

THE PRODUCTIVE
EFFICIENCY OF
CONTAINER TERMINALS

*An application to
Korea and the UK*

Dong-Wook Song,
Kevin Cullinane and
Michael Roe

Plymouth Studies in
Contemporary Shipping and Logistics

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An application to Korea and the UK

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Preface

This book is the outcome of research conducted by the authors while they all worked at the Centre for International Shipping and Transport, University of Plymouth, UK. The current book aims to review critically the characteristics of international port privatisation together with the economic theory of privatisation, to apply an econometric technique for efficiency measurement (i.e. the frontier model) to container ports in Korea and the UK, and to assess the policy implications of the results obtained. The book pays particular reference to the range of privatisation strategies and their implementation within a nation's seaports and terminals.

When the research idea was initiated in 1995, there were few studies available in related fields. Since then studies on the chosen topic have significantly expanded. This volume makes an original contribution to knowledge in three respects: firstly, port privatisation, in particular the Korean case, for the first time, has been scientifically investigated on the basis of the economic theory of privatisation; secondly, the port industry was analysed through the application of a recently developed econometric efficiency measurement method based on the estimation of two frontier models (i.e. cross-sectional and panel models); and finally, the results of the research undoubtedly provide governments, port authorities and other interested parties with information and guidelines for implementing the policy of port privatisation.

We owe debts of gratitude to many individuals for their comments, suggestions, and encouragement. In particular, Dong-Wook Song wants to dedicate this book to his beloved wife, Sung-Hee, for her never ending devotion and the God for the good; Kevin Cullinane's contribution to this work is dedicated to his wife, Sharon, for her continued and much valued patience, help and advice; and Michael Roe has cause to thank Liz, Joe and Sian for their continued good humour.

October 2000

D.W.S., K.P.B.C., M.S.R.

1 Introduction

RESEARCH BACKGROUND

The Republic of Korea (South Korea, hereafter referred to as just Korea) has achieved remarkable economic growth over the last four decades: from a poor developing country with a small manufacturing sector and heavily dependent on foreign aid in the 1960s to a fully industrialised country currently ranked as the world's 11th largest trading nation¹. This impressive development within a short period of time is largely thanks to the adoption of outward-oriented and export-led economic policies.

This inspiring economic growth has resulted in a rapid increase in export and import cargoes and this trend has recently been accelerated by the better trade relations with the Chinese economy: the fastest growing economy in the world. Since the foreign trade of Korea is carried predominantly by sea transport (approximately 99.8 % in terms of volume), its ports play a crucial role in the process of economic development; any Korean port can, therefore, be regarded as a 'trade facilitator'.

The recent development and operation of Korean ports has kept pace with the ever-growing seaborne cargoes. However, they still have a number of problems including, amongst other things, insufficient port and terminal capacity, inefficient managerial and operational behaviour, and bureaucratic administration. As a consequence, Korean ports suffer from serious port congestion. This problem is particularly acute in the port of Pusan, the country's main seaport and the fifth largest container port in the world. By adding to the logistics costs of manufactured products, the delays caused by this congestion seriously undermine their competitiveness in world markets and detract from Korea's further development capability.

-
- (1) At the time when this text was being finalised, the Asian financial crisis had seriously affected the Korean economy. The country's inherent economic structure (e.g. the government's heavy-handed intervention into business activities and inflexible bureaucratic system) was one of the main reasons behind the nation's deep economic woes. This economic crisis is discussed in a section of Chapter 2 from the perspective of the opportunity it provided for rationalisation.

Until recently the development and operation of ports and terminals was entirely dependent upon government funds. This system caused problems due to the inflexibility of the budget and the bureaucratic procedures for obtaining the necessary funds. Fortunately, under the new ongoing economic policy allowing more freedom to businesses, the government and the public port authority regard private sector participation in an industry whose activities used to be dominated by the public sector, as an important means of reducing their administrative and financial burden. This new tendency has resulted in massive private sector participation in several projects, including new container terminal developments.

In the past, all ports and terminals were controlled and administered by the Korea Maritime and Port Administration (KMPA), which was a public port authority. In 1996, by merging three maritime-related organisations, the Korean government established a new government organisation, the Ministry of Maritime Affairs and Fisheries (MMAF), with a mission to administer and manage its seaports and other maritime-related activities and to improve management efficiency in the maritime area.

Just as the 1970s and the 1980s were known for enormous capital investments into the port industry, it can be asserted that the late 1980s through the 1990s will become known for port sector reorganisation. In an attempt to improve efficiency and performance and to reduce the government's financial burden in supporting a very capital intensive industry, a number of countries have considered or have already undertaken some form of institutional reform of their port industry (e.g. commercialisation and privatisation).

Parallel with the general privatisation and liberalisation policies of the government and following the dominant current trend in the world's port industry, Korea's new port authority, MMAF has launched several new port and terminal development schemes as a means of solving problems related to port congestion and other sources of inefficiency. As the MMAF implements its plan to attract private capital into both existing and new port facilities by seeking some degree of privatisation where the costs and returns to port businesses can be shared between public and private sectors, competition has also been introduced into the Korean port industry. This is an environment which the country's port industry is totally unused to.

The motives for privatisation are complex and varied, but one key claim made is that the transfer from public to private ownership improves economic efficiency and, hence, ultimately financial and operational

performance. Economic theories and existing empirical studies, however, fail to establish any clear-cut evidence of private enterprises performing better than their public counterparts. This phenomenon may reflect, to some extent, a paucity of performance indicators which can be systematically applied across enterprises and industries to allow a comparative analysis of performance to be undertaken. It is essential, therefore, to have a system for evaluating the impact of privatisation which can be widely applied and to provide a systematic and pragmatic analytical framework to assess the process of privatisation and its results.

RESEARCH OBJECTIVES

In light of the above context, this text aims to critically review the characteristics of international port privatisation along with the economic theory of privatisation; to introduce a novel method for efficiency measurement which is applicable to the port industry; and to assess policy implications for the Korean government and port authority, paying particular attention to the privatisation strategy and its implementation within the nation's seaports and terminals.

RESEARCH METHODOLOGY

To achieve the objectives, the current research employs a recently developed econometric method for efficiency measurement known as the 'frontier production function model' as an analytical tool to determine whether or not port privatisation has improved the efficiency of Korea's port industry.

Under the hypothesis that the productive efficiency of terminal operators improves as their ownership transforms from public to private sectors, the frontier model is divided into two types: the cross-sectional and panel models. The former is concerned with calculating an average efficiency level of terminal operators during each sample period, while the latter deals with the time-invariant terminal operator-specific efficiency over the period of analysis.

The data necessary for empirical investigation are taken from the annual reports and financial accounts published by each container terminal. The time span is from 1978 to 1996 inclusive. For an international

comparison with a country where port privatisation policies have had more time to work, the main container terminals in the UK are also included in the analysis. The UK terminals sampled for inclusion account for a significant proportion of the UK container traffic and have different ownership attributes not only among themselves but, most importantly, as compared to their Korean counterparts.

STRUCTURE

The text consists of eight chapters. Following the introductory Chapter 1, Chapter 2 reviews the Korean national economy with an emphasis on trade promotion strategy and its effects on foreign trade, the role of the public sector in the process of economic development, and the newly adopted economic policies of privatisation and deregulation. Chapter 2 ends with by a brief examination of the current economic crisis which is severely influencing the nation's economy in terms of restructuring opportunities. Chapter 3 details the importance of Korean ports to the national economy and discusses increasing container traffic due to the trade-oriented development policy, port and terminal congestion as a result of the aforementioned policy, and new port and terminal development plans. The administrative system which controls the port industry and the increasing participation of the private sector in port activities are also examined in Chapter 3. In Chapter 4, economic theories and empirical evidence relating to privatisation are critically assessed. The principles applicable to, and the practice of port privatisation are evaluated in Chapter 5. After a review of the basic concepts related to production functions and economic efficiency, Chapter 6 justifies the application of two types of frontier model (i.e. the cross-sectional and panel models) for the empirical analysis. Chapter 7 applies the analytical tool developed in the previous chapter to the selected container terminals in Korea as well as the UK and provides the results of the application. Finally, Chapter 8 presents the interpretation of the findings and their implications for port privatisation in Korea, together with an objective assessment of the contribution to knowledge of this research, its limitations and ideas for further research areas. A flow chart illustrating the structure of the research is shown in Figure 1.1.

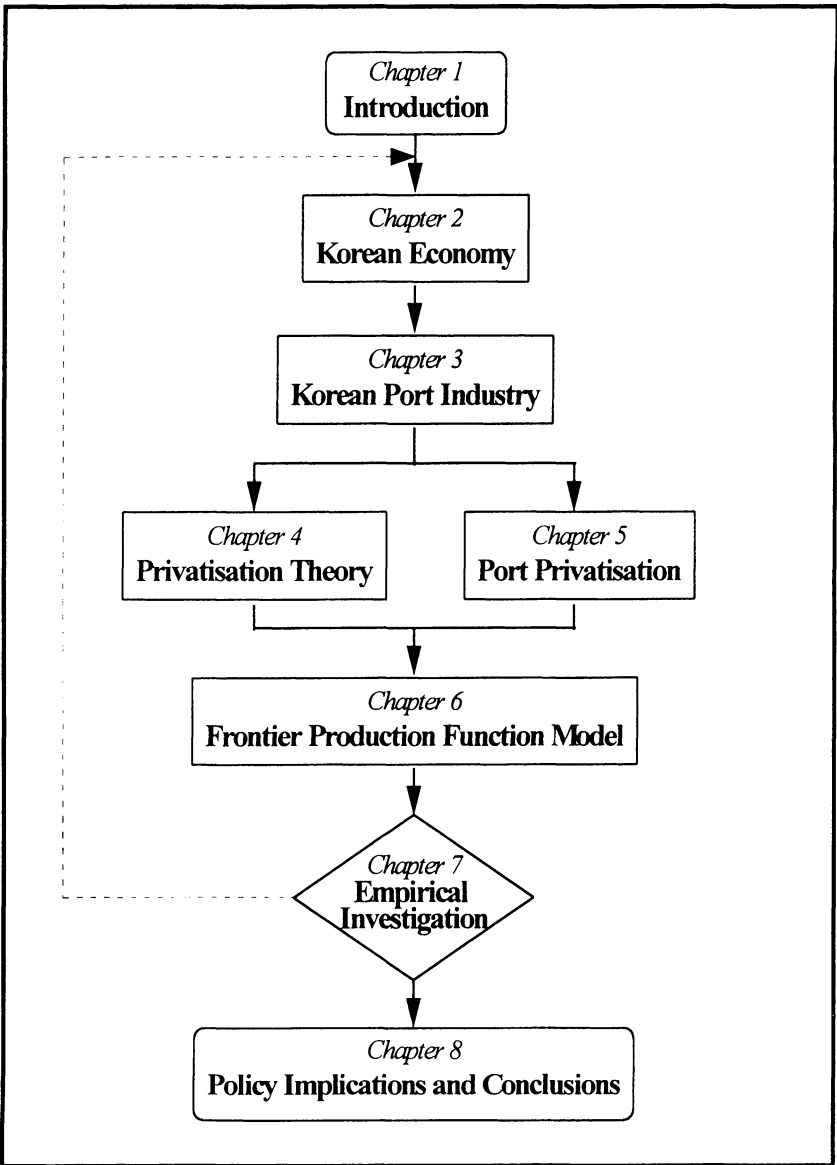


Figure 1.1 Research Flow Chart

2 An Overview of the Korean National Economy

INTRODUCTION

Strategically located in the north-eastern part of the Asian continent, the Korean Peninsula thrusts to a southerly direction for about 1,000 kilometres. To the north lie regions of China and Russia, while the Chinese mainland lies directly to the west. To the east, the peninsula faces the islands of Japan. The shortest distance from the west coast of Korea to China's Shantung Peninsula is about 190 kilometres. The shortest distance from the southern port of Pusan to the Japanese island of Honshu is about 180 kilometres. The total area of Korea is 221,607 square kilometres (about 85,563 square miles). At present, the land is divided into two parts: the Republic of Korea (South Korea) and the People's Republic of Korea (North Korea). Due to this political situation, Korea is engaged in foreign trade as an island nation like Britain and Japan, thus forcing the country to actively participate in the maritime industry for effectively carrying its own trade. The administrative area of the country is 99,237 square kilometres or about 45% of the Korean Peninsula, which is slightly larger than Hungary or Portugal, and a little smaller than Iceland.

With 44.6 million inhabitants at the end of 1994, Korea is one of the most densely-populated countries in Asia and also has one of the smallest land areas per capita in the world. Moreover, its terrain is very hilly, with only one-fifth of the land being arable. It is not, however, well endowed with natural resources. Morita (1987) remarks on Japan's natural resource poverty, that the land provides almost no raw materials except water, and that less than a quarter of the land is usable. This statement describes Korea's situation almost exactly as well. Therefore, like Japan, Korea has to rely on foreign countries for most mineral resources such as oil, iron ore, copper, gold, silver, etc., which are crucial for industrialisation. This poverty in natural resources has forced the country to pursue an outward-oriented economic policy.

NATIONAL ECONOMY

In 1960, Korea was a poor developing country with a small manufacturing sector and heavily dependent upon foreign aid. It had seemingly few prospects for increasing and sustaining economic growth. Over the last three decades, however, Korea has achieved what is widely acclaimed as 'the economic miracle of the Han River' (World Bank, 1993). Since Korea embarked on an economic development plan in 1962, its economy has grown at one of the fastest rates in the world. This remarkable success can be largely attributed to the outward-oriented and export-centred economic policies implemented by the Korean government and to the determination of the Korean people. As a result, Korea has successfully transformed itself from a largely agrarian based economy in the 1960s to a fully industrialised one today, and is currently ranked as one of the largest trading nations in the world.

The importance of ports for national economic development is widely recognised, for example, by Nagorski (1972), Faust (1978), Hoyle (1983), and UNCTAD (1985). There is a close relationship between ports and the prospects for economic development. The port is not only a determinant of economic development, but also a decisive factor in it. Moreover, ports not only have an influence on economic development but, at the same time, are also directly affected by economic development. The influence of a port on the economy extends beyond its boundaries into the industrial, commercial and business sectors of the nation at regional and national levels (Frankel, 1987).

The impact of the port industry on economic development can be discussed in the context of the process of Korean economic development over the last three decades. A useful starting point before proceeding into an analysis of Korea's ports industry is to look at the overall growth of the economy, its reliance upon foreign trade, the roles of the public sector in the process of development and finally, at the new economic policies oriented towards privatisation and deregulation. This overview provides the context within which this process of economic growth has emerged.

Economic Growth

A large infusion of economic aid during the period 1953-1958, following the Korean War, enabled the country to reconstruct its war-damaged

production facilities and to achieve a moderate level of economic growth, although with a very high rate of inflation. During the period 1959-1962, the rate of inflation eased, but so did the pace of economic expansion with the annual growth of national output per capita declining to nearly zero in the early 1960s. Following this period of moderate growth and then near stagnation, a rapid economic expansion began in 1963. Supported by a rapid and sustained expansion in its exports, the country's gross national product (GNP) grew rapidly during the course of six successive Five-Year Economic Development Plans (hereafter referred to as 'FYP'). Rapid increases in output, income and exports were accompanied by rising investment, savings, exports and imports. These became more important for the national economy and were achieved by a fundamental change of economic structure, away from agriculture and towards manufacturing.

The rate of GNP growth, however, has slowed considerably in recent years. After recovering from the recession of 1989 and reaching a rate of GNP growth of 9.1% in 1991, it slowed to 5.0% and 5.6%, respectively, in 1992 and 1993. However, helped by such favourable international factors as stable petroleum prices, the strong Japanese yen, and a relatively robust world economy (in particular, the performance of the US economy), the growth rate recovered in 1994, rising to 8.3%. In that year, Korea's real GNP was 303,773 billion won (US\$ 378,086 million¹), compared with 265,518 billion won (US\$ 330,793 million) in 1993. These figures made Korea one of the largest economies in the world. Table 2.1 shows some major indicators of Korean economic development over the last three decades. The growth of Korea's GNP since 1962 shows a truly remarkable performance: from 356 billion won (US\$ 2,738 million) in 1962 to 348,284 billion won (US\$ 451,572 million) in 1995, resulting in an economy which has grown by one-hundred-and-sixty-five times over a period of only 33 years.

Rapid economic development since 1963 can partly be explained by the country's strategy of maximising growth by pursuing outward-orientated, export-centred economic policies (Chung, 1996). This strategy was adopted in 1962, when the First Five-Year Economic Development Plan was introduced, replacing the policy of import-substitution which was in effect up until that time. Effective formal economic planning in Korea started with the First FYP (1962-1966). The country has now completed six five-year planning cycles.

(1) Throughout the chapter, US\$ equivalents are calculated by corresponding exchange rates based on each period average.

Table 2.1 Major Indicators of Korean Economic Growth (1962-1995)

Year	Popula- -tion ¹	GNP ²	GNP per Capita ³	Exports ⁴	Imports ⁵	Government Consumption ⁶	Private Consumption ⁶
1962	26.15	356	87	18	55	50	294
1965	28.33	806	105	69	123	75	672
1970	32.24	2,736	243	382	616	265	2,041
1975	35.28	10,065	591	2,855	3,521	1,121	5,323
1980	38.12	36,672	1,589	12,765	13,541	4,268	24,786
1985	40.80	72,850	2,150	27,327	27,089	7,893	44,126
1990	42.87	178,262	5,659	65,016	69,844	18,187	96,388
1995	45.09	348,284	10,037	125,058	135,119	36,387	185,899

Notes: (1) Millions (mid-year estimates); (2) Actual Prices (Billions of Won); (3) US\$ (in Actual Prices); (4) F.O.B (Billions of Won); (5) C.I.F. (Billions of Won); and (6) Billions of Won.

Sources: International Monetary Fund (1989, 1996), and Song (1994).

The objectives of the successive FYPs, shown in Table 2.2, have changed over time with rising income, shifts in economic structure, and changes in economic issues and priorities. The changes in the objectives of the government's economic policy can be examined in relation to four major government economic functions (Song, 1990, p. 129):

- Creating the economic and legal framework: i.e., the constitution, the rules of the economic game, and economic laws;
- Ensuring stability - macroeconomic functions;
- Promoting efficiency - microeconomic functions (industrial policy, trade policy, agricultural policy, and social infrastructure policy); and
- Promoting equity (personal, regional, and industrial equity).

As shown in Figure 2.1, prior to the Fourth FYP, the forecast rate of economic growth increased gradually with successive plans, and, without exception, was always exceeded. The planned average annual rates of growth for GNP (and actual performance) for the first three FYP were: 7.1% (7.9%), 7.0% (9.7%) and 8.6% (10.2%), respectively. In contrast, the planned average GNP growth rate of 9.2% per year during the Fourth FYP was not achieved, owing to the world economic recession of 1979-1980. The actual rate achieved during the Fourth FYP period was only 5.7%. The average annual rates of economic growth, however, envisaged during the Fifth and Sixth Plans (7.5% and 7.3%, respectively) were in fact exceeded,

with actual growth rates achieved of 8.7% and 10.0%, respectively.

Table 2.2 An Overview of Korea's Five-Year Economic Development Plans

Plan	Period	Growth Rate	Objectives	Major Policy Directions
1 st FYP	1962- 66	7.1 [*] (7.9) ^{**}	Breaking the vicious circle of poverty Establishing the foundations for self-sustaining economic development	<ul style="list-style-type: none"> • Securing energy supply sources • Correcting structural imbalances • Expanding basic industries and infrastructure • Effective mobilisation of idle resources • Improving the balance of payments • Promoting technology
2 nd FYP	1967- 71	7.0 (9.7)	Modernising of industrial structure Promotion of self-sustaining economic development	<ul style="list-style-type: none"> • Self-sufficiency in food, development of fisheries and forestry industries • Laying the foundation for industrialisation • Improving balance of payments • Employment creation, family planning and population control • Raising farm household income • Improving technology and productivity
3 rd FYP	1972- 76	8.6 (10.2)	Harmonising growth, stability, and equity Realising a self-reliant economy	<ul style="list-style-type: none"> • Self-sufficiency in food staples • Improving the living environment in rural areas • Promotion of heavy and chemical industries • Improving sciences, technology, and human resources

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			Comprehensive national land development and balanced regional development	<ul style="list-style-type: none"> • Development of national land resources and efficient spatial distribution of industries • Improving the living environment and national welfare
4 th FYP	1977-81	9.2 (5.7)	<p>Achievement of self-sustaining economy</p> <p>Promoting equity through social development</p> <p>Promoting technology and improving efficiency</p>	<ul style="list-style-type: none"> • Self-sufficiency in investment capital • Achieving balance payments equilibrium • Industrial restructuring and promoting international competitiveness • Industrial restructuring and enhancing intentional competitiveness • Employment expansion and manpower development • Improving living environment • Expanding investment for science and technology • Improving economic management and institutions
5 th FYP	1982-86	7.5 (8.7)	<p>Establishing foundations for price stability and self-sustaining economy</p> <p>Technology improvement and quality of life</p>	<ul style="list-style-type: none"> • Eradicating inflation-oriented economic behaviour • Increasing competitiveness in heavy industries • Improving agricultural policy • Overcoming energy constraints • Improving financial institutions

			Restructuring government's economic functions	<ul style="list-style-type: none"> • Readjusting government functions and rationalising fiscal management • Solidifying competitive system and promoting open-door policy • Manpower development and promotion of science and technology • Establishing new labour relations • Expanding social development
6 th FYP	1987-91	7.3 (10.0)	<p>Establishing socio-economic system. Promoting creative potential and initiative Industrial restructuring Improvement of technology</p> <p>Improving national welfare through balanced regional development and income distribution</p>	<ul style="list-style-type: none"> • Expanding employment opportunities. • Solidifying foundation for price stability • Realising balance of payments surplus and reducing foreign debt • Industrial restructuring and technology improvement • Balanced regional and rural development • Improving national welfare through improved social equity • Promoting market economic system and readjusting government functions
New FYP	1993-97	6.9	<p>Revitalisation of economy Promotion of technology Promotion of the role of private sectors</p>	<ul style="list-style-type: none"> • Stimulation of small and medium-sized firms • Reform of tax system, government expenditure, financial sector, and administration regulations • Boosting investment

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			Enhancing quality of life	<ul style="list-style-type: none">• Deregulation and liberalisation of the economy
			Expanding social overhead capital	<ul style="list-style-type: none">• Employment and price stabilisation• Increasing productivity

Notes: (*) Planned Growth Rate; and (**) Achieved Growth Rate.

Sources: Song (1990) and Korean Overseas Information Service (1993).

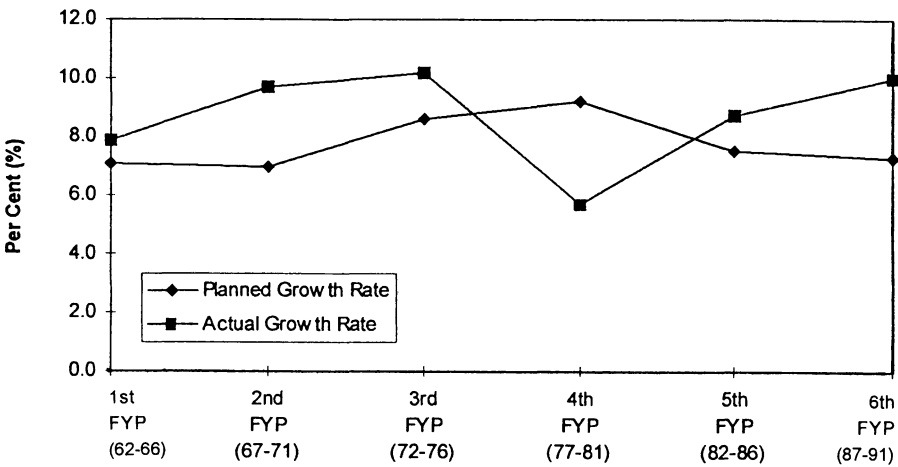


Figure 2.1 Planned and Actual GNP Growth Rates
(First FYP to Sixth FYP)

Source: Derived from Table 2.2.

The Five-Year Economic Development Plans

The main objectives of the *First FYP* (1962-1966) were to break the vicious circle of poverty and to build a foundation for self-sustaining growth. In addition to export expansion, which consistently received priority in all the subsequent plans, the First FYP emphasised the expansion of infrastructural capital in electric power, railways, ports and communications, with the aim of overcoming the impediments to development.

During the *Second FYP* (1967-1971), special attention was paid to the microeconomic functions of the government: namely, promoting efficient allocation of resources through agricultural, industrial, trade and social infrastructure policies. The objectives of the Second FYP aimed at the development of electronic and petrochemical industries, and to increasing income in the agricultural sector by maintaining high prices for rice, the staple crop.

The rapid growth of the economy caused increasing disparity between income classes, export and domestic industries, firms of different sizes, and regions. As a result, the *Third FYP* (1972-1976) implemented policies for the promotion of equity. Priority was given to the development of heavy and chemical industries and this materialised during the period, with the construction of integrated steelworks, the expansion and construction of petrochemical plants, and the expansion of shipyard capacity.

The *Fourth FYP* (1977-1981) placed its emphasis on the industries making intensive use of technology and skilled labour and focused on machinery, electronics and shipbuilding. The Fourth FYP gave an even higher priority to social development as a means to promoting a more equitable distribution of income. For this purpose, government spending on education, housing, public health and medical care was increased substantially over what had been present in previous plans. From the Fourth FYP the government's key goals shifted from the quantitative aspects of economic growth to the qualitative aspects of life. As a consequence, the Fourth FYP was even officially named the Five-Year 'Socio-economic' Development Plan.

As its rural-agricultural economy began to change into an industry-oriented one, the Korean economy became increasingly complex and subject to business fluctuations and inflation. In these circumstances, economic stability emerged as a new policy issue. The *Fifth FYP* (1982-1986) specified achieving economic stability as its major policy objective.

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Because the principal source of instability in a mainly agricultural economy was the weather, rather than business conditions, maintaining economic stability had not been considered as a very important government function until the first oil crisis in 1973. The strategy of export-led growth was to be maintained, and the policy of liberalising the domestic market was to be actively implemented. The Fifth FYP envisaged a moderate reduction of both the trade deficit and the deficit on the current account of the balance of payments. The manufacturing sector, with its high potential for competing in the world market, was to receive priority. The Fifth FYP also envisaged a more balanced development of the regions and industrial sectors, an enhancement of the private sector and a further increase in economic efficiency.

The relative importance of the government and private sectors has changed substantially since the First FYP. During the early planning periods, the public sector played a dominant role as the market system was not well developed. It was only as the urban-industrial sector expanded that market activities and the function of the market system began to modernise. In consequence, the private sector expanded greatly relative to that of the public sector. Since the Fifth FYP, particular emphasis has been given to enhancing free competition. In addition, as of 1986, the Korean economy experienced high economic growth, stable prices and a trade surplus, and thus faced a new phase of growth. The broad policy direction of the *Sixth FYP* (1987-1991) was to enhance the efficiency, and strengthen the international competitiveness, of its economy in general through reforming the free enterprise market system. The principal contents of policy reforms included the simultaneous drastic reduction of various government regulations constraining growth of enterprises, together with extensive liberalisation of financing, imports and foreign exchange. Song (1990) highlights the major changes in economic policy including the gradual reduction of various fiscal subsidies, the privatisation of public enterprises, the shift from direct to indirect monetary controls, the reduction of foreign borrowing and the improvement of exchange rate management.

The *Seventh FYP* (1992-1996) was replaced in 1993 by the *Five-Year Plan for the New Economy* (1993-1997) in an unprecedented move by the newly-elected government. The main aim of the New FYP with an envisaged average annual growth rate in GNP of 6.9% was to raise the Korean economy to the ranks of the advanced nations and to lay the economic foundations for an eventual Korean unification. The elimination

of official corruption was emphasised, as was the introduction of reforms in the economic structure, including government regulations, public financing and the deregulation of financial markets. One of the ways of measuring national economic progress is that, on 11 October 1996, Korea became a member state of the Organisation for Economic Co-operation and Development (OECD).

In the light of the fact that the new administration considered revitalisation of the economy as its most important task, the following short term measures were taken (Korean Overseas Information Service, 1993, p. 374):

- Boosting investment;
- Structural improvement of small and medium-sized firms;
- Promotion of technology development; and
- Deregulation of the economy.

In an effort to promote private initiatives in the business sector, the government eliminated a variety of regulations and removed obstacles to fair competition. In 1993 alone, of the 1,079 business restrictions reviewed, the government decided to ease or abolish 757 of them. Moreover, ad hoc committees continue to review other cases in order to further ease the restrictions on business activities.

The ultimate objective of the economic policy of the New FYP is to enhance the quality of life through employment stabilisation and higher real incomes. Real income can be increased through price stability and increases in productivity, which can be made possible by enhancing the quality of labour and increasing investments. The achievement of these goals, however, also requires the evolution of supporting institutions; the reform and advancement of such institutions will guarantee the free activity of companies and the equitable distribution of economic rewards.

With regards to port development under the New FYP, the government released an overall plan for expanding the social overhead capital in order to build up an efficient transport system throughout the country, and thus to properly distribute import and export goods in an effort to accelerate economic growth. Port development was one element of this plan. A problem raised in the process of developing a port is how to finance the project, as a huge amount of funds are normally required. The government has taken the participation of the private sector into consideration as an alternative method of reducing its financial burden, and has encouraged the