectly estimate the impact on exports of the change in the Korean indirect tax system. <Table VI-14> shows that the average tax rebate per dollar of exports has been increasing during the last ten years or so. Though the actual effect may have differed from product to product, there was a sharp increase in the average tax rebate per dollar of exports, from 33.56 won per dollar in 1976 to 53.56 in 1978 and in the average rebate as a percentage of export value, from 0.06% in 1976 to 0.09% in 1978. This result shows that the government underestimated the border tax adjustment under the previous tax system. In this sense, the adoption of the VAT benefited the export industry.

According to the poll on the new rebating system, a majority of export company officials agreed that the introduction of the VAT had a positive effect on the trade competitiveness of their goods. The survey also showed that they felt that the VAT supported exporters more than the previous tax structure. Though we may conclude that a switch to the VAT with zero rating on exports may have made a modest contribution to the improvement of balance of payments in Korea, particularly due to its ease and precision in calculating tax rebates, this conclusion should not be overemphasized. Because exchange rates or

domestic inflation would soon adjust in response to any initial improvement in the balance of payments, any competitive edge induced by tax substitution would soon be dissipated.

4. Distribution of the Tax Burden

Like other taxes, the VAT has distributive properties in that its burden will fall more heavily on some sections of society than on others. Perhaps the most controversial aspect of the introduction of VAT was its effect on the distribution of tax burdens when the tax was under consideration. The regressivity issue of the VAT continues to be a topic for hot debate.

A comprehensive VAT is regressive since lower income taxpayers consume a higher proportion of their income than do middle and upper income taxpayers. A number of studies have been carried out to estimate the distribution of VAT burdens. The results of these estimates are summarized in <Table VI-15>. Using the household income and expenditure survey, these studies all base the distribution of VAT burdens on consumption patterns and the estimated rate of taxation on each category of consumer goods.

In all these studies, the VAT is more or less regressive with respect to income. According to the study by Peter S. Heller, the VAT of Korea is regressive, with the burden declining from 5.55% of income at the lowest decile to 3.91% at the highest. The burden is lower in the farm sector than in the nonfarm sector, with the relative burden declining at the upper farm deciles. While Yeon-Cheon Oh's analysis claims that the distribution of the VAT burdens is only slightly regressive, Seung-Soo Han's study concludes that regressivity is quite strong. According to Han's estimate, the effective burden of VAT on income for the highest decile is about 40% of that for the lowest decile. The corresponding figure based on Oh's study is around 70%.

<Table VI - 14> Average Annual Rebate of Indirect Taxes per Dollar of Exports

(Unit: million dollars, million won and %)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Exports(\$)	3,225	4,460	5,081	7,715	9,687	12,711	15,055	17,505	21,259	21,853
Total rebate under the previous system and the VAT including the special consumption tax (₩)	68,523	101,488	168,728	258,913	514,226	680,813	852,150	1,306,584	1,748,125	1,892,966
Rebate per dollar	21.24	22.75	33.21	33.56	53.08	53.56	56.60	74.64	82.23	86.62
Rebate as % of export value	0.04	0.05	0.06	0.06	0.09	0.09	0.10	0.10	0.10	0.10

Note: It should be noted that the exchange rate of won devalued sharply on two occasions: from 397.50 won to 484.00 won on December 7, 1974 and from 484.00 won to 580.00 won on January 12, 1980.

Source: Ministry of Finance

<Table VI - 15> Summary of the Effective Burdens of VAT on Income

(Unit: %)

	Income Decile									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . Heller										
a. All households	5.55	5.19	4.19	5.00	4.67	4.84	4.79	4.04	4.11	3.91
b. Nonfarm households	5.94	5.63	5.82	5.75	5.46	5.38	5.51	5.31	5.02	3.91
c. Farm households	4.80	4.02	3.42	3.27	3.13	2.89	2.73	2.46	2.22	-
II . Oh										
a. Based on 1976 data	3.62	2.90	2.98	2.94	2.86	2.85	2.76	2.73	2.79	2.42
b. Based on 1978 data	3.56	3.10	3.07	3.05	3.05	2.99	2.91	2.86	2.77	2.60
III . Han										
a. Farm households	8.44	5.96	5.14	5.07	4.24	4.18	3.73	3.53	3.17	2.90
b. Nonfarm households	9.38	7.50	6.70	6.40	5.99	5.69	5.38	5.06	4.67	3.82

Sources: Peter S. Heller, "Testing the Impact of Value-Added and Global Income Tax Reforms on Korean Tax Incidence in 1976: An Input-Output and Sensitivity Analysis," *IMF Staff Papers*, Vol. 28, No. 2, June 1981.
 Yeon-Cheon Oh, "An Evaluation of the Tax Reform for a Value-Added Tax in Korea with Special Reference to Distribution of Tax Burden, Administrative Efficiency, and Export," An unpublished doctoral dissertation, New York University, February 1982.
 Seung-Soo Han, *Empirical Analysis of Tax Burden in Korea and Theoretical Analysis of Optimal Tax Burden*, Korea Economic Research Institute, 1982.

Not only is the regressivity of the VAT more pronounced in Han's study than in Oh's study but the absolute burden of VAT throughout all income classes is also much higher in Han's study than in the study by Oh. On the one hand, those in the lowest decile pay 9.38% of their income as tax in Han's study and 3.56% in Oh's study. On the other hand, the people whose incomes are in the top 10% are estimated to have tax burdens of 3.82% and 2.60% of their income in Han's and Oh's analyses, respectively.

A variety of indirect taxes were replaced by the VAT and the special consumption tax in Korea. Therefore, it is worth ascertaining whether the VAT substitution led to increased or reduced regressivity. As shown in <Table VI-16> which summarizes the burdens of domestic indirect taxes before and after the streamlining, the empirical studies done to date yield mixed results.

According to Oh's study, the distribution of the tax burden by income decile appears on the whole to have become slightly less regressive after the tax reform. However, two other studies by Heller and Han show that the regressivity has generally increased. Two explanations can be offered to account for the fact that the distribution of the indirect tax burden changed relatively little in the shift from the pre-VAT to the post-VAT regimes or has become worse over time. First, the VAT system was designed to be quite regressive. Second, the tax rates and tax base of the special consumption tax, which was concurrently introduced to supplement the VAT, are insufficient to play its assigned role. In all the studies reviewed, the burden of the special consumption tax is proportional to income or is even somewhat inversely related to income.

The incidence studies reviewed above vary in their estimates of the distributive effect of the VAT itself and in their comparisons of the distributive effect of the VAT and previous indirect taxes. Still, all these studies indicate that, as expected, the VAT is regressive and that the replacement of the previous indirect taxes with the VAT and the

special consumption tax has not improved the regressivity of overall indirect tax burdens.

Since Korea relies heavily on indirect taxes for its revenue, the regressivity of indirect tax burdens implies that the overall tax burden in Korea is regressive. Therefore, there remains a need for the government to improve the distribution of income by moderating the regressivity of the VAT and the indirect tax system in general and by moving toward greater reliance on direct taxes.

<Table VI – 16> Summary of the Burdens of Domestic Indirect Taxes on Income under Pre-and Post-VAT Regimes

(Unit: %)

	Income Decile									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I. Heller										
A. All household										
a. Pre-VAT regime	7.42	7.29	6.30	6.73	6.76	7.14	6.73	6.43	6.22	7.00
b. Post-VAT regime	7.81	7.57	6.29	7.15	6.85	7.22	6.80	6.20	6.20	6.85
B. Nonfarm households										
a. Pre-VAT regime	7.64	7.83	8.14	7.57	7.73	7.92	7.73	8.31	7.49	7.00
b. Post-VAT regime	8.39	8.40	8.70	8.29	8.07	8.15	8.03	8.38	7.71	6.85
C. Farm households										
a. Pre-VAT regime	6.98	6.25	5.45	5.00	5.02	4.74	4.41	4.37	3.79	-
b. Post-VAT regime	6.70	5.96	5.18	4.79	4.65	4.35	3.97	3.83	3.30	-
II. Oh										
A. Based on 1976 data										
a. Pre-VAT regime	5.93	4.75	4.91	4.79	4.61	4.67	4.51	4.47	4.53	4.12
b. Post-VAT regime	4.93	4.07	4.22	4.13	3.98	4.01	3.87	3.82	3.92	3.54
B. Based on 1978 data										
a. Pre-VAT regime	5.82	5.15	5.14	5.09	5.07	4.99	4.90	4.81	4.78	4.54
b. Post-VAT regime	5.71	4.98	4.97	4.96	4.93	4.85	4.75	4.68	4.62	4.34
III. Han										
A. 1976	15.7	13.1	12.4	11.9	11.5	11.2	10.8	10.4	9.7	9.1
B. 1978	20.4	15.8	13.8	13.1	12.1	11.4	10.6	9.9	9.0	7.1

Sources: Peter S. Heller, "Testing the Impact of Value-Added and Global Income Tax Reforms on Korean Tax Incidence in 1976: An Input-Output and Sensitivity Analysis", *IMF Staff Papers*, Vol. 28 No. 2, June 1981.

Yeon-Cheon Oh, "An Evaluation of the Tax Reform for a Value-Added Tax in Korea with Special Reference to Distribution of Tax Burden, Administrative Efficiency, and Export," An unpublished doctoral dissertation, New York University, February 1982.

Seung-Soo Han, *Empirical Analysis of Tax Burden in Korea and Theoretical Analysis of Optimal Tax Burden*, Korea Economic Research Institute, 1982.

V. Criticisms, Current Issues, and Lessons

Since about seven years have elapsed since the implementation of the VAT in Korea, an interim, although still tentative, assessment is possible. The VAT in Korea has been working relatively well, in some cases much better than its designers and taxpayers had anticipated. The number of complaints has been small, though some have been loud. Complaints have been made and will continue to be made about various aspects of the tax structure and the details of its operation. However, many of these protests are much more in the nature of special interest pleading or general grumbling than attacks on the concept of the tax.

On almost all counts, the VAT in Korea should be considered an improvement over the indirect taxes it replaced. The base of the VAT is broader. It permits more precise border adjustment. Taxpayers have by now familiarized themselves with VAT. There is no evidence of large-scale tax evasion. Revenue from VAT is large and in line with the calculations based on the volume of private consumption.

Even though the VAT can and does work in Korea, it is not free from arbitrary elements and controversies. In order to deal with the annoying problems associated with the VAT, a distinction must be made between problems inherent in the VAT and those also true of other tax. By way of conclusion, the major issues currently facing the VAT system in Korea are reviewed to help other countries learn from the Korean experience.

1. Scope and Coverage of VAT

One recurrent question about the structure of VAT in Korea concerns the possibility of extending VAT to sales that are currently

exempt. The widespread use of exemption is founded on the desire to reduce the regressivity of the VAT burden. Needless to say, the extensive use of exemption reduces the efficiency advantages that might have been gained from a more neutral tax structure.

Exemptions facilitate the administration of the VAT. This is true particularly of exemptions for small taxpayers and certain services. However, it should be borne in mind that excessive exemptions complicate administration because of the difficulty of distinguishing taxable from nontaxable transactions and the resulting need for more detailed records and invoices.

Current issues on the Korean VAT exemption scheme center around two major questions. The first is the very purpose of the VAT exemption and the second is the possibility of narrowing the scope of the exemption. It is generally understood that exemptions are allowed to reduce the regressivity of the VAT burden. However, it must be pointed out that the reasons for the exemption scheme in the VAT structure lie not in the reduction of regressivity but in the simplification of administration and compliance.

Moderation of the regressivity could be achieved more effectively through the zero rating scheme rather than through the exemption scheme. This simple but important point has not caught the eyes of the VAT designers in Korea and many other countries. Zero rated supplies are technically taxable but at a low (zero) rate; the implication is that the VAT charged on inputs relating to them could be reclaimed just as were inputs relating to taxable supplies. Exempt supplies are outside the scope of VAT altogether so there is no question of reclaiming relevant input tax. Since, in contrast to the zero rating, an exempt transaction bears some VAT, the relief of the tax burden on the low-income people should be sought through the application of a zero rating scheme rather than an exemption scheme to goods and services consumed disproportionately by the poor.

Even under the present exemption scheme a review of the list of

goods and services currently exempted leads one to question the appropriateness of the inclusion of some items on the list. In principle, exemptions from the VAT should be limited to basic necessities, such as unprocessed food stuffs, and to goods and services the government wishes to exempt for social or cultural reasons.

Several selections on the exemption list have been controversial, including services provided by financial institutions and insurance companies, government-provided goods and services that compete with commercial operations, and independent professional services. On the grounds of tax equity between privately and publically supplied goods and services and the economic efficiency of preserving the capacity of private firms to compete with business by public agencies, it has been strongly suggested that some commercial activities by semi-government bodies should not be exempted.

The exemption of rent, insurance, and financial services means that traders of these outputs have to bear input taxes but cannot reclaim them. They are expected to pass the tax on to their customers. Business users of those services thus have to bear some VAT costs, despite the philosophy of the tax. The major problem with taxing financial services is the difficulty of calculating the correct tax base. One way to tax the value added of insurance and banking services would be to rely on the direct additive method, that is, adding together their annual wage and salary payments, rental payments, and profit (direct additive method). A tax of 0.5% on gross receipts of banking and insurance companies has been imposed in Korea since the beginning of 1982. In order to determine whether it is desirable to bring these financial institutions within the scope of VAT, one has to consider whether to eliminate the special tax recently imposed or to accept the consequences of imposing a heavier burden on this sector than on others.

Practically all independent professional services, such as those provided by doctors, lawyers, accountants, and architects, are currently

exempt. It has been suggested that all these professional services should be taxed. Given the fact that these independent professionals currently pay relatively small tax under the personal income tax, it would seem advisable to make their services subject to taxes so long as they cannot fully shift their tax burdens to their customers. Furthermore, from an equity point of view, it is desirable to adopt a common policy toward all the professional services rather than to single out one particular service for exclusion from the exemption.

All in all, exemption should be kept to a minimum not only in order to keep the VAT base broad but also to minimize administrative problems and distortions in the economy. The neutrality of the tax would be improved if the coverage of services was broadened and if exemptions were replaced by zero ratings. Increased use of zero ratings rather than exemptions would reduce the advantages that large firms have over small firms.

2. Tax Rate Structure

A single rate of 10% has been used in Korea since the introduction of the VAT in 1977. If the VAT were imposed at an uniform rate on all consumption, it would be regressive when measured against income, since consumption expenditures take a decreasing fraction of personal income as income levels rise. In order to reduce the tax burden on low-income taxpayers and to inject an element of progressivity into the VAT, suggestions have been made to use differentiated multiple rates rather than a single uniform rate.

Experience with rate differentiation elsewhere does not recommend its use in Korea; the EEC countries have found that such a differentiation complicates administration and compliance and destroys both neutrality and the advantages that uniformity may bring. Furthermore, using multiple rates is an inefficient way to achieve redistributive objectives.

The tax rate structure of VAT has a direct influence on its VAT has a direct administration and compliance. Many problems arise from the use of multiple rates. First, the rate structure may not be sufficiently defined, leaving products which can fit into more than one category. Second, the categories themselves may be based on criteria for which information is not readily available. Third, multiple rates cost too much for small businesses dealing with a variety of goods because it is extremely time-consuming for them to account separately for each different category when filling out tax returns. Fourth, multiple rates provide taxpayers with the opportunity to evade the taxes either through miscalculation or manipulation.

Given the limitations of record keeping on the parts of taxpayers and auditors, it is imperative that the tax be kept simple, and the most important requirement for simplicity is the use of a single rate. If a higher tax burden is desired on certain classes of goods or services, this should be attained by separate levies like the special consumption tax either at the importation or manufacturing level, as is the case now in Korea.

The regressivity of the VAT can be moderated, but not eliminated, by special measures like exemptions and differentiated rates. Even if many commodities were zero rated, significant progressivity or even a decided decrease in regressivity could not be obtained. A set of distributional goals can be more easily achieved using the available alternative devices.

Participants at the Brookings' conference which reviewed the European experience with VAT agreed that the use of multiple rates and exemptions complicate administration and compliance and distorts consumption in ways that are unlikely to promote economic efficiency. They held that the distributional objectives should be pursued with other instruments, notably transfer payments and income taxes. Many of the European countries which have adopted a multiple rate VAT have been moving to simplify their tax rate structure. The United

Kingdom, Belgium, and Ireland have all decreased the number of their VAT rates.

3. Administrative Problems

The administrative problems presented by the VAT have been considerable even though the administrative efficiency of the VAT was an important consideration behind the adoption of the VAT system in Korea. All taxable transactions must be fully recorded. Invoices must be issued so that the purchaser can deduct the tax charged on the sale. For some time administration of the VAT has been subject to criticism. The administrative aspects of VAT are still controversial and recent public concern about the VAT system in Korea centers around the issues of administrative efficiency and compliance costs.

The degree of compliance and the cost of administration depend whether businesses are accustomed to keeping good written records, on the establishment of a modernized distribution system, and on the share of business activity carried out by small establishments. The lack of systematic record-keeping in many parts of the Korean economy would make administration difficult and evasion easy even under the best of circumstances. Unless distribution channels through which commodities change hands are modernized and solidly established, there is no way of controlling the illegal transfer of tax invoices to a third party.

The VAT is said to be self-enforcing because of how it is usually administered. There is a measure of self-policing in that evasion by suppliers through the understatement of the tax collected is balanced by the purchasers' interest in ensuring that all tax payments are recorded. Similarly, evasion by purchasers who overstate the taxes they pay runs counter to the interests of suppliers.

The advantages of the invoice method have not been fully realized in practice, and are not likely to be fully realized, because of the

practical impossibility of checking all invoices on the part of tax collectors and because of the efforts to evade the tax on the part of taxpayers. Much evasion occurs through the failure of some parties to report all transactions. Korean experience with the VAT, however, suggests that the so-called built-in self-enforcing aspect of the tax, which permits the matching of the tax credits of one taxpayer against the tax payments of another, is illusory or, at best, a much overrated advantage because invoices can be falsified.

It must be stressed that the VAT is not a self-enforcing tax. Although taxpayers do have an incentive to request invoices for their purchases in order to increase their input tax credit, this incentive is in many instances counterbalanced by the desire to suppress both purchases and sales in order to avoid not only the VAT but also income taxes.

The ability to administer the VAT is a function of a large number of factors. One group of factors, which are internal to the VAT system, are the scope of the tax, the degree of its complexity in terms of rate structure, the exemptions, the reporting techniques and procedures, the tax payment procedures, and the treatment of small businesses. Another group of factors, which are external not only to the VAT but also to any other kind of tax, include the degree of literacy, the size of monetary economy, the adequacy of bookkeeping, the attitudes toward taxation and tax administration, and the efficiency of tax administration services. Administrative difficulties can be overcome when the intrinsic complexity of the tax law is compatible with the external factors mentioned above.

4. Special Taxpayers

One of the major criticisms of the VAT in Korea has been the burden on businesses, particularly on small businesses, to keep books and file returns to the tax authorities in the prescribed format. Taxpayers' records must show clearly not only total sales and the taxes payable but

also all purchases and taxes paid. Large or medium sized firms can absorb the accounting and procedural requirements of the VAT with relative ease.

However, the problem lies in the size of small businesses. Even though the control and audit of special taxpayers may be kept to a minimum, their numbers alone pose problems of registration, of filing returns, and of tax collection that could impede the efficient administration of the entire tax system. The cost of managing a large number of special taxpayers must be weighed against the considerations of revenue and equity. If the administrative burden outweighs their revenue potential, such special taxpayers had better be exempt from the VAT.

<Table VI-17> shows the distribution of special taxpayers and their tax yield according to the volume of their annual sales. The number of special taxpayers whose annual sales do not exceed 5 million won is 668,918, or 78% of all special taxpayers, and this group of taxpayers contributes less than 3% of the total VAT collected. From a purely administrative point of view, exemption of special taxpayers from VAT would be attractive in that both administration and compliance are made easier with no substantial loss in revenue. Some suggest that the authorities should be lenient in applying the VAT to small traders. The temptation to move toward more lenient treatment of troublemaking small taxpayers should be resisted because such concessions are costly in government creditability and would have a profound effect on the bookkeeping and accounting practices of all taxpayers, both general and special.

<Table VI – 17> Distribution of Special Taxpayers According to Annual Sales in 1982

(Unit: Person, hundred million won and %)

Annual sales (in millions of won)	Number of special taxpayers	Cumulative percentage of total number of special taxpayers	Tax payable	Cumulative percentage of VAT yield
up to 1	120,483	14.11	32	0.15
up to 2	290,632	34.03	131	0.63
up to 3	440,647	51.60	273	1.30
up to 3.75	543,242	63.61	405	1.93
up to 4.50	617,779	72.34	523	2.50
up to 5	668,918	78.33	616	2.94
up to 6	727,642	85.21	740	3.53
up to 7.5	784,880	91.91	888	4.24
up to 12	840,305	98.40	1,090	5.20
up to 15	849,152	99.44	1,134	5.41
up to 18	851,739	99.74	1,150	5.49
up to 20	852,584	99.84	1,156	5.52
up to 24	853,300	99.92	1,162	5.55
up to 30	853,706	99.97	1,166	5.57
up to 50	853,910	99.99	1,169	5.58
up to 100	853,957	100.00	1,170	5.59
up to 1,000	853,961	100.00	1,170	5.59

Source: Ministry of Finance

Another important policy issue is the question of how to determine which taxpayers should be considered special or small. The current dividing limit is total yearly turnover of 24 million won. In 1983 the opposition Democratic Korean Party suggested that the limit be increased to 36 million won per year. This suggestion should be rejected since the aim of special treatment of small businesses is not to give them more favorable treatment, but to provide a simplified system which approximates the true tax liability without imposing an intolerable burden on either the taxpayer or the tax administration.

5. Tax Inequity between General Taxpayers and Special Taxpayers

In the public at large the most debated issue involving the Korean VAT system centers on the inequity in the tax burden between general taxpayers and special taxpayers. A <Table VI-9> and <Table VI-10> show, in 1982 special taxpayers constituted 77% of all taxpayers although their actual taxes comprised only about 5% of the VAT collected.

Two specific illustrations will clarify the controversy over the tax inequity between general taxpayers and special taxpayers:

- (1) Inequities between general taxpayers (B) and special taxpayers (A) in the same industry (assuming full tax credits)

Firm	Sales	Value added as % of sales	Tax	Tax as % of sales	Tax as % value added
A	₩20,000,000	30%	₩386,000	1.93%	6.43%
B	₩50,000,000	30%	₩1,500,000	3.00%	10.00%

- (2) Inequities among small taxpayers due to differences in the value added (assuming full tax credit)

Firm	Sales	Value added as % of sales	Tax	Tax as % of sales	Tax as % value added
C	₩20,000,000	10%	₩382,000	1.91%	19.1%
D	₩20,000,000	50%	₩390,000	1.95%	3.9%

As the above examples clearly indicate, there are tax inequity problems with the current Korean VAT system. <Table VI-18> presents a more comprehensive summary of the effective VAT rate by industry among two types of taxpayers. Two points stand out. First, there is a considerable variation in effective tax rates between general taxpayers

and special taxpayers within a given industry. It is difficult to justify why two similar taxpayers should pay vastly different taxes solely because one has a turnover that slightly exceeds the fixed limit and the other is just below the limit. Second, the ununiformity in the value added among industries results in a large differential in the effective tax rate. Of course, all these conclusions are based on the assumption that a VAT is not fully shifted into consumer prices or, if it is, the degree of shifting is more or less uniform.

**<Table VI -18> Effective VAT Tax Rate by Industry
(Average for 1977-1982)**

	Value added as % of sales	Effective tax rate	
		General taxpayers	Special Taxpayers
Agriculture, fishery and forestry	75.11	7.51	-
Mining	48.45	4.85	1.25
Manufacturing	25.89	2.59	1.94
Electricity, gas, and piped water	8.04	0.80	-
Wholesale trade	11.07	1.11	-
Retail trade	9.19	0.92	1.77
Real estate	8.48	0.85	-
Construction	66.11	6.61	1.96
Restaurants	62.61	6.26	1.87
Hotels and inns	39.75	3.97	1.95
Transportation, storage, and communications	61.12	6.11	1.94
Renting and leasing	42.55	4.26	2.00
Proxy, intermediary, and consignee	56.03	5.60	3.46
Others services	50.46	5.05	2.09
Average	28.40	2.84	1.87

Note: 1. Effective tax rate of general taxpayers = value added rate \times nominal tax rate(10%)

2. Effective tax rate of special taxpayers = nominal tax (2% or 3.5%) - [(1-value added rate) \times nominal tax rate (10%) \times credit rate (5%)]

Source: Ministry of Finance, *Statistics on Indirect National Taxes*, April 1983.

It is important to note that these differences in effective rates affect decisions by traders about whether to remain special taxpayers. The effective tax rate of the VAT itself is one of the many factors that businesses consider when determining whether to remain special taxpayers or to move into the general taxpayer group. Nevertheless, the variation in the effective rate among different industries and between general taxpayers and special taxpayers creates distortions beyond those explicitly intended.

Taxpayers are hesitant or reluctant to become general taxpayers simply because special taxpayers are treated preferentially relative to general taxpayers. The manipulation of sales totals or disguised closing of businesses is a well-known practice. This illegal practice in large part explains the fact that despite the rapid growth of the economy there is no growth in the number of special taxpayers as a percentage of total VAT taxpayers, as shown in <Table VI-9>.

An adjustment has to be made to attenuate the benefits enjoyed by special taxpayers. This can be done by increasing the tax rate applied to sales of special taxpayers, the input tax credit, or both. Another suggestion is to incorporate in the definition of special taxpayers other objective elements such as the value of total assets or the number of employees.

6. Coordination of VAT with Direct Taxation

A high degree of coordination between the staff in charge of VAT and those in charge of direct taxes is very important. It is an open secret that in Korea taxpayers cheat on their sales not to evade the VAT but to evade personal and corporate income taxes. Operation of a VAT resembles that of the income tax more than that of other taxes and an effective VAT greatly aids income tax administration.

Countries differ in the degree to which they combine administration of their VAT with individual and corporate income taxes. To secure a

close coordination between them, institutionalization is necessary at the technical level through means such as automatic processing of data obtained through tax returns or audits, the exchange of this information, consultation as to special audit programs, and the design of forms. In any event, close cooperation with the income tax administration is of great importance for strengthening both the VAT and the income tax.

One lesson that the Korean experience holds for a country contemplating the adoption of the VAT is that the VAT that is implemented is bound to fall well short of the theoretical ideal. However simple the VAT may be in theory, Korean experience makes it clear that it is not simple in practice. It creates a host of special problems that give rise to paperwork and more or less arbitrary distinctions.

Still, there is no reason to regret the adoption of the VAT and to return to the previous indirect tax system. We had to jump into the water before we could feel how hot or cold the water was, and with a fright we realized that the water was cold, pretty cold indeed. However, nowadays the water is heated. So we can swim in it with pleasure.

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Chapter VII. Tax Structure and Problems in Rapidly Growing Economies

I. Introduction

Tax Policy and tax reform in rapidly growing countries involve broad issues of economic policy as well as specific problems of tax structure, financing public expenditure, and tax administration. In any rapidly growing economy, the tax system evolves with the economic structure. The main objectives of this chapter are (1) to review problems related to tax policies as implemented in Korea; (2) to review the effects of tax policies on resource mobilization, income redistribution, and tax administration; and (3) to explore potential avenues for a better tax system by discussing current issues in tax policies in Korea. Moreover, we attempt to derive some lessons by reviewing Taiwan's tax structure and the distributional effect of Taiwan's tax policies, and by comparing the efficiency of tax administration in Korea with that to Taiwan.

We analyze fiscal problems of a relatively small public sector during the industrialization period, adherence to a balanced budget, comparatively low taxes, relatively low taxes on capital income, liberal use of tax incentives for investments, heavy reliance on indirect taxes, insignificant property taxes, increased public savings, relatively little spending on redistributive social services, and budgeting for significant resources for industrial development.

II. Tax Structure

The Korean economy has experienced dramatic changes during the last 50 years. The government pursued economic stability and an independent fiscal policy after Korea was emancipated from Japanese rule in 1945 and the government established three years later. However, it initially failed to achieve these goals due to the outbreak of the Korean War in 1950; instead, until at least 1960, the government had to devote all of its efforts to restoring the economy with aid from advanced countries.

Beginning in the 1960s, the new government adopted an export-oriented development strategy as the core of its five-year economic development plan. The main instruments for rapid developments were subsidization of the export sector, improvement of infrastructure, and maintenance of low interest rates, low wage levels, and high prices. Investment was done largely by the government rather than by the private sector. In 1966, the government established Office of National Tax Administration (ONTA), to which it gave the tax administration function. Nor did the government hesitate to print money to finance the huge amount of investment. By 1970, per capita GNP had increased to US\$252 from US\$65 in 1955, and the share of exports to GNP rose to 14.1 percent from 2.9 percent in 1955.

In the 1970s, the government decided to change the economy's structure from a strong reliance on labor-intensive manufacturing industries such as textiles, shoes, and clothes, to a greater focus on the heavy and chemical industries. The enormous investment required was funded by banks that were fact controlled by the government. The ratio of investment to GNP in this period was higher than 20 percent, as shown in <Table VII-1>. Furthermore, the government introduced the defence tax and the value added tax(VAT) in 1975 and 1977, respectively,

<Table VII -1> Major Economic Indicators, 1955-1990

(Units: US\$, %)

	Per capita GNP	Growth rate of GNP	Inflation rate (GNP deflator)	Gross fixed investment to gross national disposable income	Exports to GDP
1955	65	4.1	62.1	10.2	2.9
1960	79	3.3	13.6	10.8	4.1
1965	105	6.5	19.6	14.8	9.5
1970	252	10.4	15.3	24.3	14.1
1975	594	8.3	19.3	28.8	27.8
1980	1,592	7.2	20.5	32.0	34.0
1985	2,194	8.4	7.4	29.9	34.6
1990	5,694	10.9	5.6	37.1	31.0

Note: Growth rate and inflation rate represent the average of five years including previous four years.

Source: National Bureau of Statistics, *Major Statistics of Korean Economy*, 1991.

to finance and meet increased fiscal demands for economic development.

In 1975, the government introduced a comprehensive income tax system in an effort to encourage greater social equity. During the 1970s, both economic growth and inflation soared, and the inflation rate was around 15~20 percent. The share of the exports increased to 34 percent in 1980 from 14.1 percent in 1970.

After the oil crisis and political turmoil of the late 1970s and early 1980s, a new government came to power which made price stabilization its highest priority. This government allowed only a minimum rate of growth for government spending, and inflation was lowered into the single digits. In 1984, the GNP deflator increased only 3.9 percent. The economy sustained steady growth that culminated in 1986-8 with the aid of the three lows: low interest rates, low oil prices, and low valuation of the won. The share of exports in GDP was higher than 30 percent during this period. However, Korean society faced strong demands for democratization as a result of the accumulated negative effects of rapid growth. Land and housing prices

soared uncontrollably, income distribution seriously deteriorated. The government tried institutional reforms but failed. Among the reforms, the 'concept of public ownership of land' (CPOL), a somewhat radical measure, was introduced, but the 'the real-name based financial transaction system' (RNFT) was legally passed, then suspended²¹⁾.

In the early 1990s the Korean government launched institutional reform quite systematically with the reform agenda prepared in advance. Tax reform was included with the financial and fiscal reform, deregulation, and privatization, and the government has introduced the RNFT system by presidential order. Tax reform was gradually completed in the late 1990s based on the RNFT system.

The tax problems of Korea can be summarized as follows: the effective tax rates are excessively low compared with legal tax rates; too many loopholes and deduction exclusions exist; and unequal treatment among industries, income sources, and commodities was common.

Effective tax rates can be inferred through the tax-burden ratio. The highest legal tax rates of the major direct taxes such as income tax, estate and gift tax, and capital gains tax, are greater than 50 percent. The main reason for the great disparity between the effective tax rate and the legal tax rate was the existence of many deductions, exclusions, and loose tax administration. Under the old system, fictitious names could be used in financial transactions, making the concealment of true transactions easy. Therefore, there was a relatively heavy tax burden on wage earners, the non-export sector and non-capital owners. Capital income earners, on the other hand, faced a very progressive and high tax rate, but they could easily evade by using preferential treatments.

The tax system of Korea consists of 15 national taxes and 15 local taxes. In this sense, Korea's tax system is more complicated than those

21) In Korea, financial transactions under a fictitious name were possible before the introduction of the RNFT system. Therefore, those who wanted to avoid revealing their financial income or assets could use official financial intermediaries.

of the advanced countries. This proliferation of taxes was due mainly to the government's tendency to turn to new taxes when it needs to increase public expenditures. In the early 1990s the tax ratio burden ratio has been around 20 percent, and national tax revenues have constituted about 80 percent of total taxes. The most important national taxes, in terms of revenue yields, are the VAT, personal income tax, corporate income tax, and the special consumption tax. The most important local taxes are the registration tax, tobacco tax, acquisition tax and automobile tax.

Since its introduction, the VAT has become the major revenue source as shown in <Table VII-2>, yielding 27.1 percent of the national tax in 1991. The second largest revenue source was the personal income tax yielding 21.3 percent of the national tax. Corporate tax and custom duties yielded 15.1 and 11.3 percent, respectively. However, in the future, custom duties will not yield as much as before because the government will have to reduce tariffs in accordance with the global trade liberalization schedule.

The current structure of the national tax system has restored the balance between direct and indirect taxes in terms of the ratio of direct tax revenue to total internal revenue, from around 35 percent in 1980 to 50 percent today. Taxes on wealth at the national level, such as the inheritance and gift tax, assets revaluation tax and securities transaction tax are not significant in terms of their revenue yields. Revenue collected from these taxes constitute only 1.6 percent of the national tax revenue. Wealth taxes at the local level are, however, major sources of fiscal revenue. The acquisition tax, accounting for 23.6 percent, was the largest source. Acquisition, property, global land, and earmarked taxes constituted about 36 percent of the total revenues at the local level.

By comparing the tax system and structure of Korea with that of Taiwan, we can easily see the complexity of Korea's structure. Taiwan has only 14 taxes as levied by all levels of government, while Korea

has a total of 30. According to the 'Law Governing the Allocation of Government Revenues and Expenditures', taxes in Taiwan are classified into three types; national, provincial, and prefectural taxes. National taxes consist of the income tax (individual and enterprise), estate and gift tax, custom duties, commodity tax, securities transaction tax and mining lot tax. Provincial taxes consist of the business tax (a sort of VAT) and stamp tax. Prefectural taxes consist of land taxes (land value tax, agricultural land tax, and land value increment tax), housing tax, deed tax and amusement tax.

<Table VII-2> Tax System in Korea, 1991

(Units: %)

National Taxes		Local Taxes	
1. Domestic taxes	79.3	1. Ordinary taxes	92.0
Personal income tax	21.3	Acquisition tax	19.0
Corporate income tax	15.1	Registration Tax	23.6
Inheritance and gift tax	1.0	License tax	1.1
Assets revaluation tax	0.2	Inhabitant tax	8.7
Land excess profit tax	0.6	Property tax	3.4
Excess profit tax	-	Automobile tax	7.9
Value-added tax	27.2	Farmland income tax	1.0
Special consumption tax	7.4	Butchery tax	0.3
Liquor tax	3.8	Horse race tax	1.0
Telephone tax	1.0	Tobacco tax	20.5
Stamp tax	0.7	Global land tax	6.4
Securities transaction tax	0.4		
Carry-over	0.5		
2. Customs duties	11.3	2. Earmarked tax	7.3
		City Planning tax	3.8
		Fire service facilities tax	1.3
		Workshop tax	2.1
3. Surcharges	9.3	3. Carry-over	0.7
Defense tax ¹⁾	4.2		
Education	5.1		
Total	100.0(79.1) ²⁾	Total	100.0(20.9) ²⁾

Notes: 1) The defense tax was repealed in 1990, however, there was a time lag in collecting it.

2) Figures in parentheses represent shares of total tax revenues, which equaled 38,355 billion won.

Source: Economic Planning Board, *Korean Statistical Yearbook*, 1991.

For Years Taiwan's government has tried to build a tax system with direct taxes as its core. According to the data in the *Yearbook of Tax Statistics* compiled by the Ministry of Finance, the proportion of direct taxes in state revenue rose from 24.0 percent to 55.3 percent during the 30 years between 1961 and 1992²²⁾. However, some taxation theorists have suggested that direct taxes with progressive rates have an adverse effect on people's inclination to work and invest. As a result, many countries have lowered their marginal rates of income taxation, and Taiwan's government followed suit. Nevertheless, it has continued to adjust its tax structure in a rational way, which indicates that Taiwan's tax system and tax structure are gradually approaching those of developed countries.

<Table VII-3> Tax structure of Taiwan

	(Units: %)	
	1960	1992
Income tax	10.3	24.0
Individual income tax	1.7	13.7
Profit-seeking enterprise income tax	8.6	10.3
Property tax	7.7	18.3
House tax	2.5	3.2
Land tax	5.2	15.1
Sales tax	39.3	36.0
Business tax	5.6	15.1
Stamp tax	4.6	0.5
Commodity tax	10.9	10.6
Customs duties	18.2	9.1
Monopoly revenues & other taxes	42.7	21.7
Monopoly revenues	21.2	7.4
Other taxes		
TOTAL	100.0	100.0

Source: Taxation and Tariff Commission, Ministry of Finance, Republic of China, *Guide to ROC Taxes*, 1993

22) See *Guide to ROC Taxes*, Taxation and Tariff Commission, Ministry of Finance, Republic of China, 1993.

As shown in <Table VII-3>, the tax structure of Taiwan has evolved so that shares of income and property taxes have increased significantly. The shares of these taxes have increased from 10.3 percent and 7.7 percent in 1960 to 24.0 and 18.3 percent in 1992, respectively, while the share of the sales tax has decreased from 39.3 percent in 1960 to 36 percent in 1992. In addition, the share of monopoly revenue has decreased enormously from 21.2 percent in 1960 to 7.4 percent in 1992. This change in the tax structure might be the result of a shift in the national priority from growth to social equity. In particular, the increase in the share of the property tax was the result of a strong anti-land speculation policy.

The largest source of tax revenue for Taiwan is income tax, which constitutes 24 percent of the total tax revenue. Business tax accounts for only 15.1 percent in Taiwan, while the VAT of Korea yields about 20 percent of its total tax revenue. In this sense, Taiwan is more dependent upon income tax in internal taxation than Korea. One characteristic of the Taiwanese tax structure is that revenues from property, housing and land taxes constitute a large share of the total tax revenue, 18.3 percent in 1992, while the share of the property tax in Korea in 1991 was just above 10 percent.

The agenda of the tax reforms undertaken by the Korean government in the 1990s included improvement of income distribution, reduction of exclusions, deductions and loopholes and a movement to trade liberalization and an equitable tax administration. The Korean government has broadened the tax base with the aid of the RNFT system. Furthermore, it reduced the highest marginal tax rate to a reasonable level to induce taxpayers to report their true incomes and wealth. In addition, the government normalized the tax base on property and land taxes, which are excessively under-assessed. To rationalize the VAT, the Korean government has strengthened the administration of specially-treated VAT taxpayers.

III. Resource Mobilization through Taxation

The most important function of taxation is to mobilize private resources for public use - that is, public expenditure. Taxation is a main instrument for financing such expenditure, along with the sale of government services and debt financing. In Korea, most public expenditures by the central government have been financed through taxation. Therefore, the size of public expenditure in the near future should determine the extent to which tax revenue is increased.

Korean society experienced dramatic changes in the late 1980s, and the strong demand by the Korean people for democratization led to reforms in various sectors and the election of a new government in 1993. National priorities have shifted from equitable distribution of income to sustainable economic growth under a competitive international market environment stemming from the rapid global liberalization movement. The scheduled liberalization of Korea's trade and capital markets will inevitably result in a restructuring of the country's industries. Furthermore, liberalization calls for high quality labor and new high technology in order to make this process as smooth as possible and to minimize social costs. This requires an active government role in strengthening the growth potential through providing sufficient social overhead capital, and by improving social welfare, income distribution and the quality of administrative services.

It is useful, in this sense, to discuss the relationship between the size of public expenditures and economic development. Chenery (1960) and Chenery and Syrquin (1975) introduced the concept of a 'normal pattern' in the structural development of an economy; they thought that there should be a common pattern in economic structures across country-specific environments. In a similar way Rostow (1971) and Kohl (1983) related the sized and structure of a country's public

expenditures to its stage of economic development. According to these authors the preconditions for the take-off phase of economic growth are characterized by the rapid formation of suitable political, social and institutional frameworks. Expenditures for institutional infrastructure must be paid through a national product that is still relatively small. Hence, there is a sharp rise in the state's claims on total economic resources.

The later phase of self-sustaining growth and the drive towards technological maturity is marked by labor movements and political parties as well as social insurance systems and educational systems with compulsory schooling. At the same time, economic growth provides the public sector with increasing revenue, so that the share of GNP in the public sector need not rise rapidly. This pattern continues into the stage of consumption.

In the search for equality, changes in fundamental values bring increasing strains to the political system. Negative external effects of extensive industrial growth are recognized. A growing awareness of deficient public goods and services and an emphasis on redistribution issues lead to growing demands for welfare and education services. Because all this happens in the context of declining economic growth rates, a rapid rise in the ratio of public expenditure to GNP is inevitable. Whether and to what extent the government should meet these increasing social demands on expenditures is a political as well as an economic issue. In Korea, the government has set up the structure and size of expenditures, which are, in fact, closely related to each other since enhanced efficiency in the allocation of expenditure among sectors could reduce the size of these expenditures.

As shown in <Table VII-4>, social development expenditures have increased in the recent process of democratization, since the government has had to meet the people's demands for expenditures which the government had considered a low priority during the period of economic growth. Expenditures on social security and welfare,

housing and social development increased continuously from 6 percent in 1970 to 18.2 percent in 1992²³⁾. However, this growth appears to have been a transitional phenomenon, and it is unlikely that expenditures on social development will grow as fast in the future.

The share of national defense in the budget increased from 26 percent in 1972 to 30.6 percent in 1980. However, the share of expenditures on national defense was greatly curtailed to a 20 percent by 1990. Expenditures on economic development showed a similar pattern.

In classifying public expenditures into investment and consumption, investment increased from 20.2 percent of the total share to 24.3 percent during 1972-76. But in 1992, public investment decreased to 23.1 percent. For instance, increases in investments in social overhead capital have lagged dramatically behind the rapid increase in vehicle ownership. The number of automobiles increased by a factor of more than six, from 527,729 in 1980 to 3,394,803 in 1990, while the length of roads increased by only 20.8 percent during the same period.

The trend in the share of public investment to GNP in Korea may be compared with that of Japan. Korea's mean share of public investment to GNP was 5 percent from 1970-92 compared to 3 percent in Japan. The coefficient of variation in Korea was 45.1 percent, while that of Japan was only 13.2 percent.

23) Subsidies to rice farmers through price support mechanisms, as well as debt exemption to farmers and fishermen, amounted to won 1,086 billion or 2.9 percent of the total expenditure of the general account of the central government in 1990.

<Table VII – 4> Expenditure Structure: central government

(Units: %)

	1972	1975	1980	1985	1990
General Administration	12.0	13.1	8.5	9.4	8.5
National Defense	26.0	26.4	30.6	26.6	20.0
Education	16.1	12.7	14.6	16.6	17.0
Health	1.2	0.9	1.0	1.3	1.7
Social Security and Welfare	5.0	4.8	5.7	5.2	8.1
Housing and Social Development	1.0	0.9	2.5	4.8	10.1
Regional Development	1.3	0.8	0.7	1.0	0.5
Economic Development	24.8	31.1	26.0	21.9	20.4
Others	12.6	9.1	10.4	13.2	13.7
Total	100.0	100.0	100.0	100.0	100.0

Source: Bank of Korea

According to Heller and Diamond (1986) who included as many developing countries as possible in their sample, the expenditure index for national defense in Korea is around 160, while the indices of health, social security, and local development are only 20-30²⁴⁾. The Korean government has thus underemphasized social development and needs to spend more in those areas. Along with this adjustment, the size of the public expenditure should be increased. Although the ratio of public expenditures to GNP has increased over the last two decades, from 16.3 percent in the period 1972-76 to more than 18 percent in the period 1987-91, this ratio is still relatively low compared to those of advanced countries, largely because the Korean government has strongly adhered to a balanced budget doctrine. The five year plan set an expenditure target in 1996 about 3 percentage points higher than in 1992 when we judge it based on a target tax burden ratio (see <Table

24) The index represents the actual share of the expenditure to GNP, relative to the desired share under the same environment. An index of 100 can be approximately interpreted as the mean for developing countries.

VII-5>).

In Taiwan, the structure of the public expenditure has changed in a pattern similar to Korea's, since both countries are at similar stages of economic development. The shares of expenditures for economic development and national defense have fallen significantly in Taiwan, as in Korea. In <Table VII-6>, the share of expenditures for economic development fell from 33.5 percent in 1981 to 15.4 percent in 1990, and expenditures for national defense also fell from 24.2 percent to 18.3 percent during the same period. On the other hand, the shares of expenditures for education and social security increased from 17.5 percent to 19.7 percent and from 11.8 percent to 17.2 percent, respectively.

Taiwan also has a deficiency problem in social overhead capital. The Taiwanese government has set up a six-year development plan to carry out enormous investments equal to about NT\$6 trillion for the construction of highways, urban mass transit systems, and so on.

**<Table VII -5> Ratio of Public Expenditure and Tax Burden to GNP:
General Government**

(Units: %)

	1972-6	1977-81	1982-6	1987-91	1992	1996
Ratio of Public Expenditure to GNP ¹⁾	16.3 (14.5)	18.6 (16.3)	18.6 (16.2)	18.3 (15.1)	- (14.5)	- (15.6)
Tax Burden	14.0	17.4	17.7	18.4	19.4	22

Note: 1) Figures in parentheses are ratios of expenditure of central government's general account to GNP.

Sources: Bank of Korea, *National Income Account*; and Government of Korea, *Economic and Social Development Plan*, 1991.

**<Table VII-6> Structure of Public Expenditure in Taiwan:
General Government**

(Units: %)

	1981	1990
Economic Development	33.5	15.4
National Defense	24.2	18.3
Education and Science	17.5	19.7
Social Security	11.8	17.2
Administration	9.7	10.8
Debt Redemption	2.1	7.4
Others	1.2	1.2
Ratio to GNP	26.9(16.9)	27.5(16.5)

Note: Figures in parenthesis represent the ratio of public expenditure of central government to GNP

Source: Taxation and Tariff Commission, Ministry of Finance, Republic of China, *Guide to ROC Taxes*, 1993.

In Taiwan, as a result of economic development, social progress and population growth, there has been an increasing demand by the people for the government to provide services. As a result the magnitude of government expenditures has continued to grow with the expansion of government functions. As shown in <Table VII-6> over the last decade net expenditures by the government at all levels amounted on average to about 27 percent of GNP with taxes constituting the principal source of public revenue. In the decade between 1982 and 1991, the tax burden ratio of Taiwan averaged 15.5 percent. However, there has been a tendency since 1985 for the ratio to fall below the average, although in 1991 it was 17.6 percent. Therefore, total tax revenue is still far behind public expenditures. The ratio of tax revenue to total public expenditures averaged 65.7 percent between 1982 and 1991²⁵⁾.

Considering the present levels of both Korean and Taiwanese

25) See *Guide to ROC Taxes*, 1993, p. 4.

economic development and national income, the levels of tax burdens in both countries appear to be far below those of developed countries, with a potential capacity for taxation that has yet to be developed. Taxation, non-tax measures, bond financing, and the inflation tax can be used to mobilize resources for economic development. At the early stages of economic development, non-tax measures and the inflation tax are used in addition to taxes. However, non-tax measures and inflation tax cannot be used as a main source of public expenditures, since they have limitations of revenue growth and inflationary effects.

The experiences of Korea and Taiwan suggest that indirect taxes, import duties, and non-tax revenues are the main sources during the early stages of economic development. Korea has also used inflationary taxation. However, taxes should become the main sources of public expenditures in the future, once Korea and Taiwan are closer to the stage of being developed countries. Moreover, the tax base should be widened and tax rates should be reduced, as the international economic environment becomes more competitive. In increasing the tax burden, detection of tax evasion should be enhanced, since the size of the underground economy is suspected to be more than 20 percent of the GNP²⁶.

In particular, enforcement of property-related taxes, such as the property, global land, estate, capital gains, value-added and business income taxes should be strengthened because these taxes are vulnerable to tax evasion. The base for property taxes, which is around 20 to 40 percent of actual value, should be increased to actual value. However, to avoid a dramatic increase in the tax burden on property owners, the tax rate should be simplified and lowered after one or two years when the actual tax base is realized.

Tight management of wealth owners is required, since tax

26) Choi, K., *A Study of the Underground Economy in Korea*, Korea Economic Research Institute, 1987 (in Korean)

administration has a strong effect on estate taxation. Exemptions and exclusions for the capital gains tax should be reduced, as its base is enormously eroded by various exemption clauses (for example, full exemption for one-house owners and land used for educational purposes). Value added tax (VAT) and business income tax also should be administrated should be efficiently to enhance the taxable income detection rate²⁷⁾.

27) These taxes are administered by the guidelines set by ONTA. Once the taxpayer meets the guidelines, he has an incentive to underreport his income and total sales. One recent study showed that business income was under reported by 13-39percent in the latter half of the 1980s. Therefore, the tax burden should be increased through the enhancement of tax efforts and detection. See Roh (1992).

IV. Tax Policy and Income Redistribution in Korea

Although enhanced welfare through more equal distribution of income and wealth has been a centerpiece of every five-year economic development plan prepared by the Korean government, no measure of any substance has been taken. Although the litany of equity or better income distribution was a stated objective in all tax reforms in Korea, the Korean tax system does not have a capacity for income redistribution and retains a significant regressive element, as all the empirical studies examined below strongly suggest.

1. Distribution of Income in Korea

In view of Korea's rapid economic growth the present distribution of income is considered rather equitable by international standards. The relatively equal distribution of income in Korea has been traced to several factors including the leveling of Korean society by the Japanese, post-liberation land reforms, asset destruction during the Korean War, confiscation of illegally-accumulated wealth after the downfall of some previous regimes, a labor-intensive strategy during the early development stage, and widespread access to higher education.

Available figures on the distribution of income in Korea are summarized in <Table VII-7>. The overall distribution of income improved during 1965-70, deteriorated somewhat during 1970-76, and then improved again during the 1980s, as evidenced by the fact that the Gini coefficient fell from 0.344 in 1965 to 0.332 in 1970, rose to 0.391 in 1976, and then fell to 0.336 in 1998. Improvements in the distribution of income during 1965-70 were due to the creation of

employment through labor-intensive export-led growth strategies, while the deterioration in income distribution during the late 1970s was caused by large capital-intensive investment and severe inflation. Improvement in the overall size distribution of income can be attributed to price stability, realignment of the industrial incentive system and several government measures targeted at low-income groups.

The rather equitable distribution of income and generally low level of tax burden in Korea that have existed so far do not imply that the general public is satisfied with the present distribution of income and the tax burden. Koreans are very equity-oriented and equality-minded. The skewed distribution of wealth and resulting unequal distribution of income have remained one of the most frequently heard complaints with regard to the economic policy in Korea. People are very critical of the high concentration of industrial fortunes in the hands of the wealthy few and excessive holdings of land and dwellings by the rich. Recently there has been an increasing concern with inequities in tax burden.

<Table VII – 7> Income Distribution in Korea

(Units: %)

Income decile	1965	1970	1976	1980	1985	1988
1	1.32	2.78	1.84	1.56	2.06	2.80
2	4.43	4.56	3.86	3.52	4.02	4.46
3	6.47	5.81	4.93	4.86	5.24	5.47
4	7.12	6.48	6.22	6.11	6.39	6.39
5	7.21	7.63	7.07	7.33	7.47	7.35
6	8.32	8.71	8.34	8.63	8.76	8.43
7	11.31	10.24	9.91	10.21	10.21	9.79
8	12.00	12.17	12.49	12.38	12.41	11.64
9	16.03	16.21	17.84	15.93	15.42	14.58
10	25.78	25.41	27.50	29.46	28.29	29.09
Bottom 40% (A)	19.34	19.85	16.85	16.06	17.71	19.12
Top 20% (B)	41.81	41.62	45.34	45.39	43.71	43.67
Gini coefficient	0.3439	0.3322	0.3908	0.3891	0.3631	0.350

Sources: Korea Development Institute and Economic Planning Board.

The public's major discontent lies in their belief that government activities themselves have generated rather than reduced income inequalities in Korea. Government policies responsible for worsening income inequities include:

1. subsidies implicit in huge sums of domestic and foreign loans which have accrued mainly to big business at lower effective interest rates, thus contributing to asset formation in the high income bracket;
2. a tax policy that has relied heavily on the consumption tax rather than on income or property taxes, and has made excessive tax concessions to capital income; and
3. a development-first policy that resulted in large windfall or capital gains which were not absorbed by the national treasury through the tax system or other channels.

2. Equity Issues in Tax Policy

The method most frequently used to improve equity in the distribution of the tax burden in most previous tax reforms has been to change personal income tax by increasing tax exemptions for low-income groups. This approach has weakened the role that personal income tax plays in the Korean tax structure, thereby reducing the redistributive capacity of the whole tax system.

From the distributive point of view the horizontal equity as well as the vertical equity is of considerable importance. The grudge of the typical Korean taxpayer is not that tax burdens are unbearably high, but that he pays more taxes than others in the same income bracket. Three major features of the tax system which generate both horizontal and vertical inequities in the tax burden are (1) relatively heavy reliance of tax revenues on indirect taxes; (2) the provision of various tax incentives along with incomplete globalization of personal income tax; and (3) the erosion of the tax base due to tax evasion and

underground activities.

Since Korea depends heavily on indirect taxes for its revenue, the incidence of the indirect tax burden plays a large role in determining the regressiveness or progressiveness of the overall tax burden in Korea. The share of indirect taxes in the total tax revenue is more than 65 percent. Since, as discussed below, the burden of indirect taxes is quite regressive, the overall tax burden in Korea is also quite regressive. The major problem is that the special consumption tax, whose very purpose was to inject some progressiveness into the consumption tax burden, has also turned out to be regressive.

One may claim that the various tax incentives rendered to stimulate investment, exports, and economic growth have benefited many low-income earners, not so much by reducing their tax burden, as by creating additional employment. Too many special tax provisions introduced into tax law to accelerate economic growth benefited only selected groups of taxpayers. The special application of reduced tax rates to certain capital incomes favored high-income classes against low wage and salary earners. Likewise, special exclusions, deductions and tax exemptions eroded the tax base and provided higher tax benefits for the higher income classes than for the lower income classes.

Within the income tax system the burden continues to be concentrated on the middle income class and on wage and salary earners. This is because the government has traditionally mobilized domestic resources for development by reducing consumption through the use of indirect taxes. Expansion of the scope of exemptions in the personal income tax schedule under various tax incentives, which was a ritual in all major and minor tax reforms in Korea, has caused the income tax burden to fall more heavily on the middle-income class. The major culprit in this area has been the separate on the taxation of interest and dividend incomes, which has led to a disparity in income distribution and to the concentrated tax burden on the middle-income class.

Inadequate taxation of interest and dividend incomes is one of the

most serious problems in Korea's personal income tax system. The problem exists for two reasons. First, most forms of interest and dividend incomes are subject only to a final, separate withholding tax rate of 5, 10, or 20 percent. Second, a significant amount of such income is unreported, and effectively completely free of tax. A loss of revenue due to separate taxation or tax evasion implies a serious departure from both horizontal and vertical equity in income taxation and welfare loss due to inefficiencies it generates.

As shown in <Table VII-8>, in 1992, 99.4 percent of interest incomes reported by the National Tax Administration were separately and finally taxed at the lower withholding rates. Only 0.6 percent of interest was included in the global income tax base. Among the dividends, only presumptive dividends, dividends from major stockholders of open corporations, and dividends from closed corporation were subject to global taxation and these together accounts for only 40.9 percent of reported dividends in 1992. The separate rates of 5, 10 and 20 percent (including defense and education surcharges and the inhabitant tax) on interest and dividend incomes are very high for low-income people because their income is well below the bracket where the marginal tax rate attains that level, and a relatively low rate to the rich because their marginal tax rate usually exceeds the separate rate.

<Table VII-8> Separate and Global Taxation of Interest and Dividend Income

(Units: billion won, %)

	1982		1986		1992	
	Amount	Share	Amount	Share	Amount	Share
Interest Income:						
Separate taxation	1,812	97.7	2,819	99.9	136,712	99.4
Global taxation	43	2.3	19	0.1	843	0.6
Dividend Income:						
Separate taxation	161	58.3	238	66.5	6,747	59.1
Global taxation	115	41.7	119	33.5	4,662	40.9

Source: Ministry of Finance.

A high degree of erosion of the income tax base has been the major source of problems facing the Korean tax system. The erosion of the tax base arises from two sources: non-taxation or exclusion of some incomes from the tax base tax evasion. In Korea, income tax on capital gains from the transfer of real properties is administered as a separate tax and capital gain from stock exchanges are accorded non-taxable privileges. Non-taxation of capital gains from selling stocks is a major cause of the substantial erosion of the personal income tax base and provides the greatest advantage to high-income taxpayers, resulting in a big disparity in tax burdens among the different income classes.

The issue of tax evasion is particularly important in light of evidence that the tax system fails to capture a significant amount of various types of income, as reported in the national income account, <Table VII-9> shows that there are large variations among types of income in the 'capture ratio', defined as income reported on tax returns as a percentage of factor income in the national income account. For example, in 1983, 40.2 percent of the interest income and 51 percent of the dividend income reported in the national income account were subject to taxation. In particular, note that tax is levied on only 11.8 percent of rental income. Business income and tax are also vulnerable to under-reporting. Keesung Rho (1990) recently estimated the magnitude of underreported business income and tax. <Table VII-10> shows that, using the expenditure method, the estimated ratio of the under reported income and tax to the actual income and tax actually paid falls in the range of 8 to 25 percent and 13 to 39 percent in the late 1980s.

<Table VII-9> Comparison of factor income implied by personal income tax returns with factor income of national income statistics

(Units: billion won, %)

	1977			1983		
	National income (A)	ONTA returns (B)	B/A	National income (A)	ONTA returns (B)	B/A
Compensation of employee	5,845	4,044	69.2	255,875	191,855	75.0
Income from property:	1,886	594	31.6	77,316	24,811	32.1
Rent	670	111	16.6	23,772	2,799	11.8
Interest	844	282	33.4	49,247	19,794	40.2
Dividend	372	134-201	35.9-54.0	4,347	2,218	51.0
Incomes from unincorporated enterprises :	4,517	2,572	56.9	-	-	-
Non-agriculture	1,956	925	47.2	27,952	21,053	75.3
Agriculture	2,516	1,648	64.4	-	-	-

Source: IMF, *Korea: Taxes in the 1980s*, 1979; and Commission on Tax Reform, *The Final Report of the Commission on Tax Reform*, 1985.

<Table VII-10> Ratio of underreported business income and tax to the actuality

	Income		Tax	
	At average income	Upper limit	At average income	Upper limit
1986	12.1	24.8	18.2	39.0
1987	11.3	11.3	17.7	17.0
1988	7.9	14.8	12.8	21.4
1989	11.9	18.4	19.8	24.5

Source: Keesung Roh, 'The Estimation of Under-Reported Business Income Tax', *Korea Development Review*, Vol. 14, Fall 1992.

3. The Tax Burden in Korea

Tax-incidence analysis is the study of the effect of a particular tax or a tax system on the distribution of income or economic welfare. The

key question is who actually bears the burden of the resources transferred to the government by tax. The estimation of tax incidence in a country requires the development of a detailed microeconomic data base relating to the level and distribution of consumption of specific commodities. Since sufficient data for an accurate study of tax incidence are not available, empirical studies of tax incidence have been made on rough estimates of many underlying variables and highly simplified analytical assumptions. A number of such empirical studies on tax incidence in Korea are available, though they are based on different data and different assumptions. Major results are summarized in <Table VII-11>.

The 1976 study by Peter S. Heller of the redistributive impact of the Korean tax system shows that regardless of assumptions chosen for shifting taxes, the burden of the tax system relative to income is roughly proportional for the top 10 percent. More specifically, Heller finds that under a regressive set of assumptions the poorest 10 percent pay about 16.4 percent of income, and this remains almost constant up to the ninth incomes decile, then rising to 21.9 percent in the highest income decile. Global income tax, gift and inheritance tax, assets revaluation tax, and farm land tax are the principal progressive elements of the tax system, while indirect taxes such as the VAT, the special consumption tax, the liquor tax, monopoly profits and customs duties are regressive.

Heller's study shows that under more progressive assumptions the direct tax burden is only 0.9 percent of the income in the lowest decile, 3.65 percent in the ninth decile, and 11.7 percent in the highest decile. Under more regressive assumptions the direct tax burden rises from 2.17 percent of income in the lowest decile to 8.84 percent in the highest decile. The movement from scheduler income tax to global income tax increased the income tax burden of the first, sixth and tenth deciles of the population by a small margin, while of all other deciles the burden decreased rather drastically.

According to the study by Seung-Soo Han, the overall tax burden in Korea varies irregularly. Han's study has found a U-shaped pattern of tax incidence, with effective tax rates for both the poor and the rich being higher than for the middle-income groups. In the U-shaped incidence pattern, until 1976 the rich group was shouldering a substantially heavier effective burden than the poorest group, but thereafter the poorest 40 percent income deciles were shouldering a higher tax burden than the remaining income decile groups. The U-shaped pattern of the tax burden is also confirmed by a study by Shim and Park (1989).

Empirical analyses show that the distributional impact of property tax in Korea is rather sensitive to the assumptions made about the shifting of taxes in question. According to Heller's study, the property tax burden is more or less proportional except for the top two deciles under the assumption of a full shifting of the tax burden to consumers, and somewhat regressive under the assumption of the property tax being borne by recipients of property income. In contrast, Kim's study shows that regardless of the "old" or "new" view, the burden exhibits a skewed U-shaped pattern of tax incidence, implying that both the rich and the poor bear a higher burden than the middle-income groups.

Thus, a number of empirical studies of the distribution of the tax burden lead one to accept the conclusion that the overall burden of tax among income classes is more or less regressive. In other words, the tax system in Korea is not working as a principal policy instrument through which the narrowing of income differentials can occur. When a proper account is taken of income of the rich from underground activities and the benefits of preferential tax treatments, the distributional effects of government tax policies are probably more regressive than the above studies suggest.

<Table VII – 11> Tax Burden in Korea

(Units: %)

	Income decile									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . Heller (1981)										
National taxes (1976):										
Progressive set assumptions	12.67	13.78	11.69	13.63	13.04	13.81	13.35	12.70	14.02	22.79
Regressive set assumptions	14.35	14.97	12.62	14.88	14.22	15.02	14.55	13.53	14.59	20.10
Local Taxes (1976)										
Progressive set assumptions	0.99	0.86	0.76	0.82	0.93	1.05	1.06	1.28	1.60	2.16
Regressive set assumptions	2.06	1.60	1.18	1.44	1.52	1.72	1.55	1.68	1.78	1.51
II . Han (1982)										
National taxes (1970)	13.1	12.1	12.2	11.7	11.6	14.9	15.6	15.2	17.1	25.7
National taxes (1976)	15.7	13.4	12.9	13.0	13.0	13.4	13.4	14.5	16.4	22.8
National taxes (1978)	20.4	16.3	14.7	14.3	13.7	13.6	13.2	13.3	13.7	20.2
National taxes (1980)	28.0	19.9	17.6	16.7	15.7	15.3	14.9	14.7	14.8	20.6
III . Shim and Park (1989)										
National taxes (1984)	27.33	21.76	20.48	19.76	19.19	19.80	19.97	21.61	23.57	29.00
National taxes (1986)	35.17	20.08	21.25	20.45	20.38	20.45	20.93	21.90	24.10	29.83
IV . Na and Hyun (1991)										
Personal income taxes:										
all households	0.91	1.58	2.14	2.44	2.86	3.86	4.87	5.77	7.14	10.26
non-farm households	1.10	1.85	2.49	2.75	3.24	4.36	5.60	6.67	8.32	11.75
V . Kim (1987)										
Property tax										
old view of property tax incidence	0.54	0.42	0.39	0.35	0.38	0.42	0.42	0.45	0.54	0.64
new view of property tax incidence	0.29	0.25	0.22	0.20	0.27	0.34	0.37	0.41	0.60	0.84
VI . Lee and Bae (1984)										
Domestic indirect taxes	7.34	4.27	3.95	3.89	3.59	3.47	3.37	3.25	3.10	2.85
	17.66	13.57	12.55	11.67	10.99	10.72	10.48	10.47	10.14	9.65
VII . Na and Hyun (1991)										
Domestic indirect taxes:										
all households	3.86	3.58	3.52	3.42	3.68	3.88	3.69	3.91	4.05	3.21
non-farm households	4.39	3.71	3.64	3.68	3.91	4.19	4.02	4.17	4.52	3.57

Source: Heller (1981); Shim and Park (1989); Na and Hyun (1993); Kim (1987), and Lee and Bae (1984)

V. Tax Burden in Taiwan

Taiwan has been identified as one country that has been successful in achieving distributive justice, and the distribution of income and wealth in Taiwan is known to be quite equitable by international standards. Though distribution of income has deteriorated a bit in recent years, Taiwan has maintained high economic growth and fair sharing of the fruits of economic growth.

As Vito Tanzi (1992) summarized in his overview of role of taxation in the development of the East Asian economies, Taiwan's development strategy has been characterized by:

1. a high saving rate, matched by appropriate interest rate policies;
2. an export orientation, supported by an appropriate exchange rate policy; and
3. an awareness of equity considerations as revealed by its land reform programme and by the system of property taxation.

According to the government survey which officially reports distribution of income in Taiwan, the ratio of the share of income for the top 20 percent income decile to the share of income for the bottom 20 percent income decile was 4.18 and 5.18 in 1980 and 1990, respectively. The corresponding figure for Korea was 7.64 in 1976 and 5.93 in 1988.

The most distinguishing feature of Taiwan's tax structure is its ability to tap property values as a significant source of revenue. There are three main property-related taxes: the land value tax, the land value increment tax, and the house tax. In 1991 these taxes together generated 18.2 percent of total government revenue in Taiwan. The land value increment tax alone accounted for 11.7 percent of total tax/monopoly revenue, and ranks as the third most important tax after

<Table VII – 12> Tax burden (effective average tax rate) in Taiwan

(Units: %)

	Income decile									
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
I . 1986										
1. Income Taxes										
a. minimum shifting assumptions	2.96	3.21	3.29	3.73	4.55	4.91	5.50	6.14	6.31	9.24
b. maximum shifting assumptions	2.63	3.21	3.73	4.27	4.97	5.36	5.96	6.43	6.82	8.65
2. Consumption taxes										
a. minimum shifting assumptions	17.47	15.90	14.88	13.98	13.35	13.18	12.45	12.24	11.93	11.64
b. maximum shifting assumptions	22.27	17.82	15.80	14.61	13.68	13.36	12.25	11.96	11.42	11.15
3. Property taxes										
a. minimum shifting assumptions	1.17	1.03	0.82	0.85	0.91	0.94	0.96	0.96	1.00	1.24
b. maximum shifting assumptions	1.79	1.78	1.45	1.37	1.43	1.47	1.49	1.56	1.52	1.95
4. Total taxes										
a. minimum shifting assumptions	21.59	10.14	18.99	18.56	18.80	19.03	18.91	19.34	19.22	22.12
b. maximum shifting assumptions	26.69	22.81	20.97	20.25	20.08	20.18	19.70	19.95	19.76	21.75
II . 1976										
1. Income Taxes										
a. minimum shifting assumptions	2.65	2.07	1.84	2.65	3.26	4.26	4.56	4.62	5.68	7.40
b. maximum shifting assumptions	2.56	2.77	2.92	3.47	3.88	4.49	4.76	4.92	5.55	6.77
2. Consumption taxes										
a. minimum shifting assumptions	22.72	20.23	19.60	18.96	18.03	17.68	17.29	17.11	16.75	15.45
b. maximum shifting assumptions	26.60	21.09	19.97	19.41	18.54	18.12	17.77	17.43	16.99	15.56
3. Property taxes										
a. minimum shifting assumptions	1.43	1.72	1.31	1.31	1.40	1.52	1.59	1.57	1.88	2.10
b. maximum shifting assumptions	2.68	2.73	2.28	2.29	2.34	2.50	2.51	2.45	2.86	3.17
4. Total taxes										
a. minimum shifting assumptions	26.80	24.01	22.75	22.92	22.69	23.45	23.44	23.30	24.21	24.95
b. maximum shifting assumptions	31.84	26.59	25.17	25.17	24.76	25.10	25.04	24.79	25.40	25.50

Source: Wei Cu Xu, Zheng Wang and Wen Huang Wang, *A Study on the Distribution of Tax Burden by Household*, Taxation and Tariff Commission, Ministry of Finance, June 1989.

the value added tax and individual income tax. Given the nature of the tax, the land value increment tax is an important redistributor and an instrument whereby society expropriates part of the gains that rightfully belong to it.

Taiwan is an exemplary case where a property tax has played a crucial role in securing needed revenues particularly at the local government level. In Taiwan, specific growth-promoting tax measures have been executed under income taxes, producing problems of inequity and revenue loss. To solve these problems, Taiwan found a remedy in its use of property tax as well as consumption-related taxes. The role of income taxes in Taiwan is rather weak. The weakening of income taxes results from extensive erosion of their base, rate reduction and other concessions as a part of growth strategies. A solution has been found in the simultaneous use of consumption and property taxes. Despite these efforts, tax policy in Taiwan has not been successful in achieving redistribution, as shown in <Table VII-12>.

Surprisingly enough, the overall picture of tax burden distribution in Taiwan is quite similar to that in Korea. Both countries exhibit a U-shaped pattern of tax burden, with effective tax rates for both the poor and the rich being higher than for middle-income groups. This surprising similarity results from the fact that both Korea and Taiwan have relied heavily on indirect consumption taxes.

Some income redistribution goals of tax reform and tax policies are easier to secure than others. According to Malcolm Gillis (1989), tax policy and tax reform attempt to rectify problems of relative impoverishment (a highly skewed income distribution) and absolute impoverishment (a large share of the population at or below minimal subsistence levels of income). Tax reforms designed to ameliorate relative impoverishment tend to place heavier stress upon increasing progressivity at the upper end of the income distribution, usually through steeply progressive rates in personal income tax and/or by sharp increases in taxes on consumption of luxury goods. Tax reform

designed to amend relative impoverishment is concerned with “leveling down” after-tax income. By contrast, a reform geared to reduction of absolute impoverishment is concerned with “leveling up”, by making the very poor better off or by insuring that tax reform itself does not make them worse off.

Though the corresponding tax system has never been developed and tax policies have never been implemented, both Korea and Taiwan have been concerned with both leveling down and leveling up. The result is disappointing, as discussed above. Most tax reforms in Korea stressed both leveling up and leveling down, and overall, both Korea and Taiwan are more successful in leveling up than in leveling down, as shown by the fact that the overall tax burden in both countries is regressive and the poorest 60-65 percent of families are excluded from the income tax base in both countries.

VI. Tax Administration

Under any taxation system its goals cannot be realized without fair and efficient tax administration. The immediate objectives of tax administration are to narrow the gap between tax laws and practice and to make the tax structure more responsive to changing economic conditions and economic growth. However, its ultimate objective is to increase mobilization of domestic resources by encouraging taxpayers' voluntary tax compliance. Tax administration and enforcement have been a constant source of public discontent. It is believed by many that most of the pressing problems that have plagued both Korean and Taiwanese taxation are primarily administrative. The gap between tax law and practice, indicative of the shaky state of tax administration, must be removed if a reasonable degree of efficiency is to be achieved. Despite rapid economic growth and concomitant changes in economic structure in Korea, tax administration has remained more or less unchanged.

Three government organizations are responsible for tax administration in Korea. The National Tax Administration (formerly the Office of National Tax Administration) is in charge of assessing and collecting domestic national taxes, while the Office of Customs Administration is responsible for assessing and collecting customs duties. Local governments, provinces, special cities, cities and counties are responsible for administering local taxes but they must seek approval for their decisions from the Ministry of Home Affairs.

In Taiwan, the National Tax Administration may, depending on local conditions and business volume, set up collection offices as local units of national tax collection. Taipei, Kaohsiung and Taiwan province have been designated by the National Tax Administrations of northern, central and southern Taiwan province to take charge of local collection of national taxes. Customs duties are the responsibility of the

Directorate-General of Customs which administers the customs bureaus of Keelung, Taipei, Taichung and Kaohsiung, with branches and sub-branches. It may, as determined by local conditions and business volume, set up collection offices as local units of customs. For provincial taxes, the Tax Bureau, under the control of the Department of Finance of the Taiwan Provincial Government, is in charge of planning and supervising the collection of provincial taxes and, at the same time, acting as a staff unit of the Department. Prefectural and municipal governments under the provincial government all have tax offices which are used to collect their own taxes and, at the same time, act as agents for the collection of provincial taxes²⁸⁾.

The National Tax Administration (NTA) of Korea was set up in 1966. Before NTA was established, the assessment and collection of domestic national taxes were the responsibility of the Tax Bureau of the Ministry of Finance, which is presently responsible for formulating tax policies and drafting tax laws. The establishment of the NTA was the turning point in tax administration in Korea. Ever since its establishment the political leadership has expressed a strong personal interest in its effectiveness, appointing one of its close associates as its head. One key element in the improvement of tax administration has been the insulation of the tax collectors from political interference.

Public discontent with the tax administration stems mainly from the public perception that the NTA has exercised excessive and discretionary powers in order to collect more taxes, sometimes infringing taxpayers' basic rights. To be impartial it must be pointed out that the lack of systematic record-keeping on the part of taxpayers has made tax administration difficult and evasion easy even under the best of circumstances. The tax office has often used a system of tax targets or quotas, broken down by geographical areas and types of tax. Furthermore, the government applied a system of awards and penalties

28) See *Ministry of Finance* (1993), pp. 6~7.

to tax officials for exceeding or falling short of the targets. When tax collectors were working under quotas imposed by their superiors, there was a tendency to impose as high an assessment as they felt they could. An initially high assessment put the tax collectors in a good position to compromise in return for a personal gift from the taxpayers.

The tax enforcement mechanism in Korea is highly selective on the one hand and very comprehensive on the other. In spite of broad-based efforts to administer tax compliance in a non-discretionary manner, in practice tax enforcement has been highly selective. Firms have often been audited for non-compliance with various discretionary commands. It has usually been the case that a company appears on the select list of those to be investigated when the company does not follow a government order, or when it ignores its duty to comply with certain regulations. This selective enforcement has led managers of Korean companies to believe that they are penalized for ignoring the government's command on dubious political grounds even when good and sufficient grounds are found for penalizing the company for non-compliance.

At present the government is formally obliged to examine all global income tax returns from all sources, but this formal obligation for comprehensive auditing is excessively costly and unnecessary. Since the initial processing of tax returns has been computerized, it should be possible to rely on spot audits based on a statistically random selection process. The remaining audits could be based on the presence of unusual characteristics in the returns. By relying on spot auditing or categorized auditing, staff could devote more time to particular auditing problems, such as those related to the taxation of interest and dividends.

In choosing the method of collecting tax, the government has the option of a self-assessment system or a government assessment system. Under the government assessment system, a taxpayer's liability is determined by the government based on direct data or indirect data. On the other hand, the self-assessment is a system of collecting tax where the taxpayer calculates his tax base and tax amount, and pays tax as if

the calculation is correct. Korea is in transition from a government assessment system to a self-assessment system. The VAT and Corporation Tax Laws adopt a self-assessment system, whereas the Individual Income Tax Law adopts the government assessment system.

The VAT is ordinarily regarded as self-enforcing because of the way it is administered. Korean experience with VAT, however, suggests that its “built-in” self-enforcing character, which permits the matching of the tax credits of one taxpayer against the tax payments of another, is illusory or, at best, a much overrated advantage because invoices can be falsified. Although tax payers do have an incentive to request invoices for their purchases in order to increase their input tax credit, this incentive is in many instances counterbalanced by the desire to suppress both purchases and sales in order to avoid not only the VAT but also income taxes.

It is known that there is a well-established black market for uniform invoices in both Korea and Taiwan. Businesses can falsify expenses on their tax forms by buying blank invoices and filling in any purchase amount, thereby reducing their income tax liability. Meanwhile, the owners of the business selling blank invoices and filling in any purchase amount, thereby reducing their income tax liability. Meanwhile, the owners of the business selling blank invoices close up shop and disappear without paying any taxes.

In Korea, as in all other countries, a great deal of difficulty has been encountered in taxing the so-called hard-to-tax group, including professionals and the self-employed in business and agriculture. Faced with the difficulty of verifying information supplied by such taxpayers, the NTA has adopted a very arbitrary method called the standard assessment method, which has been used widely in Korea for both income tax and the value added tax. The essence of the method is the establishment of a set of standard assessment guidelines for each major economic activity on the basis of whether the income or sales for any individual taxpayer can be estimated in a relatively objective manner. All the assessing officer has to do is to obtain information on a series

of relatively objective indicators, go to the relevant guide and calculate the tax on the basis of two ratios shown there: one between the indicators and gross sales, and the second between gross sales and net incomes. Those who wish to refute the presumed minimum tax have always been allowed to file regular returns.

The ratios in the guides are, in principle, based on careful studies by a small group of experts composed of tax administration, tax specialists and representatives from the business community. This expert group develops and updates guidelines. Different guidelines have been suggested for each trade or profession in each region, and once prepared the standard assessment guides have been published. Ideally, taxes payable calculated according to these guidelines should be on the high side to encourage better record-keeping. In practice this has not been the case because very few taxpayers have filed reports on the basis of their actual incomes. The standard income ratio system has generally underestimated actual income and tax liability, with the result that the system of standard assessment guides has discouraged rather than fostered movement towards the regular system.

The efficiency of tax administration can be seen from the costs of tax collection and tax compliance. In his study on compliance and administrative costs in Korean taxation, Cha (1993) showed that the compliance cost for personal income tax and corporate income tax was about 29 percent and 1.4 percent, respectively, of the amount of tax collected for each tax. <Table VII-13> shows the cost of collection of each 100 Korean won, new Taiwanese dollar, and Japanese yen in three East Asian countries and the share of NTA's budget in the total government budget. The cost of collection in the three countries has decreased steadily since the mid-1960s.

In Korea and Taiwan there has been too much preoccupation with "what to do" rather than "how to do it", and many, perhaps all, tax reforms in Korea have complicated rather than simplified the work of an already overloaded administration. Tax administration should be

placed at the center rather than the periphery of tax reform efforts. The large discretionary powers that tax officials can exercise have given rise to confusion and injustices. The simplest way to ensure that tax officials do what they are supposed to do, and no more, is to reduce to a minimum the amount of discretion they have in dealing with taxpayers. The more room there is for negotiation between officials and potential taxpayers, the more scope there is for bribery by one, arbitrary exaction by the other, and collusion by both.

The highly literate and educated mass of the population in Korea and Taiwan are an invaluable asset for establishing efficient tax administration. Abundant trained manpower in the past has provided both Korea and Taiwan with a fundamental base of establishing good administrative practices for tax policy.

<Table VII – 13> Cost of collecting taxes in Korea, Taiwan and Japan

	Korea		Taiwan		Japan	
	Administrative cost	Budget share	Direct cost	Indirect cost	National taxes	Local taxes
1965	1.91	0.86			1.87	
1970	1.51	0.97	1.2	1.7	1.40	
1975	1.16	1.11	0.6	1.5	1.80	
1980	1.21	0.79	0.7	1.0	1.40	
1981	1.25	0.84	0.8	1.1	1.38	3.09
1982	1.27	0.86	0.8	1.3	1.31	2.95
1983	1.18	0.84	0.7	1.1	1.26	2.85
1984	1.15	0.83	0.7	1.3	1.23	2.76
1985	1.15	0.83	0.8	1.4	1.16	2.66
1986	1.13	0.83	0.6	1.3	1.09	2.65
1987	1.05	0.80	0.6	1.1	1.02	2.50
1988	0.97	0.81	0.6	1.2	0.99	2.32
1989	0.96	0.80	0.5	1.0	0.95	2.36
1990	0.93	0.77	0.7	1.0	0.90	2.36
1991	0.98	0.85	0.7	1.0	0.93	2.36

Source: Keesung Roh, 'The Estimation of Under-Reported Business Income Tax', *Korea Development Review*, Vol. 14, Fall 1992.

VII. Lessons and Concluding Remarks

The dynamics and inner workings of industrialization in Korea can be described simply. The policy direction and incentives provided have proved correct; international market conditions have been favorable; and the political leadership has been committed to economic development. That commitment has been translated into action by the bureaucracy and by private firms. Development plans and strategies exist in almost every developing country, but what is unique in the case of Korea has been the ability to get the plans and strategies put into practice.

Characteristics of the Korean fiscal policy during the industrialization period included a relatively small public sector, adherence to the balanced budget, comparatively low taxes, relatively low taxes on capital incomes, liberal use of tax incentives for investments, heavy reliance on indirect taxes, little significance of property taxes, increased public savings, relatively little spending for redistributive social services, and budgeting significant resources for industrial development.

Tax policy in Korea reveals a pattern of development that differs somewhat from the one followed by most countries during the modernization process. Korea made a low tax effort, minimized the taxation of the foreign trade sector, did not move towards an increased reliance on taxes on income and profits, and did not make income distribution a major goal of tax policy.

What lessons can we learn from the experiences of Korea and Taiwan in taxation and economic development? The question is rather simple, but the answer is very difficult. Though Korea and Taiwan have been competitors in the international market, the two countries have many things in common, and tax policy issues facing them have

been more or less similar though tax policies have never been implemented in the same way. Long before supply-side economics gained prominence in theoretical and policy discussions, both Korea and Taiwan had practised policies implied by it. The fact that fiscal policy in Korea and Taiwan was geared to the policy line of supply-side economics is borne out by the low share of tax and expenditure in GNP, a heavy reliance on an indirect consumption tax, extensive tax incentives for saving and investment, and less emphasis on welfare spending.

Both Korea and Taiwan followed the tradition of Latin countries where indirect consumption taxes are preferred to income taxes. Interestingly enough, future targets of Korea and Taiwan towards tax reform are not different; in both countries a switch from heavy reliance on indirect taxes to income taxes is proposed to mitigate the regressiveness in the overall tax burden.

Efficient tax administration is very important for establishing a fair tax system and raising fiscal resources necessary for economic development. A prerequisite for this purpose in any country is to secure political, economic and social stability. The Korean experience suggests we must improve the efficiency of tax administration.

First, it is important to keep tax administration independent from political interference. Ever since the establishment of the NTA, however, the political leader has appointed one of his close associates as its head, expressing a strong personal interest in its effectiveness. Second, the tax office has often used a system of tax targets or quotas, broken down by geographical areas and tax categories. This attempt has been of great use for raising necessary revenues, even if it is not favorable to taxpayers. Third, the existence and availability of high-quality manpower to be readily employed in the field of tax administration could be very important in improving the efficiency of tax administration. Fourth, until the recent implementation of the “real-name system” Korean tax administration had serious problems

capturing capital income.

The current tax system is not without structural problems, and one of the most salient and perennial lies in the regressiveness in the overall tax burden. The challenge ahead is how to restore the progressiveness of the tax burden in Korea while generating more revenue to meet the increasing demand for social programmes. The discussion above clearly indicates that Korea needs another major tax reform in the near future. Establishing and practicing an ideal system of taxation under the conditions given is a challenging task, but certainly not an insurmountable one. The most important prerequisite for designing a good tax system would be the recognition of the merits of such a system and a strong resolve to get rid of clear irregularities in the present tax system.

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Chapter VIII. Foreign Direct Investment into and from Korea and Korean Tax Policy

I. Introduction

The purpose of this paper is to examine the trends and features of foreign direct investment into and from Korea and to review government policies associated with such investment, with an emphasis on tax policies. Recent changes in the government's general economic policy and tax policy on foreign direct investment will also be highlighted. However, the paper is descriptive and explanatory rather than analytic, and does not attempt to analyze the impact of foreign investment on the Korean economy.

Section II briefly reviews performance and structural change of the Korean economy during the past two decades, including the role of foreign capital in Korea's capital formation. In Section III we discuss the government policies on foreign direct investment. This section not only provides a brief history of policies on foreign investment in Korea but also outlines recent policy reforms in general economic management and policy on foreign direct investment. Section IV describes the pattern of foreign investment into Korea in terms of the size of investment, industrial distribution, country distribution, and extent of foreign ownership. In Section V an attempt is made to examine Korean tax policies on foreign direct investment and business activity in Korea by reviewing tax incentives granted to foreign investors and by describing the Korean taxation of nonresidents and foreign corporations. Section VI first presents trends and features of overseas investment by Korean firms and then discusses policy measures to promote Korea's outward private investment, with an emphasis on tax policy.

II. The Korean Economy and Foreign Capital, 1962–1983

1. The Korean Economy, 1962-1983

Over the past two decades, the Korean economy has expanded quantitatively, while the economic structure has improved qualitatively. The performance of the Korean economy and its structural change during the period of 1962-1983 are briefly summarized in <Table VIII-1>.

The Korean economy achieved the high average growth rate of 8.2% per annum in real terms during the period from 1962 to 1983. Per capita GNP increased rapidly, from \$87 in 1962 to \$1,884 in 1983, and the general standard of living improved visibly during the period. Exports, the engine of growth of the Korean economy, have increased dramatically, growing at the annual real rate of 22.3% and climbing in value from \$55 million in 1962 to \$24.4 billion in 1983.

Korea's rapid economic growth has been accompanied by various structural changes. The economy has been transformed from an underdeveloped agricultural economy into a newly industrialized one, as reflected in the rapid contraction of the primary sector and the expansion of the secondary and the tertiary sectors. The Share of primary sector in the GNP decreased from 36.6% in 1962 to 13.9% in 1983, while the mining and manufacturing sector increased its share from 16.3% to 28.8% during the same period. Diversification of export products accompanied the rapid growth of exports and the change in industrial structure, as shown by the fact that manufactured goods, which constituted only 27.0% of nation's exports in 1962, comprised about 94.4% of the total exports in 1983.

A great number of factors can be cited for contributing directly or indirectly to Korea's high economic growth and sustained economic

development. Certainly, there are many non-economic factors, as well as the economic ones. Such non-economic influences include cultural heritage, social discipline, and socio-political stability provided by strong leadership, whereas economic factors include an abundant supply of well-educated labor, an outward-looking government policy resulting from the country's poor resource endowment and high population density, and a relatively favorable international economic environment. All these factors were taken into account when the government set up the five successive economic development plans, which were then efficiently implemented in cooperation with private entrepreneurs.

It must be emphasized that the pace and character of Korean economic growth and development over the past two decades have been neither smooth nor uniform. From 1962 to 1971, the country enjoyed both high growth and price stability. Between 1971 and 1979, the high growth continued, but it was accompanied by rampant inflation. Following the second oil crisis, Korea encountered severe economic difficulties. In 1980, the onset of a worldwide recession, combined with structural imbalances in the domestic economy and the political turmoil caused by the assassination of the president, caused Korea to experience an economic decline for the first time in more than 30 years. Beginning in 1982, however, the Korean economy attained both high growth and price stability, a situation which still continues.

The Korean economy is currently undergoing a significant transformation. After 20 years of rapid economic growth, the government is changing its style of economic management in order to cement a foundation for Korea's continued growth and development toward evolving into a modern industrial society.

<Table VIII-1> Principal Economic Indicators of Korea, 1962-1983

	1962-1966	1967-1971	1972-1976	1977-1981	1982	1983
Growth rate (%):						
GNP	7.9	9.6	9.7	6.0	5.6	9.5
Private consumption expenditure	6.0	9.6	7.5	5.7	4.6	6.6
Gross investment	31.3	20.0	10.6	12.3	5.0	13.7
Export	24.7	27.8	28.4	13.7	6.9	11.6
Import	21.4	26.9	16.4	14.0	3.2	9.1
Inflation (%):						
GNP deflator	19.7	15.2	21.1	17.4	7.1	3.0
CPI	16.5 ¹⁾	12.7	15.9	18.6	7.3	3.4
	1962	1967	1972	1977	1982	1983
Population (million persons)	26.5	30.1	33.5	36.4	39.3	39.9
GNP (billion dollars)	2.3	4.3	10.6	37.4	70.8	75.3
Per capita GNP (dollars)	87	142	316	1,028	1,800	1,884
Unemployment rate (%)	8.2 ²⁾	6.2	4.5	3.8	4.4	4.1
Total exports (million dollars)	55	320	1,624	10,047	21,853	24,445
Total imports (million dollars)	422	996	2,522	10,811	24,251	26,192
Total exports to GNP (%)	2.4	7.4	15.3	26.8	30.9	32.4
Total imports to GNP (%)	18.3	23.2	23.8	28.9	34.3	34.8
Manufactured exports to total exports (%)	27.0	70.0	87.7	87.5	93.7	94.4
Capital imports to total imports (%)	16.5	31.1	30.2	27.8	25.7	29.8
Industrial structure (%):						
Primary	36.6	30.1	26.4	23.0	14.5	13.9
Mining and manufacturing	16.3	20.6	23.4	28.4	28.9	28.8
SOC and other services	47.1	49.3	50.2	48.6	56.6	57.3

Notes: 1) CPI for Seoul City

2) Figure for 1963

Source: Economic Planning Board, *Major Statistics of Korean Economy*, 1984.The Bank of Korea, *National Income Accounts*, 1984.

2. Foreign Capital, 1962-1983

Countries that are unable to generate sufficient domestic savings to feed their aspirations for economic growth have historically sought capital from other countries²⁹⁾. Inflow of foreign capital is important in developing countries to meet shortages of domestic savings as compared to investment requirements and to finance large trade deficits which mainly stem from the importation of foreign equipment and raw materials necessary for development projects.

Korea's rapid economic growth has been supported by a very high rate of capital accumulation. As <Table VIII-2> shows, the investment ratio, the share of gross investment in GNP, has more than doubled from 12.8% in 1962 to 27.6% in 1983. This high level of investment was financed by an increase in domestic savings and a large inflow of foreign capital. The relative importance of financing between foreign and domestic savings changed dramatically, with the share of foreign savings as a proportion of annual investment declining over time. Though the behavior of domestic and foreign savings indicates that the savings-investment gap is getting narrower through an increase in domestic savings relative to foreign savings, the Korean economy does not have the ability to finance all domestic investment through domestic savings. Foreign capital is still expected to play an important role in the future.

Korea has depended heavily on foreign resources for its economic growth. As of the end of 1983, the total outstanding foreign debt in Korea, including short-term trade credits, amounted to \$40.9 billion, thereby rendering Korea one of the biggest borrowers in the international financial market. In contrast to heavy reliance on foreign borrowing for foreign resources, foreign direct investment has been

29) The United States relied heavily on foreign saving, particularly during the period from 1835 to 1860, as did Russia, to help propel its development spurt in the three decades before World War I.

relatively limited.

As shown in <Table VIII-3>, foreign direct investment represented a small proportion of inflows of external capital and the amount of its annual inflow was not very large. During the entire 1962-1983 period, the relative share of foreign direct investment in total foreign capital inflows was about 2.5%. Annual inflow of foreign capital in the form of foreign direct investment was less than \$20 million before 1970. For the last 10 years, inflow of foreign direct investment averaged about \$100 million annually.

The proportion of foreign direct investment in gross domestic capital formation fluctuated between 0.20% and 5.22% during the 1962-1983 period. The contribution of foreign direct investment to capital formation was the greatest in 1973, recording 5.22%. However, since then its relative importance has been gradually declining. In recent years the share of foreign direct investment to investment has been less than one percent. As shown in <Table VIII-3>, foreign direct investment in Korea as a fraction of GNP fluctuated somewhat during 1962-1972, but has been exhibiting a steady decline since 1973.

<Table VIII-2> Investment and Savings Ratio

(Unit: %)

Year	Investment ratio	Savings ratio				Ratio of foreign savings to investment
		Domestic savings			Foreign savings	
		Government	Business	Household		
1962	12.8	-1.6	7.1	-2.3	10.7	83.6
1963	18.1	-0.4	7.1	2.0	10.4	57.5
1964	14.0	0.4	6.5	1.8	6.9	49.3
1965	15.0	1.7	7.7	-2.1	6.4	42.7
1966	21.6	2.7	7.5	1.6	8.5	39.4
1967	21.9	4.1	7.9	-0.6	8.8	40.2
1968	25.9	6.1	7.8	1.1	11.2	43.2
1969	28.8	5.9	7.7	5.2	10.6	36.8
1970	25.3	6.4	6.8	2.5	9.1	36.0
1971	25.1	5.2	6.6	2.8	10.5	41.8
1972	22.2	3.5	7.8	5.3	5.1	23.0
1973	25.7	4.0	10.7	8.1	3.7	14.4
1974	31.7	2.6	10.9	6.4	12.1	38.2
1975	30.0	3.7	9.5	5.9	10.1	33.7
1976	25.6	5.8	9.9	8.2	2.3	9.0
1977	27.7	5.2	10.4	11.9	0.6	2.2
1978	31.2	6.3	9.7	12.4	3.1	9.9
1979	35.6	6.9	9.5	11.7	7.1	19.9
1980	31.3	5.8	10.1	6.0	9.4	30.0
1981	29.1	6.2	9.1	6.3	7.7	26.5
1982	27.0	6.2	9.6	6.6	4.5	16.7
1983	27.6	7.1	9.9	7.4	2.9	10.5
Average for the period						
1962-1966	16.3	0.6	7.2	0.2	8.6	54.5
1967-1971	25.4	5.5	7.4	2.2	10.0	39.6
1972-1976	27.0	3.9	9.8	6.8	6.7	23.7
1977-1981	31.0	6.1	9.8	9.7	5.6	17.7
1982-1983	27.3	6.7	9.8	7.0	3.7	13.6

Source: The Bank of Korea, *National Income Accounts*, 1984.

<Table VIII-3> Inflows of Foreign Loans and Foreign Direct Investment

(Units: million dollars and %)

Year	Foreign direct investment		Foreign loans ¹⁾		Total foreign loans and direct Investment	Foreign debt outstanding	Ratio of FDI to investment ²⁾	Ratio of FDI to GNP
	Amount	Share	Amount	Share				
1962	0.6	1.9	31.2	98.1	31.8	89	0.20	0.03
1963	2.1	2.4	84.7	97.6	86.8	157	0.32	0.08
1964	3.1	8.1	35.0	91.9	38.1	177	0.88	0.11
1965	10.7	35.7	19.3	64.3	30.0	206	2.71	0.36
1966	4.8	2.6	177.0	97.4	181.8	392	0.64	0.13
1967	12.7	4.1	297.1	95.9	309.8	645	1.40	0.30
1968	14.7	2.5	577.5	97.5	592.2	1,199	1.10	0.28
1969	7.0	1.0	667.7	99.5	674.7	1,800	0.37	0.10
1970	25.3	2.9	850.5	97.1	875.8	2,245	1.32	0.32
1971	36.7	3.6	983.9	96.4	1,020.6	2,922	1.84	0.39
1972	61.2	6.9	829.8	93.1	891.0	3,589	3.00	0.58
1973	158.4	12.8	1,074.3	87.2	1,232.7	4,260	5.22	1.17
1974	162.6	7.6	1,986.4	92.4	2,149.0	5,937	3.85	0.88
1975	69.2	2.4	2,845.2	97.6	2,914.4	8,456	1.30	0.33
1976	105.6	3.9	2,610.8	96.1	2,716.4	10,533	1.67	0.37
1977	102.3	3.7	2,627.4	96.3	2,729.7	12,648	1.18	0.37
1978	100.5	3.1	3,189.4	96.9	3,289.9	14,871	0.81	0.19
1979	127.0	1.8	7,015.6	98.2	7,142.6	20,500	0.66	0.20
1980	96.6	1.1	8,471.6	98.9	8,568.1	27,365	0.67	0.16
1981	105.4	1.4	7,224.5	98.6	7,329.9	32,490	0.66	0.16
1982	100.6	1.3	7,372.0	98.7	7,472.6	37,295	0.68	0.14
1983	101.4	1.6	6,057.0	98.4	6,158.4	40,094	0.65	0.13

Notes: 1) Foreign loans include short and long-term loans.

2) Investment implies gross domestic capital formation excluding investment in dwellings.

Source: Economic planning Board, *Major Statistics of Korean Economy*, 1984.

Ministry of Finance

III. A Review of Policies on Foreign Direct Investment in Korea

1. Policies during the 1960s and 1970s³⁰⁾

The Korean government adopted an outward-oriented industrialization strategy and has pursued this strategy consistently throughout since 1960. In its effort to industrialize the economy, the government has exercised strong influence on the economy through industrial policies based on various regulations and incentives. Three important aspects of Korean industrial policy include (a) promotion of exports through credit policy, tax policy and exchange rate policy, (b) encouragement of inflows of foreign capital through enactment of the Foreign Capital Inducement Law and other measures, and their revision when deemed necessary, and (c) promotion of key industries through various tax and financial incentives.

Overall, the Korean government has maintained relatively restrictive policies on foreign direct investment. As a result of such stringent government policies, foreign capital has assumed most often the form of loans rather than direct investment. As will be discussed shortly, beginning with the 1980s, the Korean government has drastically revised its policy on foreign direct investment. The new policy direction has been geared toward more liberalization and promotion of competition, implying more lenient government policy on foreign direct investment. Until 1959 there had been virtually no foreign direct investment or lending, commercial or public, to Korea. The only foreign loans originated from the US AID Development Loan Fund.

30) This subsection relies heavily on Section II of Bohn-Young Koo, "Role of Foreign Direct Investment in Recent Korean Economic Growth", Working paper 8104, Korea Development Institute, September 1981.

The first attempt of the Korean government to induce foreign capital legally was made in January 1960, through enactment of Foreign Capital Inducement Promotion Law. The Law provided various incentives and guarantees designed to encourage the inflow of foreign capital, including equal treatment of foreign firms with domestic firms, tax holidays, guaranteed profit remittances and withdrawal of principal, and tax incentives for technology licenses. With no single foreign investment until the end of 1961, approval of the first foreign direct investment by the Korean government was granted in 1962 for a Korean-US joint venture producing nylon filament.

In the First Five-Year Economic Development Plan, launched in 1962, the government identified nine major projects requiring foreign capital. Upon realizing the importance of foreign capital, the government sent an economic mission abroad to secure financing for the projects and adopted more concrete measures to encourage the inflow of foreign capital.

The basic principle of the Korean government's policy on foreign investment during the First Five-year Plan period(1962-1966) was to allow any form of bona fide foreign capital as long as such capital was considered conducive to the achievement of the policy objectives stated in the Plan. The government promised to protect foreign capital and to provide full support for the inflow of foreign capital. Unless national interest was grossly violated, the participation of domestic firms in the form of joint ventures was not required.

In spite of extensive incentives thus provided, few foreign investments were made during the initial drive to induce foreign investment. The major reasons for the lack of interest in foreign investment in Korea were apparently political and social instability and the uncertain outlook of the Korean economy.

The year 1965 saw two significant developments in connection with the inflow of foreign capital. First, Korea normalized her diplomatic relations with Japan after 20 years of break. Second, the government

conducted an interest rate reform to attract commercial lending to Koreans³¹⁾.

Expecting a surge of Japanese investment in Korea after normalization of diplomatic relations, the Korean government revised the Foreign Capital Inducement Promotion Law in August 1966, altering its title to the Foreign Capital Inducement Law. Changes made at that time included: (a) the removal of any minimum requirement for Korean participation in equity capital; (b) a provision for governmental assumption of management responsibilities in the event that any foreign-financed firms threatened default; (c) the limitation of governmental guarantees so that debt service liabilities stemming from them could not exceed 9% of annual foreign-exchange receipts (thereby insuring the worth of the governmental guarantee); and (d) increased tax exemptions and tax holidays for foreign firms and investors.

The government also adopted a “Comprehensive Measure for Rationalization of Foreign Capital Inducement” in 1967, the purpose of which was to regulate the quality of foreign capital. The 1967 measure, which was mainly directed at foreign loans rather than at foreign direct investments, was ineffectively implemented due to inefficient administration and the ever-rising demand for foreign capital by the Korean entrepreneurs.

In 1969, in order to improve the administrative procedures and to reinforce the governmental support system, the government announced another “Measure to Promote the Inflow of Foreign Direct Investment and to Foster the Activities of Foreign Subsidiaries”. In addition, the first Free Export Zone was established in 1970 in Masan, a city located in the southern part of the Korean peninsula.

31) The interest rate reform increased the interest rate from 16.0% to about 26% for borrowing from domestic sources, with loans for interest rate on favored prospects extended at 18%. The prevailing interest rate on dollar-denominated loans was about 12%, and those with government guarantees were offered at even lower rates.

Because of these positive governmental measures to attract foreign capital, foreign loans and investment increased markedly, although from a very small base. Concurrently, the government came to realize that unlimited approval of foreign investment might adversely affect the domestic economy. The government's perception of the potential undesired effects of foreign investment on the economy led in 1973 to a major change in policy regarding the inflow of foreign direct investment. The most noticeable change was that higher priority was given to joint ventures than to wholly-owned foreign firms.

In addition, the year 1973 also saw the adoption of the "General Guideline for Foreign Direct Investment", which with minor revisions became the backbone of the Korean policy on foreign investment until the late 1970s. The Guideline consisted of three parts: (a) project eligibility criteria; (b) foreign ownership criteria; and (c) investment scale criteria.

The eligibility criteria designated the following projects as non-eligible: a) projects which disrupt domestic demand and supply of raw materials and intermediate products; b) projects which compete with domestic firms in overseas markets; c) projects which aim solely at providing financial support for existing domestic enterprises; and d) projects which aim solely at profit from land use.

The ratio of the foreign equity share was limited to 50%, except in the following cases: a) entirely export-oriented projects which do not compete with domestic firms in overseas markets; b) technology-intensive projects which produce or induce production of important exporting or import-substituting products; c) desirable multinational projects which invest only in the form of wholly-owned subsidiaries in other countries; d) projects which contribute to the rationalization of domestic industrial structure and which are beyond the capacity of domestic investors, due to the large scale of capital or advanced technology involved; e) projects from a country which made little investment in the past but which could be expected to make increased

investment in the future; f) projects funded by Korean residents abroad; and g) projects in Free Export Zones, and some other specific Industrial Estates designated by the government.

In addition, local participation of more than 50% was required for the following types of projects: a) purely labor-intensive; b) purely bonded-processing; c) those dependent on domestic resources for major raw materials; and d) those oriented toward local market sales.

The minimum amount of investment was set in 1973 at \$50,000 per project and was raised gradually, to \$100,000 in 1974, \$200,000 in 1975, and so \$500,000 in 1979. These increases were designed to discourage overly small-scale investors who came only to utilize low-cost labor in Korea, although here too, exceptions were allowed for investments by Korean residents abroad and for projects deemed necessary by the government.

With such detailed and sometimes conflicting regulations, the government was able to control tightly the pattern of foreign investment in Korea. Competition with domestic firms was seldom allowed both in domestic and world markets, export requirements were very stringent until 1979, and restrictions on foreign ownership were very firm, rendering Korea one of the few countries with very restrictive foreign investment regulations.

Prior to 1978, government approval was required for all imports of technology. In 1978, however, the government began to liberalize imports of foreign technology by expanding substantially the scope of automatic approval. Subsequent policy measures furthered the liberalization, and all the technology imports are now allowed, except those related to the nuclear energy and defense industry.

2. Policies since 1980

A. Recent Reforms in General Economic Policy

Some structural imbalances accompanied the high growth which was induced by government policies during 1960s and 1970s and weakened the growth potential of the economy. In recognition of this, and also that the Korean economy is simply too large and complex to be efficiently managed by a handful of policy makers in government the Korean government has chosen a new development strategy. The two major elements of this strategy are structural reform and external policy reform. Since the government policy on foreign direct investment in recent years can be better understood as a part of the new overall economic policy, a descriptive explanation of the two policy reforms will be given before we take up changes in policy on foreign direct investment.

Structural adjustment efforts have been pursued to eliminate some of the inefficiencies that affect Korean industry. To this end, the government has abolished policy preference loans, reduced tax rates³²⁾, structured the industrial incentive system, increased competition in various sectors by lifting inhibitive restrictions, reduced budgetary deficits and borrowing from the central bank, and dismantled inefficient governmental regulations. All these government efforts to initiate a wide ranging restructuring of economic management in the face of structural problems rely more on the market mechanism for efficiency in resource allocation, thereby leaving the private sector to

32) In a move to increase government tax revenue while minimizing distortions in resource allocation caused by an unrealistically high progressive tax structure, in 1983 the government proposed a substantial reduction in the highest marginal rate of both the corporate and effect of such a move on government revenue, however, the legislature made only a modest adjustment, reducing the maximum marginal corporate and personal income taxes from 38% and 60% to 30% and 55%, respectively.

assume greater responsibility for economic activities.

In addition to the above-mentioned efforts to consolidate the structural basis for high growth and low inflation, the Korean government undertook external policy reforms to improve the nation's balance of payments and foreign debt. Korea has launched an ambitious import liberalization policy. According to the timetable for liberalization of imports laid out February 1984 by the Ministry of Trade and Industry, the import liberalization ratio will be raised from 74.7% in 1981 to 84.7% in 1984, 91.6% in 1986 and 95.2% in 1988. Existing non-tariff protection will gradually be replaced by tariff protection, and over time tariff differentials among individual commodities will be minimized. According to the plan of the Ministry of Finance, the average tariff rate will be substantially lowered, from 23.7% in 1983 to 19.9% in 1986 and 16.9% in 1988.

It should be emphasized that Korea's liberalization policy is not based on the static free trade argument that free trade in terms of reduced tariff and non-tariff barriers will immediately provide a net gain to the country as a whole, as consumers' gains exceed producers' losses. Rather, it is based on the dynamic argument for free trade that future gains from increased efficiency and more rapid technology transfer will exceed immediate costs of trade deficits and higher unemployment during the transition period. Since the Korean economy depends largely on its exports, and hence upon world demand for Korea's export products, the steps toward liberalization would help reduce foreign protectionism against Korean exports.

As for the nation's policy on exports, the government is encouraging exports based on intra-industry specialization. This will pose fewer difficulties for Korea's trading partners, and thus Korea should face less protectionist resistance. In addition, the government is promoting the growth of exports through market and product diversification.

B. Recent Changes in Policy on Foreign Direct Investment

In line with the principles of market competition and the open door policy, the government has been continuously improving the business environment for foreign investors in Korea. Until September 1980, when the government announced a new policy on foreign direct investment, Korea was relatively strict, requiring local partnership in foreign direct investment. While maintaining the existing tax incentives and other privileges offered to foreign investors, the new policy substantially liberalized foreign investment guidelines, allowing a maximum equity share up to 100% in at least 65 industries defined by the Korean Standard Industrial Classification (KSIC), and again reducing the minimum level of investment to \$100,000 to induce small-scale but technology-intensive investment.

In October 1982 the government announced new policy measures to expedite the introduction of foreign investment into Korea. The measures included allowing foreign direct investment in additional KSIC industries and simplification of administrative procedures.

Among the 855 industries listed in the KSIC, the number open to foreign investment was increased from 427 to 521 accounting for 60.9% of all industries. In particular, as 381 of 400 industries in the manufacturing sector were opened to foreign investors, the share of industries eligible for foreign investments rose from 80.0% to 95.3% in this sector. The industries in which foreign investment was not permitted included industries related to electric power generation, telecommunications management, real estate, some mining rights, and the social infra-structure sector. The minimum allowable amount of foreign investment under the new measure remained \$100,000.

The October 1982 measure set up the following selection criteria according to the nature of the projects and the equity share of foreign investors:

Category I : Projects which allow foreign investors to hold up to 100% equity share.

- Projects which introduce advanced foreign technology and ultimately contribute to strengthening international competitiveness.
- Projects which increase exports and help improve the balance of payments.
- Projects which are highly desirable for development, in which investment by local residents is difficult because of capital requirements, unavailability of accumulated local know-how, or high risks.
- Other desirable projects as viewed by their particularities.

Category II : Projects which allow foreign investors to hold up to 50% equity share

- Projects that contribute significantly to improving the balance of payments but do not fall into category I .
- Projects which contribute to the development of key industries or public interests.
- Projects that contribute to the development of the national economy and social welfare.

Within Category II , however shareholdings by foreign investors of more than 50% and up to 100 % may be allowed in the following instances:

- Projects which contribute to the diversification of foreign investment.
- Projects financed by overseas Korean residents.
- Projects undertaken in a free export zone.
- Projects that contribute significantly to increasing exports and improving the balance of payments.

- Projects requiring a long period of foreign management before successful joint operation with Korean managers becomes practical due to large capital requirements, the need to accumulate technical expertise, or initial period risks.
- Projects in which the foreign investors agree to reduce their shareholding ratio to less than 50% within a certain period.
- Other projects deemed necessary by the Minister of Finance.

The Foreign Capital Inducement Law(FCIL), enacted in 1965, was revised substantially in December 1983. The new FCIL was the product of the considerably changed international environment since FCIL was first enacted and of the definite need to unify the several different laws which regulated the inducement of various forms of foreign capital. The new FCIL, which became effective on July 1, 1984, unified three different laws: The Foreign Capital Inducement Law, which governed inducement of commercial loans and foreign direct investment; The Public Loan Inducement and Management Law; and the Foreign Capital Management Law, which governed management of public loans and aid.

The major objective of the revision of the Law was to secure effectively needed foreign capital and technology to promote continued economic growth through the relaxation or removal of many of the regulations and restrictions on the inflow of foreign direct investment and foreign technology. The revised Law also contains many regulatory improvements for foreign business and investment activities in Korea.

The major policy change in the new FCIL dealt with regulations concerning the inflows of foreign direct investment. Basically, the revision shifted to a negative list system and introduced an automatic approval system.

Whereas the previous positive list system specified industries eligible for foreign investment, the current negative list system

specifies industries not eligible. Under the negative list system only those industries on the list are prohibited or temporarily restricted to foreign investors while those not on the list are allowed.

According to the current Guidelines for Foreign Investment, established in concurrence with the revised FCIL and effective July 2, 1984, of the 999 industries included in the KSIC system, only 297 have been included in the negative list, as summarized in <Table VIII-4>. Under the old positive list system, foreign direct investment was allowed in only 521 industries; the share of industries permitted to foreigners for investment thus rose from 61%³³⁾ to 66%. Among the manufacturing industries, only 71 industries have been included in the negative list, leaving 449 open to foreign direct investment.

Industries on the negative list are divided into two groups, those which are prohibited and those which are restricted. Prohibited industries are not open to foreign direct investment under any circumstances and include: businesses carried out by the government or public corporations such as water supply, human waste disposal services, postal services, telephone and telegraph services, railway transport, manufacture of jinseng and tobacco products; projects harmful to public health or sanitation, resulting in environmental pollution, or in violation of public policy; and other projects such as newspaper publishing and radio and television broadcasting.

Projects in the restricted group are not open to foreign investment in principle but, in some case, exceptions may be made on an individual basis or may be gradually permitted following certain developments in the national economic situation. In a case where an application is submitted for approval of a foreign investment listed under the restricted group, the Minister of Finance may review and approve the investment after consultation with the ministers concerned. The restricted group includes: projects specially supported by the government, projects with a high energy consumption and a high

33) In 1983, 521 of the nation's total 855 industries were open to foreign investment.

<Table VIII-4> Number of Industries Eligible and Not Eligible for Foreign Investment

	Total number of industries ^{b)}	Number of industries not eligible for foreign investment				Eligible for foreign investment	
		Prohibited	Restricted	Omitted ²⁾	Subtotal		
Agriculture, forestry & fishery	40	16	18	1	35	5	
Mining	26	1	11	2	14	12	
Manufacturing	522	10	61	2	73	449	
Electricity, gas & water	6	3	0	0	3	3	
Construction	31	0	2	0	2	29	
Wholesale & retail trade, restaurants & hotels	139	16	32	1	49	90	
Transport, storage & communication	53	8	29	7	44	9	
Financing, insurance, real estate & business service	75	11	29	14	54	21	
Community, social & personal services	106	17	32	15	64	42	
Activities not adequately defined	1	0	1	0	1	0	
Total	Number	999	82	215	42	339	660
	Share(%)	100.0	8.2	21.5	4.2	33.9	66.1

Notes: 1) Excluding 49 industries, such as government institutions and religious and political organizations, from the total of 1,048 items on most detailed classification of the KSIC.

2) Projects omitted due to the fact that the ministries concerned have not yet been specified.

proportion of imported raw materials, industries causing heavy pollution, projects considered extravagant or resulting in non-productive consumption, and projects affecting the subsistence of farmers and fishermen.

Approval procedures were greatly simplified under the new FCIL by introducing the so-called automatic approval system. Projects which meet the following requirements are granted automatic approval: a) projects which are not included in the negative list; b) projects which have foreign equity share of less than 50%; c) projects of less than \$1 million; and d) projects which do not involve foreign investors asking for special tax preferences in addition to those given to all domestic firms in Korea. Furthermore, there are no longer restrictions on the proportion of equity foreign investors may hold except in a few limited cases.

Although exemptions and reductions of customs duties on capital goods imported as a part of foreign investments have been continued, in principle, the various tax advantages given uniformly to foreign invested enterprises have been abolished in order to provide a fair environment for competition to both foreign and domestic firms. In exceptional cases, however, when a foreign invested project is expected to contribute greatly to the development of the national economy, for example, some exemptions or reductions may be granted. Projects that will be considered for such tax advantages include projects which contribute to the improvement of Korea's balance of payments, projects accompanied by advanced technology or large amounts of capital, projects invested by overseas Koreans, and those located in Free Export Zones. More on the details on the special tax benefits granted on foreign direct investment will be provided in section V.

Procedures for the inflow of foreign technology have also been greatly simplified. In the past, imports of foreign technology had to be approved by the relevant ministries after an assessment of the need for the import, the relevance of the royalties, and the nature of the technology. In the new system, however, the approval requirement has been replaced by a reporting system. Firms which wish to import foreign technology now must only report their intention to the relevant

ministry. If the ministry concerned makes no objections or fails to request additional changes within 20 days after the report is filed, the technology import is considered accepted.

Under the following conditions, however, the relevant ministries definitely restrict the technology import or request changes in the technology inducement contract: a) when the purpose of the licensing agreement is solely to obtain designs, trademarks, or franchises, b) when the purpose of the licensing agreement is only to sell raw materials, parts, or components, c) when the agreement involves unfair trade practices such as restrictions on exports related to the imported technology, d) when the technology being imported is definitely outdated, and e) when imports of the technology are specifically restricted by other laws or regulations.

In addition to the adoption of the negative list system and the automatic approval system, the new FCIL removed or relaxed some restrictions and put forward various other improvements in the operating rules in order to provide further incentives for foreign investors. Restrictions which allowed repatriation of capital only after two years of profit making activities were removed under the new law, The maximum period allowed for the payment of subject matter of investment, such as foreign means of payment and capital goods, was extended from 18 to 24 months. While in the past a foreign investor was able to reinvest dividends only in the business concerned, the revised law permitted reinvestment of dividends in other new projects³⁴.

As the Korean economy becomes more dependent on international capital markets, it becomes necessary to open domestic capital markets

34) In the case of reinvestment in the same enterprise, the foreign investor is required only to report to the Minister of Finance if the foreign share of investment does not exceed the ratio formerly approved. On the other hand, approval from the Minister of Finance is mandatory when the share becomes higher after reinvestment in the same enterprise, and when reinvestment is made in another enterprise.

to foreign investors. However, the Korean security market is still in its infancy, and the capital market remains rather inefficient and operates on a small scale. Under the present circumstances, therefore, the abrupt inflow of foreign capital could unpredictably disturb the market. However, Korea recently took a big step toward opening the Korean security market to non-residents by selling Korea Fund shares on the New York market.

The Korea Fund, Inc, filed a registration statement with the U.S. Securities Exchange Commission on June 26, 1984 and offered 5 million shares, worth \$60 million, to the public in the United States in September 1984. The Korea Fund, Inc. was jointly established in May 1984 in New York City by Daewoo Securities Co., a subsidiary of the Daewoo Group, and Scudder Stevens & Clark, a leading U.S. investment counselling firm. The Korea Fund's initial capital was \$100,000.

The Fund is designed to internationalize gradually the Korean capital market, following the open-end overseas investment funds that the nation's two investment trust companies have introduced since 1981. The Fund will also provide an opportunity for foreign investors, particularly those in the United States, to invest in the Korean securities markets.

Reorientation of government policy on foreign direct investment toward more liberalization and simplification in recent years, as discussed above, has been in part caused by the government's concern over the deficits in the balance of payments and the resulting accumulation of foreign debts. However, the government's more basic concern was to promote competition among domestic firms, thereby enhancing efficiency and productivity of thus far protected firms, and to promote technological development of sophisticated industries by introducing more foreign competition into the economy. The effects of recent changes in policies on foreign direct investment, however, remain to be seen.

IV. Trends and Features of Foreign Direct Investment in Korea

1. Overall Trends and Sizes of Investment

<Table VIII-5> presents the approval and arrival data of foreign direct investment in Korea. Since the nation opened its door to foreign investors in 1962, investments in 956 projects with a combined value of \$1,704.3 million have been approved, of which \$1,408.6 million have actually arrived and been invested, \$509.9 million in the form of capital goods and \$898.7 million in cash.

The number of foreign investment projects increased steadily until 1969, rapidly increased from 1970 to 1973, and then dropped sharply beginning with 1974. The yearly flow of direct foreign investment on the basis of arrivals reached its peak in 1974 with \$162.7 million, and thereafter stabilized around the level of \$100 million per year. Foreign direct investment in Korea substantially increased in 1983, perhaps as a result of the government's liberalization policy. According to statistics released by the Ministry of Finance, on an approval basis last year's foreign investment topped \$267.8 million in 75 projects, up 43% from the \$187.8 million in 1982.

In spite of the steady inflow of foreign direct investment totaling \$1,408.6 million by 1983, overall, foreign direct investment has accounted for an insignificant portion of total foreign capital inflows and has played a minor role in total Korean capital formation, as mentioned before and seen in <Table VIII-3>. Despite Korea's heavy reliance on external capital, foreign control of Korean business has not been significant, for much of it has come in the form of debt securities rather than equity.

The distribution of foreign direct investment by investment scale is extremely skewed leftward, as summarized in <Table VIII-6>. Foreign projects with investment of less than \$590,000 account for 61.7% of all foreign direct investments approved by the end of June 1984. The rest of the projects fall into the range of investments between \$500,000 and \$5,000,000. Projects whose investment scale exceeds \$5 million number only 69 and account for only 6.8% of total investment.

<Table VIII-5> Trends of Foreign Direct Investment in Korea

(Unit: million dollars)

Year	Approved		Arrived Amount		
	Number	Amount	Capital goods	Cash	Total
1962	1	0.6	-	0.6	0.6
1963	1	0.3	2.1	-	2.1
1964	2	0.3	3.1	-	3.1
1965	5	20.7	0.6	10.1	10.7
1966	6	1.1	0.1	4.7	4.8
1967	12	9.3	1.2	11.5	12.7
1968	20	8.4	4.5	10.3	14.8
1969	25	15.6	3.1	3.8	6.9
1970	50	13.6	10.4	14.9	25.3
1971	57	25.8	17.6	19.2	36.8
1972	107	93.1	20.0	41.2	61.2
1973	194	156.6	100.6	57.8	158.4
1974	85	74.0	78.1	84.6	162.7
1975	29	169.4	27.8	41.3	69.1
1976	35	72.2	37.4	68.2	105.6
1977	37	65.9	17.2	85.1	102.3
1978	41	128.4	24.6	75.8	100.4
1979	42	107.3	42.2	84.8	127.0
1980	36	140.8	27.4	69.2	96.6
1981	41	145.3	20.8	84.7	105.5
1982	55	187.8	35.1	65.5	100.6
1983	75	267.8	36.0	65.4	101.4
Total	956	1,704.3	509.9	898.7	1,408.6

Source: Ministry of Finance

<Table VIII-6> Distribution of Foreign Direct Investment by Investment Scale (approval basis as of June 1984)

(Units: thousand dollars and %)

Investment scale	Number of FDI		Amount of FDI	
	Number	Share	Amount	Share
Less than 100	194	19.2	13,616	0.7
100-200	209	20.7	29,198	1.5
200-500	221	21.8	71,520	3.5
500-1,000	131	12.9	105,792	5.2
1,000-5,000	188	18.6	477,170	23.6
More than 5,000	69	6.8	1,321,938	65.5
Total	1,012	100.0	2,019,234	100.0

Source: Ministry of Finance

2. Industrial Distribution

The industrial distribution of foreign direct investment for the period of 1962-1983 is shown in <Table VIII-7>. Of the total investment of \$1,408.6 million on an approval basis as of the end of 1983, 76.2% was in the manufacturing sector, 22.4% in the social overhead capital and services sector, 1.2% in the agriculture, forestry, and fishery sector, and 0.2% in the mining sector.

The relatively small investment in the non-manufacturing sectors reflects both the scarcity of natural resources in Korea and the government restriction of foreign investment in those sectors. The three industries in the manufacturing sector which attracted the most foreign investment were chemicals (19.3% of the total amount of investment in all sectors), electric and electronics (14.7%), and textile and garments (9.7%). These three industries together account for more than 40% of total foreign investment in Korea. The hotel and tourism industry also received steady and big investments.

Patterns of foreign investment by industry closely followed the industrialization strategy pursued by the government. Investment in the

<Table VIII - 7> Foreign Direct Investment by Industry (arrival basis)

(Units: million dollars and %)

Industry	1962-1966		1967-1971		1972-1976		1977-1981		1982-1983		Total	
	Amount	Share	Amount	Share								
Agriculture, forestry & fishery	0.1	0.5	1.2	1.2	7.5	1.3	6.1	1.2	1.4	0.7	16.3	1.2
Mining	-	-	-	-	1.1	0.2	1.3	0.2	0.6	0.3	3.0	0.2
Manufacturing	21.2	99.5	80.1	83.1	444.8	79.9	367.2	69.0	159.4	78.9	1,072.7	76.2
Textile & garments	0.8	3.8	13.4	13.9	117.1	21.0	1.9	0.4	3.2	1.6	136.4	9.7
Chemicals	4.6	21.6	12.6	13.1	55.3	9.9	162.9	30.6	36.7	18.2	272.1	19.3
Petroleum	5.0	23.5	10.1	10.4	33.9	6.1	13.5	2.5	0.8	0.4	63.3	4.5
Metals	-	-	5.3	5.5	32.9	5.9	26.2	4.9	2.5	1.2	66.9	4.7
Machinery	0.3	1.4	3.1	3.2	34.9	6.3	43.5	8.2	25.5	12.6	107.3	7.6
Electric & electronics	-	-	11.2	11.6	85.4	15.3	64.2	12.1	46.9	23.2	207.7	14.7
Social overhead capital	-	-	15.1	15.7	103.7	18.6	157.2	29.6	40.7	20.1	316.7	22.4
Construction & business services	-	-	4.3	4.5	15.2	2.0	47.0	8.8	13.3	6.6	75.9	5.4
Hotel & tourism	-	-	7.5	7.8	72.7	13.1	59.6	11.2	21.5	10.6	161.3	11.5
Total	21.3	100.0	96.4	100.0	557.0	100.0	531.8	100.0	202.1	100.0	1,408.6	100.0

Source: Ministry of Finance

textile and garments industry has declined sharply in recent years as investment opportunities waned and overseas competition became severe. The machinery industry showed a steady increase in foreign investment throughout as the result of heavy industrialization strategy adopted by the government.

3. Country Distribution of Foreign Investment

Over the whole period of 1962-1983, foreign direct investments in Korea were predominantly Japanese and American, as shown in <Table VIII-8>. The Japanese have invested \$711.9 million, half the total foreign direct investment in Korea, while the Americans invested \$409.7 million, accounting for 29.1% of the total. Among the European countries, the Netherlands is the single largest investor, accounting for 4.1% of the total foreign investments in Korea. The share in total foreign investment by any other country remained negligible throughout the entire period between 1962 and 1983. The predominance of Japanese investment in Korea can be explained by the geographical proximity and sequential changes in the stage of industrialization between the two countries.

During the First Five-year Development Plan period(1962-1966), the United States was the single largest foreign investor, accounting for 75.1% of the total value of \$21.3 million. With the normalization of diplomatic relationship between Korea and Japan in 1965, investment by Japanese firms rose sharply through the Third Five-year Development Plan period. A major reversal may be observed for the last two years, in which American investment is far larger in total amount than Japanese investment.

The steady increase in the amount of American investment since 1962 and a slowdown in the amount of Japanese investment in recent years can be explained by different characteristics of Japanese and American investments. Much of direct investment made by Japanese

<Table VIII-8> Foreign Direct Investment by Country (arrival basis)

(Units: million dollars and %)

Country	1962-1966		1967-1971		1972-1976		1977-1981		1982-1983		Total	
	Amount	Share	Amount	Share								
Hong Kong	0.3	1.4	1.8	1.9	1.8	0.3	12.2	2.3	7.7	3.8	23.8	1.7
Japan	4.7	22.1	37.4	38.8	395.5	71.0	214.2	40.3	60.1	29.7	711.9	50.5
Netherlands	-	-	5.0	5.2	10.0	1.8	39.7	7.5	2.5	1.2	57.2	4.1
Panama	-	-	2.4	2.5	20.5	3.7	2.5	0.5	0.1	0.1	25.5	1.8
Switzerland	-	-	-	-	0.1	-	10.2	1.9	13.1	6.5	23.4	1.7
U.K.	-	-	0.5	0.5	2.7	0.5	18.8	3.5	1.2	0.6	23.2	1.6
U.S.A.	16.0	75.1	32.7	33.9	87.5	15.7	178.0	33.5	95.5	47.3	409.7	29.1
W. Germany	0.3	1.4	2.2	2.3	2.2	0.4	9.3	1.7	6.5	3.2	20.5	1.4
IFC	-	-	4.4	4.5	11.5	2.1	7.2	1.3	3.4	1.7	26.5	1.9
Others	-	-	10.0	10.4	25.2	4.5	39.7	7.5	12.0	5.9	86.9	6.2
Total	21.3	100.0	96.4	100.0	557.0	100.0	531.8	100.0	202.1	100.0	1,408.6	100.0

Source: Ministry of Finance

firms was in the labor-intensive industries, to capitalize on the low-cost labor in Korea. Therefore, as Korean labor costs began to rise rapidly in the middle of the 1970s, profitability from Japanese investment in Korea diminished and foreign direct investment by Japanese firms in Korea declined. In contrast, much of the American investment was in technically advanced, import-substituting industries seeking market expansion in Korea. Thus, the rise in labor cost was not a critical factor in determining Korea as the location for investment.

4. Extent of Ownership and Control

<Table VIII-9> and <Table VIII-10> show the degree of foreign ownership and control of foreign direct investment in Korea by country and by industry, respectively, in terms of number of cases and the amount of investment. Reflecting the government's strong insistence on local participation, as of June 1984 the proportion of wholly-owned subsidiaries was 13.2% of the 1,012 approved cases and 29.4% of the \$2,019.2 million approved amount. Overall, projects whose equity share is 50% and above comprise 58.1% in terms of numbers and 77.6% in terms of amount.

In terms of number of cases, the proportion of the majority-owned and wholly-owned projects is highest for the American firms. Although there are some wholly-owned Japanese subsidiaries in Korea, Japanese-affiliated firms are more typically minority-owned or co-owned. On the other hand, in terms of amount of investment, Japan has the highest proportion of majority-owned and wholly-owned projects. What the <table VIII-9> shows with regard to the correlation between the size of investments and the degree of equity share, is that in the case of Japanese investments there is a clear tendency for large-scale investments to be associated with large share of ownership. For American direct investments in Korea, no such association can be found.

Among industries, the primary sector and the social overhead capital sector have the lowest proportion of wholly-owned investment while the manufacturing and mining sectors have a relatively high proportion of wholly-owned projects. This outcome reflects the government policy encouraging joint ownership especially in the social overhead capital sector and agriculture, forestry, and fishery. In terms of amount of investment, however, the social overhead sector has the highest proportion of wholly-owned investment. Within the manufacturing industries, the proportion of wholly-owned investment is greatest in the electric and electronic industry, in terms of both number of cases and amount of investment.

<Table VIII-9> Distribution of Equity Shares by country (approval basis as of June 1984)

(Units: million dollars and %)

Country	Number of cases						Amount			
	Minority-owned	Coowned	Majority-owned	wholly-owned	Total cases	Minority-owned	Coowned	Majority-owned	Wholly-owned	Total amount
France	33.3	66.7	-	-	9	63.1	36.9	-	-	35.2
Hong Kong	20.0	60.0	10.0	10.0	20	18.4	64.7	5.1	11.8	52.7
Japan	45.4	29.1	12.5	13.0	687	21.5	21.5	27.5	29.5	974.4
Netherlands	20.0	50.0	10.0	20.0	10	0.8	31.5	1.2	66.5	114.8
Switzerland	42.1	36.8	21.1	-	19	27.6	32.7	39.7	-	37.0
U.K.	8.4	58.3	33.3	-	12	22.8	59.1	17.0	1.1	25.9
U.S.K.	33.2	30.0	18.1	18.7	193	17.0	40.5	6.7	35.8	608.4
W. Germany	39.1	30.5	13.0	17.4	23	28.4	46.0	9.5	16.1	28.5
IFC	90.0	-	10.0	-	10	89.5	5.7	4.8	-	44.0
Others	41.4	48.3	6.9	3.4	29	44.4	52.5	2.1	1.0	98.3
Total	41.9	31.2	13.6	13.3	1,012	22.4	31.4	16.8	29.4	2,019.2

Source: Ministry of Finance

<Table VIII – 10> Distribution of Equity Shares by Industry (approval basis as of June 1984)

(Units: million dollars and %)

Industry	Number of cases					Amount				
	Minority-owned	Co-owned	Majority-owned	wholly-owned	Total cases	Minority-owned	Co-owned	Majority-owned	wholly-owned	Total amount
Agriculture, forestry & fishery	72.7	15.9	9.1	2.3	44	55.2	19.5	9.1	16.2	15.4
Mining	50.0	14.3	-	35.7	14	47.2	25.0	-	27.8	3.6
Manufacturing	40.4	31.3	13.9	14.4	837	19.5	39.4	14.7	26.4	1,305.3
Food	48.4	32.3	12.9	6.4	31	14.6	32.4	49.8	3.2	60.2
Textile & garments	61.8	19.1	11.8	7.3	68	12.6	33.0	51.4	3.0	70.0
Chemicals	41.0	42.7	13.7	2.6	117	11.6	52.9	3.8	31.7	332.6
Medical Products	20.0	45.7	31.4	2.9	35	8.5	35.4	51.2	4.9	65.0
Ceramics	52.0	-	28.0	20.0	25	48.0	-	28.7	23.3	15.0
Metals	44.5	31.9	9.7	13.9	72	27.0	19.3	32.4	21.3	65.3
Machinery	46.0	26.6	10.8	16.6	139	17.7	64.0	3.6	14.7	204.0
Electric & electronics	30.6	33.0	12.1	24.3	206	24.7	7.2	11.1	57.0	308.7
Social overhead Capital	40.2	38.4	15.4	6.0	117	27.1	16.7	20.8	35.4	694.9
Construction & business services	43.5	36.9	8.7	10.9	46	15.3	18.0	14.2	52.5	84.8
Hotel & tourism	30.9	38.1	26.2	4.8	42	19.2	12.4	26.2	42.2	478.3
Total	41.9	31.2	13.6	13.3	1,012	22.4	31.4	16.8	29.4	2,019.2

Source: Ministry of Finance

V. Tax Policies on Foreign Direct Investment and Business Activity in Korea

1. Tax Incentives under Foreign Capital Inducement Law

A. Tax Incentives under the Old FCIL

Common to the foreign investment laws of developing countries is incentive scheme to induce foreign direct investment. As for the foreign investor, there are many factors to be taken into consideration in the process of arriving at a particular investment decision. There are alternative investment opportunities regarding the project, size, conditions, and profit expectations. Since capital-importing developing countries are in a position of unavoidable competition with each other over inducing foreign investment, each has to offer better incentives and privileges to foreign investors.

The most important factor in relation to the inducement of foreign capital is the investment climate of the capital-importing country. However, the investment climate of a country is absolutely predicated on the society itself and therefore cannot be changed within a short span of time or with mainly physical inputs. Accordingly, in order to offset disadvantageous factors, capital-importing countries offer various incentives to foreign investors, the most common of which are measures to reduce the non-business risks and tax incentives to assure safer and higher returns on foreign investment.

Korea's Foreign Capital Inducement Law is not an exception to the rule in that it provides both tax incentives and measures of reducing risks. As discussed previously, the FCIL contains primary regulations concerning foreign direct investments and stipulations for tax incentives, in addition to procedures for licensing, repatriation of

capital, remittance of dividends³⁵). Since space limitations do not allow a detailed description of the tax incentives provided under the each of the many versions of the FCIL, only the major tax incentives under the most recent FCIL and those of the present FCIL will be compared. This comparison is sufficient because no drastic changes in tax privileges were made until 1983, and meaningful because the latest revision, effective July 1, 1984, illustrates changes in the direction of government policy on the foreign direct investment.

In the past, Korea offered substantial tax incentives, typical of those granted in many other developing countries. The old FCIL provided a uniform tax incentive for various types of taxes: the income tax on unincorporated firms; the corporation tax on incorporated firms; the tax on dividend income; the tax on royalties from technology transfer; the property tax; and the acquisition tax.

Income tax and corporate tax on foreign invested firms were wholly exempted or reduced according to the ratio of the foreign equity to the entire outstanding stock of the foreign invested firm. The duration of the incentives was for the first five years from the date of commencement of business prescribed in the Income Tax Law and the Corporation Tax Law, and reduced by 50% for the ensuing three years. This uniform incentive was applied to all foreign investors with respect to their initial investment and subsequent increases thereof.

Foreign invested enterprises were exempted from acquisition tax from the date of registration, and from property tax from the initial date prescribed in the respective tax laws. Even before the registration of a foreign invested firm, the properties acquired for the firm's original business purpose might be exempted from acquisition and property taxes: Taxes were fully exempted for five years in proportion to the equity held by the foreign investors to the entire outstanding stock of

35) Among other laws relating to foreign direct investment are the Foreign Exchange Control Law, the Customs Law, the Commercial Code, the Alien Land Acquisition Law, the Income Tax Law, and the Corporation Tax Law.

the foreign invested company, and reduced by 50% for the ensuing three years in the same proportion.

Income and corporation taxes on dividends paid out of profits and distribution of surplus accruing from the equity stocks owned by foreigners were exempted in full for five years from the date of business operation, and reduced by 50% for the following three years. Customs duties and commodity taxes, meanwhile, were fully exempted on capital goods imported by foreign investors under an import authorization for foreign direct investment.

Income tax or corporate tax on royalty payments to the supplier of technology under a technology inducement contract was fully exempted for five years from the date of authorization of the technology inducement contract, and reduced by 50% for the ensuing three years.

Korea also provided personal income tax exemptions for foreign nationals employed by foreign invested companies or sent to Korean licensee companies. Such persons were exempt from the Korean personal income tax to the extent of the amount of the tax which levied on their salaries and wages received for five years from the date of registration of the foreign invested company with the Korean authorities.

A number of allowances such as overseas service allowances and housing allowances received by foreigners engaged in foreign invested companies or foreigners who earn wages or salaries in return for work and services under a technology inducement contract, were regarded as a payment for compensation for actual expenses, and no income tax was levied on those expenses.

Since the tax holiday clauses of the old FCIL were solely designed to expedite the inflow of foreign direct investment, those who wanted to take advantage of them had to comply with other legal requirements. If a foreign investor failed to perform any of the terms of authorization, he had to pay the tax that had been previously exempted. In any of the

following cases, the tax authority retroactively collected the income tax, corporation tax, customs duty, property acquisition tax, property tax, or value-added tax, which had been exempted:

- a) When a foreign investor has not effected payment for stocks or shares within the period described in the FCIL;
- b) When, after a tax has been exempted, the percentage of a foreign investor's stocks is less than the percentage of tax exemption due to a change in the percentage of the foreign investor's equity ownership;
- c) When the authorization or registration is cancelled; and
- d) When so requested for reason of non-performance of the terms and conditions of the authorization.

B. Tax Incentives under the New FCIL

The 1983 reform of the FCIL introduced important changes in taxation of income from foreign direct investment in Korea. As stated before, the latest revision, effective July 1, 1984, reflects the Korean government's aspirations to decrease its international debt burden and to attract high technology in a more open economic system.

Under the revised FCIL, the exemptions and reductions of various types of taxes, which were provided uniformly to all foreign investors under the previous FCIL, are in principle abolished. Instead, tax incentives are provided as an exception rather than as a rule, generally for foreign investment projects which are deemed to contribute greatly to the development of the Korean economy. In order to benefit from tax incentives for those qualified projects, foreign investors must apply for them at the time they apply for approval of the projects.

Tax benefits are in principle given to a limited number of foreign investors, who make a contribution to strengthening the national economy under the following categories:

- Projects which make a significant contribution to the improvement

of the balance of payments.

- Projects which are accompanied by advanced technology or a large amount of capital.
- Projects in which nonresident Korean nationals invest in accordance with the Law Concerning the Registration of Nonresident Korean Nationals.
- Projects which are located in Free Export Zones in accordance with the Free Export Zone Establishment Law.
- Other projects designated by Presidential Decree as projects for which tax exemption or reduction is essential in order to induce foreign investment.

Foreign invested projects which are eligible for tax privileges mentioned above should fulfill the detailed conditions provided by the Standard of Income and Other Tax Exemptions Granted to Foreign Investment (Ministry of Finance Notification 84-13).

Under the new standards for tax privileges, projects which improve international balance of payments are those projects which meet the obligatory export ratio or import substitution projects. More specifically, projects which improve balance of payments are those which export a portion of their products that is greater than or equal to the ratio of the imported raw materials cost to the total turnover plus 30%³⁶⁾. Furthermore, if a project produces items whose importation is automatically approved and whose domestic production ratio is 30% or less, or for which the ratio of imported raw materials cost to the total turnover is 30% or less, it is also deemed to improve international balance of payments.

36) Mathematically, the condition can be represented as:

$$\frac{\text{export amount}}{\text{total turnover}} \geq 0.3 + \frac{\text{imported raw materials cost}}{\text{total turnover}}$$

Advanced technology projects are those which meet all of the following conditions: (a) whose domestic self-development are considered difficult; (b) which are used in technology-intensive or high-tech industries; and (c) which are approved as making a great economic or technological linkage effect by the Minister of Finance after consultation with the Ministers concerned.

Large capital projects are those whose foreign-invested amount is \$10 million or more at one time, and whose products are given automatic import approval and have a tariff rate of 10% or less. In the case of tourist hotels, however, the minimum amount of foreign investment drops to \$5 million.

In addition to projects which are invested in by nonresident Korean nationals or which are located in Free Export Zones, small and medium-sized projects which are included on the list of Preferred Fostering of Small and Medium-sized Enterprises and which have a foreign investment ratio of 50% or less are eligible for tax privileges.

For income and corporation taxes on foreign invested firms, under the revised FCIL a choice of one of two types of tax incentives is provided. One type allows tax exemptions in proportion to the ratio of the stocks owned by foreign investors to the total stocks of the firm concerned for any five consecutive years within ten years from the registration of the firm. The other type of tax incentive provides a special depreciation deduction equal to 100% of the ceiling of allowable depreciation of fixed assets under the income or corporate tax laws, multiplied by the foreign investment ratio.

It should be noted that in order to give the firm the maximum benefit from these exemptions, tax exemptions for the income and corporate taxes are provided for any single five-year period within ten years from the registration of the firm, not for the first five years as under the previous FCIL. The 50% reduction of taxes in the subsequent three years after the first five years of tax holidays, which existed under the previous system, has been eliminated. For the foreign

investor who elect to choose the tax preference of special depreciation, the sum of the special depreciation cannot exceed the amount invested by the foreign investor.

Income or corporation taxes on dividends accruing to foreign investors are exempted for a continuous five-year period within ten years after the tax year commencing following the registration of the foreign invested firm. Taxes on royalties from supplying technology are exempted for the first five years from the accepting date of the contract.

The acquisition and property taxes on properties acquired and held by foreign invested firms are exempted for the first five years from the date of registration, in proportion to the foreign investment ratio of the enterprise concerned but only when the properties were acquired after registration. If however, the foreign invested firm has acquired any property before registration for the original purpose of the project concerned, acquisition and property taxes are exempted for five years from the date of acquisition of the properties in proportion to the ratio of stocks owned by foreign investors to the total stocks.

As in the old system, customs duties, the special consumption tax, and the value-added tax are exempted on imported capital goods which are either induced by foreign investors as a subject matter of foreign investment, or which are induced by means of dividends from existing foreign-invested firms, or by means of foreign means of payment by foreign investors³⁷⁾. However, the capital goods induced for investment in a) agriculture, hunting, fishery, and forestry, b) mining, c) electricity and gas, d) construction, e) wholesale and retail trade, restaurants and hotels excluding tourist hotels, f) communications, g) finance, insurance, real estate, and business services, and h) community, social and personal services are excluded from customs duties, the special

37) The difference between the old and new FCILs is that under the old Law all foreign investments were exempted from customs duties, the special excise tax, and the VAT whereas under the new Law such tax privileges are delegated to the Presidential Decree to allow more flexible administration.

consumption tax, and the value-added tax.

As a result of the new provisions of the FCIL discussed above, some projects which would have been eligible in the past for tax privileges cannot receive tax benefits, and some projects to which tax benefits were not granted are now eligible for such privileges. However, in comparing the tax incentives under the old FCIL with those under the new FCIL, one must keep in mind that the objectives of the change in government policy is not to reduce total tax privileges. Rather, the Korean government is eager to induce foreign investment by allowing more incentives and facilitating the procedures involved. The new policy attempts to allow tax benefits to be granted according to the contribution of the foreign invested projects to the development of the national economy.

2. Taxation of Nonresidents

Individual taxpayers in Korea are classified into two categories: residents and nonresidents. Residents are individuals with a domicile in Korea or individuals with residence in Korea for a period of one year or longer. Nonresidents are individuals other than residents. A resident is subject to income tax on his worldwide income, while a nonresident taxpayer is subject to income tax solely on his income from sources within Korea.

The following items are treated as income from sources within Korea unless otherwise stipulated in tax conventions for the avoidance of double taxation: (a) interest income, (b) dividend income, (c) real estate income, (d) lease income, (e) business income, (f) personal service income, (g) wage or salary income, (h) pensions or retirement income, (i) capital gains, (j) timber income, (k) royalties, (l) gains from transfer of securities, and (m) other income.

Two methods of taxation, global taxation and separate taxation, are applied in the case of nonresidents, as with residents. For income tax

purposes, nonresidents are classified into the following three categories:

- (a) a nonresident who has a domestic business place³⁸⁾ and who has a real estate income;
- (b) a nonresident who has a domestic business place and who has pensions or retirement income, capital gains, and timber income; and
- (c) a nonresident who does not have a domestic business place

A nonresident of type (a) above is subject to global taxation, i.e., taxation at the normal graduated tax rates of 6% to 0.55% on the basis of net income on his entire income from sources within Korea. Incomes of nonresidents falling under the category of type (b) above are taxed on the same basis as that applied on a resident. The principle in computing taxable income and tax thereon for the purpose of global taxation of a nonresident taxpayer is generally the same as is applicable to such computation for a resident taxpayer.

Anyone who pays income from sources within Korea (excluding wage or salary income and timber income) to a nonresident who does not have business place in Korea is required to withhold as income tax at the source of income an amount enumerated in one of the following items upon making the payment, and to pay the tax thus withheld to the government before the 10th day of the month following the month of withholding:

- lease income and business income... 2% of the amount payable
- personal service income... 20% of the amount payable
- interest income, dividend income, royalty, and other income... 25% of the amount payable
- gains from transfer of securities... 10% of the sales price or 25%

38) A domestic business place is defined as a fixed place of business in Korea such as a branch, sub-branch, office, factory, workshop, warehouse, construction work site, mine, and quarry.

of the difference between the sale price and the seller's original cost, whichever is less

3. Taxation of Foreign Corporations

For Korean tax purposes corporations are classified into two categories: domestic corporations and foreign corporations. A domestic corporation is one whose head office or main office is in Korea. While domestic corporations are taxed on their worldwide income, foreign corporations are subject to corporate tax upon only income derived from sources within Korea³⁹⁾.

Foreign corporations are further classified into resident foreign corporations, which have fixed places of business in Korea, and nonresident foreign corporations. The provisions of tax laws with respect to calculating taxable income and tax amount, assessment, collection, tax withholding, and reportings for domestic corporations are applied *mutatis mutandis* to resident foreign corporations. Nonresident foreign corporations are only subject to stipulated withholding taxes on their Korean-source income.

For corporation tax purposes, the following items are treated as income from sources within Korea, unless otherwise stipulated in tax conventions for the avoidance of double taxation: (a) interest income, (b) dividend income, (c) real estate income, (d) lease income, (e) business income, (f) personal service income, (g) capital gains, (h) timber income, (i) royalties, (j) gains from transfer of securities, and (k) other income.

Rules for determining the scope of income from sources within Korea for domestic corporations are likewise applied, *mutatis mutandis*, to foreign corporations. Notable differences in the case of resident foreign corporations or foreign corporations with real estate

39) No corporation tax is levied on foreign corporations with respect to their liquidation income.

income are as follows:

- (a) Cost of sales or overhead expenses of a foreign corporation are allowed as deductions to the extent that such costs are reasonably allocated to its business carried on in Korea;
- (b) Reserves for retirement allowances are limited to those for employees of foreign corporations working permanently at a fixed business place in Korea or at the location of real estate;
- (c) As in the case of taxes imposed and paid under the Korean tax laws and regulations, foreign taxes and imposts under foreign laws and regulations are not deductible as expenses even for such portion of the tax that is imposed on its income from sources within Korea.
- (d) A depreciation allowance is granted on those fixed assets of a foreign corporation owned for business and actually located in Korea.
- (e) Director referred to in connection with non-inclusion of bonus payable to directors beyond certain limits in the calculation of income amount are limited to those directors who are employed by foreign corporations and permanently serve at a fixed business place in Korea or at the location of real estate.
- (f) Deferred assets are limited to those deferred assets of foreign corporations that are incurred in connection with the business operations in Korea.
- (g) In the case where a foreign corporation with a fixed place of business in Korea runs an international transportation business by vessels or aircraft, calculation of the income of the corporation from its business in Korea is based on the amount of revenues and expenses accrued in connection with passengers coming aboard or cargos loaded in Korea, the value of fixed assets for business in Korea, and any other sufficient factors for determining the degree of contributions by sources within Korea to the generation of income from the transportation business.

- (h) In granting a tax credit to a foreign corporation for losses from disaster, the total value of assets for business is the value of assets for business situated in Korea.

In the case of foreign corporations which have no fixed place of business in Korea, the amount of income from sources within Korea is an amount of income for each type of income from different sources within Korea.

In the case of a foreign corporation which has a fixed place of business in Korea, real estate income, or timber income in Korea, the tax base for each business year for corporation tax purposes is the amount of income remaining after successive deductions of the following items from the gross income from sources within Korea:

- (a) deficits incurred in Korea and carried over within three years before the beginning day of each business year, which have not been deducted in the calculation of tax base in each subsequent year.
- (b) non-taxable income in accordance with the corporation tax law and other laws.
- (c) income accruing from the navigation abroad of vessels or aircraft, provided that the foreign country in which a foreign corporation has the head office or main office grants the same tax deduction on the navigation income of Korean vessels or aircraft.

In the case of foreign corporations which have no business establishment in Korea, income from sources within Korea is the tax base for the corporation tax purposes. Even in this case, income from the navigation of vessels or aircraft abroad is, on a reciprocal basis, deducted from the gross income from sources within Korea.

As in the case of taxation of nonresident who does not have a fixed place of business in Korea, anyone who pays income from sources

within Korea to a nonresident foreign corporation is required to withhold income at the following rate and to pay the tax thus withheld to the government before the 10th day of the month following the month of withholding:

- lease income and business income... 2% of the amount payable
- personal service income... 20% of the amount payable
- interest income, dividend income, royalties, and other income... 25% of the amount payable
- gains from transfer of securities... 10% of the sale price or 25% of the difference between the sale price and the purchase price, whichever is less.

The provisions regarding tax rates⁴⁰⁾, return, payment, determination, correction, and collection of corporation tax on the income applicable to a domestic corporation for each business year are likewise applied, *mutatis mutandis*, to a foreign corporation which has a fixed place of business in Korea, real estate income or timber income in Korea.

4. Tax Conventions

Korea has concluded comprehensive conventions for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income with 21 countries⁴¹⁾. Taxes covered on the part of

40) The corporate tax rates are presently as follows:

	Ordinary corporation	Non-profit corporation
Not over 50 million won	20%	20%
In excess of 50 million won	30% ¹⁾	27%

1) A tax rate of 33% applies to corporations whose stocks are not listed on the Korean Stock Exchange and whose issued stock is over 5 billion won or share capital is over 10 billion won.

41) In addition to 21 countries listed in <Table VIII-11> with which Korea concluded tax conventions, Korea signed or initialed tax treaties with five countries: Egypt, India, Luxembourg, Sri Lanka, and Turkey.

Korea include the income tax, the corporation tax, the inhabitant tax, and the defense tax, though the inhabitant tax is not covered under the conventions concluded with countries like the Philippines and the United States.

According to conventions, a foreign enterprise is not subject to tax on business income in Korea unless it has a permanent establishment in Korea. The concept of the permanent establishment varies slightly, depending on the convention. If an enterprise has a permanent establishment in Korea, the enterprise is subject to Korean tax on so much of its business profits as are attributable to the permanent establishment in Korea. The only exception is the convention with Japan, under which Japanese enterprises are, if they have a permanent establishment in Korea, subject to tax on their entire income derived from Korea.

In all conventions, investment incomes-dividends, interest, and royalties-are taxed at reduced tax rates, as summarized in <Table VIII-11>. These withholding taxes are final taxes on nonresident individuals and nonresident foreign corporations that do not have a permanent establishment in Korea.

The conventions provide relief from double taxation through foreign tax credits, and Korean residents or corporations are allowed to credit foreign taxes against their Korean tax liability in accordance with the equivalence system of domestic law. Except for Thailand and the United States, Korea grants tax sparing credit to all the countries with which Korea concluded conventions.

<Table VIII-11> Withholding Tax Rates on Outward Remittances

(Unit: %)

	Dividends		Interest	Royalties
	Inter-firm	Others		
Nontreaty countries	25	25	25	25
Treaty countries:				
Australia	15	15	15	15
Bangladesh	10	15	10	10
Belgium	15	15	15	10 or 15
Canada	15	15	15	15
Denmark	15	15	15	10 or 15
Finland	10	15	10	10
France	10	15	15	10 or 15
Japan	12	12	12	12
Malaysia	10	15	15	10 or 15
Morocco	10	15	10	10
Netherlands	10	15	10 or 15	10 or 15
New Zealand	15	15	10	10
Norway	15	15	15	10 or 15
Philippines	10	15	10 or 15	10 or 15
Singapore	10	15	10	15
Sweden	10	15	10 or 15	10 or 15
Switzerland	10	15	10	10
Thailand	15	25	10	15
United Kingdom	10	15	10 or 15	10 or 15
United States	10	15	12	10 or 15
W. Germany	10	15	10 or 15	10 or 15

Source: Ministry of Finance

VI. Korea's Outward Foreign Direct Investment

1. Trends and Features

<Table VIII-12> presents the authorization and delivery data on Korea's outward foreign direct investment. Since the first overseas direct investment by Korean firms was made in 1968, investments in 536 projects with a combined value of \$523 million have been authorized, of which \$386 million in 401 projects have actually been delivered. No systematic trend can be found in the yearly movement in the number of cases and amount of Korea's outgoing foreign investment. The year 1982 saw the biggest yearly investment, mainly brought about by the Pohang Steel Corporation's large-scale investments to develop bituminous coal in Canada, Australia and the Netherlands-Antilles. Korea's overseas direct investment as a fraction of GNP reached its peak of 0.16% in 1982.

The industrial distribution of Korea's overseas foreign direct investment by and region is shown in <Table VIII-13>. Korea's outward foreign direct investment was more or less concentrated in resource development such as forestry, fishery, and mining. These three industries accounted for 54.5% of the total of all overseas investment by the end of 1983, though comprising only 12.7% of the number of projects. Since Korea is poorly endowed with natural resources, the emphasis of government policy has been placed on overseas resource development through direct investment to secure key raw materials in the long-run by utilizing private companies to initiate resource development projects in resource-rich foreign countries. The biggest investment was made in the mining industry, which alone accounted for 38.6% of total investment capital.

<Table VIII-12> Korea's Outward Foreign Direct Investment

(Unit: thousand dollars)

Year	Authorized		Delivered	
	Number of cases	Amount	Number of cases	Amount
1971 ¹⁾	29	20,178	19	13,364
1972	15	2,739	13	4,767
1973	18	16,609	10	3,717
1974	31	15,278	17	18,045
1975	25	11,096	11	9,701
1976	36	16,840	30	6,943
1977	53	15,215	46	12,331
1978	82	45,280	74	38,761
1979	46	101,766	49	18,820
1980	36	-7,219	18	15,456
1981	63	101,837	34	31,697
1982	49	119,507	31	115,962
1983	53	63,849	49	96,819
Total	536	522,975	401	386,383

Note: 1) Figures for 1971 represent cumulative cases and amount up to 1971.

Source: The Bank of Korea

As Korea's exports grew, many Korean firms set up trade agencies to promote export sales. The number of projects in the trade industry reached 208, accounting for 51.9% of the total number, however, the amount of investment in the trade sector at the end of 1983 was \$48 million, accounting for only 12.4%.

Overseas investment in the manufacturing industry by Korean firms has been small, accounting for only 15.3% in amount and 12.5% in number of total investments. However, overseas manufacturing investment began to expand recently, as Korean companies sought to relocate their plants to less developed countries due to labor costs increases in Korea, to establish operations in advanced markets due to growing protectionism against Korean exports, and to take advantage of cheap raw materials in resource-rich countries. Since 1981, Korea's

**<Table VIII – 13> Korea's Outward Foreign Direct Investment by Industry and Region
(delivery basis as of December 1983)**

(Unit: thousand dollars)

Industry	Asia		Middle East		North America		South America		Europe		Africa		Oceania		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Forestry	8	28,250	-	-	1	1,050	-	-	-	-	-	-	2	22,678	11	52,248
Fishery	1	90	-	-	5	223	14	3,635	1	40	7	5,234	2	73	30	9,295
Mining	3	1,720	-	-	3	60,918	1	44,047	-	-	-	-	3	42,345	10	149,030
Manufacturing	29	33,397	6	5,001	6	10,200	2	646	1	275	3	7,337	3	2,136	50	58,992
Construction	12	3,137	19	20,073	6	8,110	-	-	-	-	4	1,679	-	-	41	32,999
Transportation & storage	7	932	2	431	9	1,165	-	-	2	218	-	-	-	-	20	2,746
Trade	56	5,680	2	458	97	27,077	4	2,050	39	8,556	6	3,541	4	716	208	48,078
Real estate	4	17,215	-	-	2	2,066	1	155	1	210	-	-	1	461	9	20,107
Others	4	509	6	1,810	6	9,228	4	51	-	-	-	-	2	1,290	22	12,888
Total	124	91,200	35	27,773	135	120,037	26	50,584	44	9,299	20	17,791	17	69,699	401	386,383

Source: The Bank of Korea

two major electronics companies have made investments in the U.S. and Portugal to manufacture color TVs, two other electronics firms have established operations in Silicon Valley to produce semiconductors, and another company has made a relatively large investment in Indonesia to manufacture plywood.

Korea's overseas direct investments have been made in both developing and developed countries, as shown in <Table VIII-13>. The greatest number of investments were made in Asia, while the largest amount of investment was in the United States and Canada. Countries which attracted a large amount of investment from Korea as of end 1983 include Canada(\$61 million), the United States(\$59 million), Australia(\$46 million), the Netherlands Antilles(\$46 million), and Indonesia(\$41 million). While the investments in the manufacturing sector were concentrated in Asian countries, the great portion of investments in the trade sector were in countries in North America.

<Table VIII-14> shows the degree of ownership and control of Korea's overseas direct investment by industry in terms of number of cases and the amount of investment. As of December 1983, the proportion of foreign investments wholly-owned by Korean firms was the greatest, 62.3% in number and 70.4% in amount, in sharp contrast to the fact that wholly-owned foreign investments occupied a relatively small portion of all foreign direct investments in Korea, as seen in <Tables VIII-9> and <Table VIII-10>. Among industries, the trade sector had the highest proportion of whole ownership, while the manufacturing sector had a relatively large portion of minority ownership.

The distribution of Korea's overseas direct investment by investment scale and by industry is summarized in <Table VIII-15>. Projects with an investment of less than \$100,000 accounted for 41.1% of all number of foreign investments by Korean firms. Projects whose investment scale exceeded \$1 million by the end of 1983 numbered only 63 but accounted for 84.9% of the total amount of foreign

investment by Korean companies. Relatively speaking, large-scale investments were made in the mining sector while small-scale investments were made in the trade sector.

2. Tax Policy on Outward Foreign Investment

The main emphasis of government policy on overseas private investment has been directed towards the formation of international joint venture enterprises which would secure stable supplies of key raw materials which a resource-poor country Korea needs. Further, there has been a move recently towards the establishment of operations in the advanced industrial countries to lessen protectionist sentiment against Korean exports.

Korea's overseas private investment policies consist of: (a) foreign exchange controls; (b) private investment insurance; and (c) monetary and fiscal measures. The Korean government also promotes private overseas investment by providing potential Korean investors with information about the investment climate abroad. Facing growing trade volume and increasing trade conflict, in May 1984, the Korean government revitalized the International Economic Policy Council, which coordinates policies on outward direct investment and foreign trade.

Sustained economic growth, rapid expansion of external transactions, and, particularly, an improved international balance of payments situation have enabled Korea's foreign exchange control, while still somewhat restrictive compared with those of developed countries, to be gradually relaxed over the years. This progressive liberalization has involved lifting a number of external payments restrictions, increasing the autonomy of the authorized foreign exchange banks, and facilitating more effective management of foreign exchange holdings.

**<Table VIII – 14> Korea's Outward Foreign direct Investment by Industry and Ownership
(delivery basis as of December 1983)**

(Unit: thousand dollars)

Industry	Whole ownership		Majority ownership		Minority ownership		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Forestry	3	25,618	7	19,667	1	6,963	11	52,248
Fishery	6	2,590	10	6,093	14	612	30	9,295
Mining	8	147,853	1	837	1	340	10	149,030
Manufacturing	9	12,765	16	26,699	25	19,528	50	58,992
Construction	10	10,715	16	13,762	15	8,522	41	32,999
Transportation & storage	15	2,043	2	307	3	396	20	2,746
Trade	177	40,346	17	5,896	14	1,836	208	48,078
Real estate	9	20,107	-	-	-	-	9	20,107
Others	13	9,955	3	427	6	2,506	22	12,888
Total	250	271,992	72	73,688	79	40,703	401	386,383

Source: The Bank of Korea

**<Table VIII – 15> Korea's Outward Foreign Direct Investment by Industry and Investment Scale
(delivery basis as of December 1983)**

(Unit: thousand dollars)

Industry	Less than 100		100-200		200-500		500-1,000		More than 1,000		Total	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount	Number	Amount
Forestry	-	-	-	-	-	-	2	1,450	9	50,798	11	52,248
Fishery	26	1,003	-	-	2	792	-	-	2	7,500	30	9,295
Mining	1	80	1	100	1	340	1	837	6	147,673	10	149,030
Manufacturing	7	375	7	953	12	3,610	8	4,584	16	49,470	50	58,992
Construction	6	142	8	1,048	7	2,130	8	5,305	12	24,374	41	32,999
Transportation & storage	10	515	6	775	3	906	1	550	-	-	20	2,746
Trade	107	4,813	44	5,106	33	9,271	13	8,067	11	20,821	208	48,078
Real estate	-	-	1	155	3	1,000	-	-	5	18,952	9	20,107
Others	8	276	6	849	2	572	4	2,648	2	8,543	22	12,888
Total	165	7,204	73	8,986	63	18,621	37	23,441	63	328,131	401	386,383

Source: The Bank of Korea

Foreign exchange controls in Korea are based on the principle of maintaining the minimum restrictions necessary to safeguard the nation's economy. The principal characteristic of foreign exchange controls in Korea is the centralization of all foreign currency funds and administrative allocation of these funds for their effective use. Other characteristics include: a) varying degrees of control according to the residential status of the transactors; b) no restrictions imposed on the receipt of foreign exchange from abroad combined with the careful regulation of overseas payments; and c) excepting the special treatment of foreign investment, no preferential favors granted to any particular transaction.

To promote the further opening of the national economy and to streamline foreign exchange-related transactions, the government has revised foreign exchange controls, effective January 1, 1984. The revised regulations allow the introduction of advanced banking techniques, such as interest rate swaps and long-term swap transactions, to help improve the management of Korean banking institutions and to prevent damage to business or banks from interest rate fluctuations in international financial markets.

The new regulations lift the mandatory once every three years business license renewal system for foreign interests. However, foreign visitors have to declare their personal foreign currency holdings in detail to the customs office for foreign registration if they bring more than \$5,000 into Korea in cash, traveler's checks or cashier's checks issued by foreign banks. Formerly, foreigners could bring in up to \$10,000 without declaration and bank checks were not subject to registration.

The revision also strengthens government control over Korean businesses' overseas branches in such a way as to prohibit them from establishing more than two branches or representative offices in the same area, although existing branches are excluded from the new regulations. However, the amount of profits that Korean businesses

operating abroad are allowed to retain in their overseas entities has been changed from the previous limit of \$10,000 to one-tenth of their investment up to a maximum of \$50,000. Such funds are expected to be used to expand activities overseas.

The Korean government established an investment insurance scheme to underwrite political risks which might arise from war, revolution, or unlawful exercise of government authority. Types of investments eligible for the scheme include: a) subscription to equity capital; b) long-term loans to partners in joint ventures; c) investment in real estate, mining rights, and industrial property rights; and d) long-term loans to management-controlled companies. The Korean insurance program covers three categories of risks: expropriation; bankruptcy or default due to war, revolution, or domestic turmoil; and bans on transfers of investment income. The extent of coverage is up to 90% of the overseas investment, with interest and dividends included. The annual premium rate is 0.44% - 0.55% of current amounts for the three risks together, depending on the countries concerned. The maximum period of coverage is 15 years. As of December 1983, the insurance covered 14 cases amounting to a total of 106.5 billion won (equivalent to \$133 million).

The government provides Korean private companies with financial aid for private investment through the Export-Import Bank of Korea. From 1976 to 1983, a total of 222.3 billion won (equivalent to \$278 million) was provided to finance foreign investment loans. Total funds secured by the EXIM Bank of Korea to finance overseas investment during 1984 so far amounts to 55 billion won (about \$68 million), of which 10 billion won (about \$12 million) is restricted to finance overseas private investment by small-and medium-sized firms only.

The Bank's contribution cannot exceed 70% of total required project funds (80% in the case of small-and medium sized-firms). The period of investment loans cannot exceed 10 years in the case of an investment whose scale is more than \$1 million and 7 years if the size

of the investment does not exceed \$1 million, while interest rates are LIBOR plus 1.5% per annum. In exceptional cases, the duration of resource development overseas loans can extend to 20 years, with an interest rate of 9% per annum.

In 1978, the government passed the Overseas Resource Development Promotion Law to encourage the private sector to undertake such projects. The target resource group includes minerals and agricultural and fishery products. The Law sets up the Overseas Resource Development Fund to finance the exploration costs and development rights, fixed investment and working capital, and the cost of leases or acquisition of land. In addition, the government may subsidize the cost of preliminary surveys and the purchase of technical licenses from foreign firms.

The Overseas Resource Development Promotion Law was revised in 1982 and became the Overseas Resource Development Business Law. The Enforcement Regulation of the Overseas Resource Development Business Law, formulated in 1978 and revised in 1983, offers government subsidies and is more extensive in operating the Overseas Resource Development Fund. The Enforcement Regulation stipulates that the Fund can make loans for guarantees related to the liabilities of the development project, the cost of project output purchased by domestic end-users, and the expenses due to accidents and disputes involving the projects. At the same time, subsidies may be provided to cover project deficits, transportation costs to the domestic market, and deficits in the Fund as a whole.

In addition to establishing an investment insurance scheme and granting financial aid, the Korean government provides tax incentives for overseas private investment by Korean firms. These incentives involve allowing certain deductions from profits as a reserve against losses arising from foreign investment, giving credits for taxes paid abroad, and granting tax sparing on foreign income in cases where taxes are reduced or exempted in the countries with which Korea

concluded tax treaties.

Tax incentives to promote private investment in foreign countries can be classified into three categories: tax credit stipulated under the Income Tax Law and the Corporation Tax Law and included in tax conventions, tax incentives for overseas business, and tax incentives for overseas investment, both of which are covered under the Tax Exemption and Reduction Control Law (TERCL).

The Korean TERCL allows a credit against a corporation's Korean tax liability for taxes paid to foreign governments, and does not impose the Korean tax until income is repatriated. The amount of tax, calculated by multiplying the foreign tax amount by the ratio of income from foreign sources to the total taxable income, can be deducted from income tax or corporate tax to be paid to the Korean government. However, the tax credit cannot exceed the Korean taxes attributable to the foreign-source income.

The TERCL, which covers all tax incentives in Korea, was enacted to enhance the equity of the tax burden and to contribute to the sound development of the national economy by regulating matters pertaining to tax exemption and reduction. The TERCL provides two major tax incentives to overseas operation by Korean firms: tax incentives for overseas business and tax incentives for overseas investment.

Overseas business tax incentives provide income deductions, reserves for overseas business loss, and special depreciation. With respect to income accruing from overseas business (limited to overseas construction business and industrial equipment export business) carried out by a resident or a domestic corporation, an amount equivalent to 2% of the gross receipts thereof (within the limit of 50% of the income amount thereof) is deducted from the tax base for each business year.

Korean firms can transfer a certain amount equivalent to 2% of foreign exchange receipts to a loss reserve and deduct this amount as expenses from taxable income. The amount credited may be reserved for five years and then transferred back to taxable income in equal

installments during the subsequent three years. Furthermore, in the case of machinery and equipment directly used in the overseas business, an amount equivalent to 30% of the ordinary depreciation allowance is additionally counted as expenses.

The TERCL provides tax incentives to overseas private investment in general through reserves for overseas investment loss and for overseas resource development investment⁴²⁾, in particular through tax exemptions on dividend income. If a resident or a domestic corporation credits a certain amount to the overseas loss reserve account to cover a loss from overseas investment, such an amount is deductible as expenses to the extent that the amount does not exceed 10% of overseas investment (20% in the case of investment in any overseas resources development project). The amount credited to the reserve is added back to the income in four-year installments from the third year after the year in which the reserve was appropriated as expenses.

When a domestic corporation receives dividend income from an investment in an overseas resources development project which has been granted the government's permission, the corporation tax is exempted on that portion of the dividend income derived in and exempted by the foreign country.

presented at the 2nd Asian-Pacific Tax Conference, organized by Asian Development Bank, Singapore, December 6, 1984.

42) Overseas resources development investments are stipulated as only those in the agriculture, fishery, livestock, forestry, and mining industries.

Biographical Sketch of the Author

Dr. Kwang Choi is Chief of National Assembly Budget Office, and Professor at the Department of Economics, Hankuk University of Foreign Studies, Seoul, Korea. He was previously Minister at the Ministry of Health and Welfare, Republic of Korea, and President of the Korea Institute of Public Finance. He held the positions of Honorary Visiting Fellow at the University of York, U.K., Visiting Professor at the Hitotsubashi University, Japan, and Assistant Professor at the University of Wyoming, U.S.A.. He received fellowships from Ford Foundation, British and Commonwealth Office, and Japan Foundation. He was also awarded Order of Industrial Service Merit and Blue Strips Order of Service Merit from the Government of Republic of Korea. Dr. Choi was president of Korea Tax Association and Korean Association of Public Economics. Professor Choi received his B.A. in business administration from Seoul National University, M.A. in public policy from the University of Wisconsin, and Ph.D. in economics from the University of Maryland. He wrote and edited 70 books and reports, and published 160 articles in professional journals.

