National Health Insurance System and Economic and Social Development Strategy on the Republic of Korea: Political and Economic Consideration

By

Yuk, JeeHee

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirement

For the Degree of

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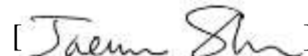
Committee in charge:

Professor Kim, Joon-Kyung, Supervisor [ ]

Professor Lee, Ju-Ho [ ]

Professor Shin, Ja-Eun []

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There are so many ways to close people's eyes and ears. However, I choose the way which opens my eyes and hears the truth for realizing the historical wisdom through learning economic and political development strategies. During graduate studies, sometimes I took a journey in dark oceans, but there, I saw the light of truth based on the deepest support from precious people. Through their effort, I find my way and conclude research on Korea's economic development.

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As birds flying, so will the LORD of hosts defend Jerusalem. Defending also he will deliver it and passing over he will preserve it. (Isaiah 31:5)

March 18, 2022

Yuk, Jee-Hee

Abstract

Health closely affects the economic and social development of a country. The health insurance system is the driving force behind economic growth by guaranteeing the people's basic rights (health) and improving labor productivity.

From the perspective that health is related to a country's economic growth, the purpose of this study is to analyze and draw implications through the case of Korea, where a health insurance system was established within 12 years, the fastest in the world, and industrialization took place within 19 years. For this purpose, using concept of the narrow corridor (Acemoglu & Robinson, 2019), this paper first analyzes how economic and social development impact to country and society's walking on the equilibrium path. Secondly, in terms of economic development, health is analyzed as an important factor in improving labor productivity in the industrialization strategy (export-led industrialization policy) of the 1970s when health insurance was implemented. Furthermore, we examine the process of the health insurance system as having a backward effect on development of the healthcare industry. Lastly, the economic and social development of a country examines through its connection with the health insurance system by way of the formation of stable industrial relations and strong income redistribution effects in the case of the Factory Saemaul-Movement. Through these approaches, this paper attempts to examine the main socio-economic issues facing the health insurance system in an era of an aging society and digital transformation and consider its social implications.

Keywords: Health insurance, Fiscal prudence, Aging society, Export-led industrialization, Narrow corridor, Income redistribution, Industrial relations, Factory saemaul-movement

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List of Acronyms

FDA	U.S. Food and Drug Administration
HIRA	Health Insurance Review and Assessment Service
IBRD	International Bank for Reconstruction and Development
IMF	International Monetary Fund
KFW	Kreditanstalt für Wiederaufbau
MOHW	Ministry of Health and Welfare
NHIS	National Health Insurance Service
OECD	Organization for Economic Cooperation and Development
OECF	Overseas Economic Cooperation Fund
PAHO	Pan American Health Organization
UNCTAD	United Nations Conference on Trade and Development
WHO	World Health Organization

Chapter 1

Introduction

1.1 Problem Statement

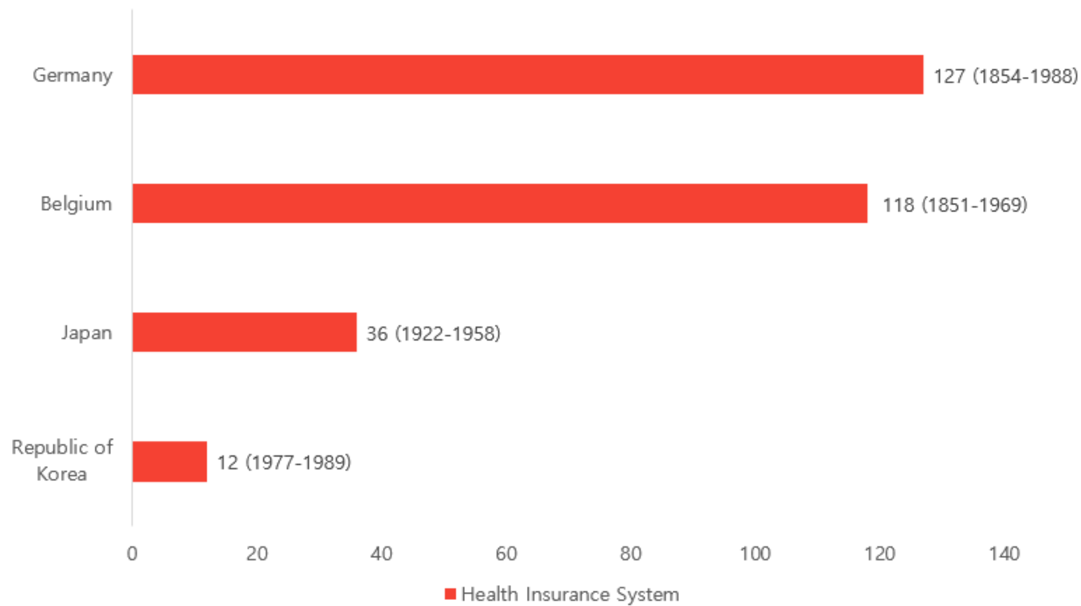
Health is closely related to economic growth (Todaro & Smith, 2020). In general, when a country's economy grows, social development takes place as well. The health insurance system is important not only in terms of social development but also in terms of economic development through increased labor productivity. Considering the situation in South Korea (henceforth, Korea) in the 1960s and 1970s, when almost all of the labor needed to foster a manufacturing-oriented economy was supplied within Korea, health insurance served as a basic requirement to ensure participation in labor for the maintenance of people's livelihood and quality labor productivity necessary for economic growth.

The health of workers improves the quality of labor and acts as one of the main factors that achieves industrialization. In addition, good health status improves labor productivity and stabilizes industrial relations. A number of studies have been conducted on the effect of workers' health on labor participation and labor productivity (Jeong & Jeon, 2015; Nguyen & Zawacki, 2009; Madden, 2004; Gruber & Madrian, 2002).

In Korea, the process from the introduction of health insurance to the establishment of a universal health insurance system for the entire citizenry proceeded at a very rapid pace compared to developed countries. Korea took 12 years (1977-1989) to achieve this, while Germany, Belgium, Austria, and Japan took 127, 118, 79, and 36 years, respectively (Figure 1.1, Carrin & James, 2004). At the same time, Korea achieved rapid industrialization compared to major developed countries thanks to its export-led industrialization policy. If industrialization is defined as the process of lowering the proportion of agriculture and fisheries

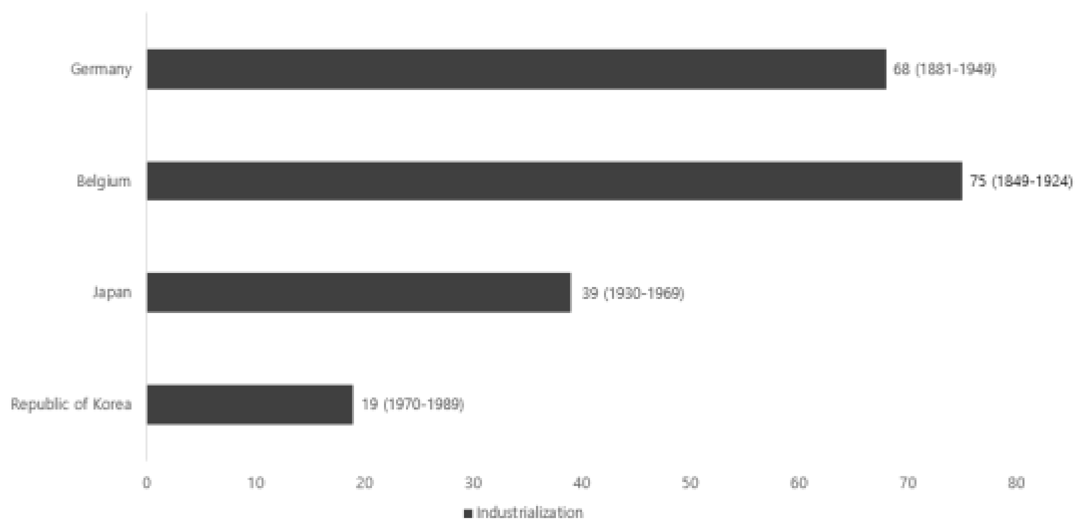
workers in the total workforce from 50% to less than 20%, it appears that industrialization in Korea began in 1970 and was completed by 1989, just 19 years later. On the other hand, industrialization in Germany, Belgium, and Japan took 68, 75, and 39 years, respectively (Figure 1.2, Yoo, 1997).

Figure 1.1 The transition period for selected Social Health Insurance (SHI) countries (Unit: year)



Source: Carrin and James (2004). p.11.

Figure 1.2 Periods of industrialization for selected countries (Unit: year)



Source: Yoo (1997). p.119, Figure 5.

As shown in the international comparison, the fact that Korea's industrialization process is in line with the development of health insurance in terms of implementation period and speed suggests that the development of the health insurance system has significantly contributed to industrialization. In particular, considering that workers' health is directly related to labor productivity, the introduction of health insurance under the export-led industrialization policy can be considered one of the factors that promoted the production, export expansion, and industrialization of high-quality products by enhancing the health care utilization and health of workers.

More specifically, how was Korea able to achieve the world's fastest establishment of the health insurance system within 12 years? The answer can be found in the construction of an industrial cooperation system (promotion of the Factory Saemaul-Movement) based on the government's perception of balanced economic growth and social development. In order to achieve the goal of economic growth, cooperation between companies and workers, who are the main subjects in the entire industrialization process, was essential. Therefore, the increase in corporate sales through export-led industrialization is partnered with the stability of industrial relations. In order to stabilize industrial relations, aspects of public welfare, such as the health and education of workers and the appropriate distribution of earned income for the stability of overall life, was essential.

In this context, the establishment of the Factory Saemaul-Movement headquarters at the Korea Chamber of Commerce and Industry in 1977 by four economic organizations and the subsequent promotion of the Movement in earnest functioned as a national strategy to achieve both national economic growth and social development. Korea's real income per capita has increased five-fold from $2,500 in 1970 to $12,600 in 1995 (McKinsey, 1998).

The Factory Saemaul-Movement is Korea's unique development strategy whereby companies, workers, and countries coexisted as the autonomous participation of private

companies and workers led to corporate development and national economic growth. In other words, it is also a social development strategy that created a small society in the process of state-led growth by creating a company as a family community through private autonomy and government support. The Factory Saemaul-Movement has become a driving force for creating a stable working environment by improving aspects of workers' welfare, such as medical insurance, education, family events (congratulations and condolences) and out-of-work meals, through the voluntary participation of companies. This promoted the stability of industrial relations through the health and livelihood stability of workers and improved labor productivity, resulting in a positive sum for companies, workers, and the state.

Looking at the background of health insurance implemented at a relatively low level of GDP per capita compared to the top OECD countries in the 1960s and 1970s, there is room for interpretation that the Korean health insurance system has advantages other than the functional aspects of improving labor productivity due to increased health care utilization. Looking at the financial income structure of health insurance in Korea at that time, the government’s insurance premium rate was very low while employees and companies each shared half of it. In other words, it can be seen that the company protected the employees, and the employees also participated in protecting their basic rights within the community of a company that they belonged to. This system is the key to the economic virtuous cycle, as well as access to integration among members of society, such as in cases of industrial conflicts. This can be suggested as an alternative to solving social conflicts, including today's industrial relations. In addition, this is considered to be an important approach that can be referenced not only for physical improvement of health insurance systems, including insurance finances, but also for fostering public awareness related to generational integration in Korea as well as the international community in preparation for the coming era of an aging society and digital transformation.

In this context, the Korean health insurance system is valuable as a case study of national development based on the relationship between health and economic development. Currently, efforts are being made to introduce and implement the health insurance system as a social safety-net in many developing countries. Researching the relationship between the timing of the introduction of the Korean health insurance system and economic strategies can provide insights when establishing development policies in most developing countries, where manufacturing accounts for a large proportion of the industry.

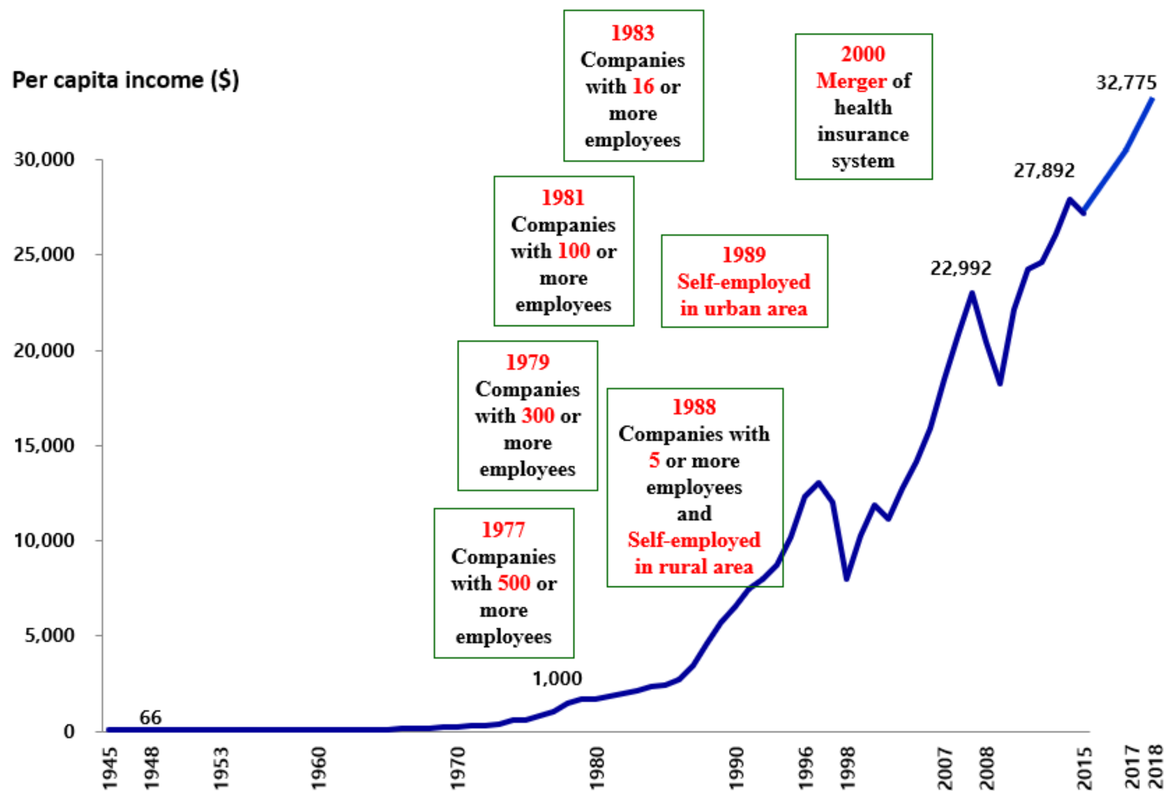
1.2 Background

What is noteworthy during the introduction of the Korean health insurance system is the fact that economic and social development were considered together when Korea was a developing country with a very low per capita GDP. This is considered a more successful case than developed countries such as Japan, Germany, and Belgium, as well as developing countries that introduced health insurance but had difficulty in successful establishment.

The introduction time and development process of the Korean health insurance system are also closely related to Korea's economic development strategy of export-led growth based on the manufacturing industry at that time. In addition, it is not irrelevant to the industrial policy effects, including the growth of the healthcare industry. If health insurance contributed to the manufacturing industry through labor productivity, the healthcare market has achieved a stable supply through securing continuous demand by providing financial resources for healthcare utilization (Kim & Kim, 2022).

Figure 1.3 shows the trend of income growth and major policy changes in health insurance.

Figure 1.3 Incremental expansion of health insurance coverage



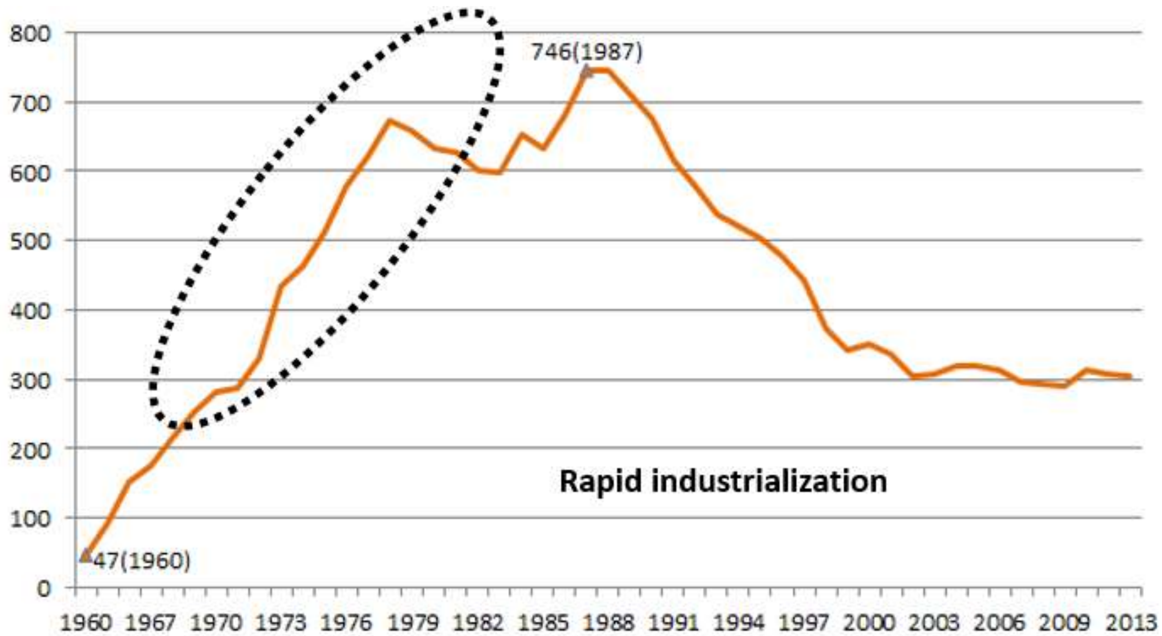
Source: NHIS; Bank of Korea ECOS.

The point that cannot be overlooked regarding the successful establishment of medical insurance was that in the mid-1970s, when there was insufficient fiscal space, compulsory health insurance was introduced and its scope gradually expanded, so that companies and employees each paid 50% of the premiums at workplaces with 500 or more employees. Workplaces of 300 or more employees from July 1979, 100 or more employees from January 1981, and 16 or more employees from 1983 were included for compulsory health insurance coverage and in 1988, workplace medical insurance association expanded to include small businesses of 5 or more employees (Kim & Kim, 2022).

Since the implementation of health insurance (1977), per capita income has seen a rapid increase. Figure 1.4 shows the variation in the number of large firms with more than 500 employees in the manufacturing industry from the 1960s to 2013. As a result, the

increase in corporate sales through the success of the Factory Saemaul-Movement provided a foothold for health insurance to spread to all companies.

Figure 1.4 Number of large firms[1] in manufacturing sector, 1960-2013



Note: Number of employees more than 500.
Source: Bank of Korea ECOS.

In the 1960s, the Korean healthcare service market was not activated due to poor national income and the lack of institutional support of health insurance for the majority of patients with the exclusion of certain healthcare subjects. However, the size of the healthcare industry began to increase after health insurance through compulsory subscription was implemented in line with the increase in national income due to economic growth. As proof, the proportion of overseas migration of medical personnel trained through the Minnesota Project, which was promoted during the 1954-61 period with U.S. aid funds, was high in the early 1960s, but has decreased sharply since the mid-1970s when health insurance was implemented. One of the reasons behind the stabilization of the supply of healthcare services is that health insurance has provided financial resources to meet the demand.

Corporate cooperation was important in preparing funds to introduce compulsory health insurance, and the introduction of value-added tax adopted to induce this played a decisive role in securing fiscal space that enabled tax support (such as handling expenses of companies' insurance premiums) to reduce corporate burden (Kim & Kim, 2022).

As such, the health insurance system is itself an important policy that can provide insights as to whether a country has achieved a balanced development in that it is established through the cooperation between the state and society. In the development stages, some countries have succeeded in establishing health insurance systems, while others have failed. The view that social development is possible after the infrastructure from economic development is established is valid in that it considers the fiscal space for sustainable development, but in light of Korea's successful case, the view remains open to different interpretations in making development policies.

The health insurance system is a representative social security system that aims to protect people's health, one of the basic rights, by ensuring that all citizens receive an appropriate level of treatment in a timely manner regardless of income. Existing research on health insurance has mainly focused on its functional aspects as a social safety-net as part of welfare policy, such as health care utilization and financial expansion according to income class and age. However, it is noteworthy that despite the difficult conditions, the government's determination to defend the basic rights of the people was behind the world's fastest establishment of a health insurance system, that is, within 12 years, along with Korea's rapid industrial growth. Therefore, the health insurance system faces a different situation today as compared to the past, but it is still one that requires a systematic approach for sound social integration.

1.3 Objectives

The purpose of this study is to newly interpret how health affects a country's economic growth and social development through the case of the Korean health insurance system and present its economic and social implications. To this end, based on the concept of the narrow corridor (Acemoglu & Robinson, henceforth, A-R, 2019), this study will highlight how Korea's national and social development took place in terms of national security, and examine whether the health insurance system affected the development of the middle class, community-based industrial relations, and income redistribution.

First, in order to explore the economic growth effect through the fostering of the middle class, this study looks at the labor productivity of the manufacturing industry, and the establishment of the health and healthcare industry as a backward effect that enabled such productivity by creating a stable healthcare service environment. Through this, how social development can be related to economic development is analyzed and presented. Second, this paper suggests implications through examples of whether the community-based approach to social integration can function as an alternative to resolving social conflicts arising from industrial relations today. Finally, the income redistribution effect, which began to operate fully after the integration of health insurance in 2000, is analyzed.

The research questions in this study are as follows.

1) How does the Korean health insurance system relate to Korea's economic development strategy and economic growth?
2) How did Korea's health insurance system affect industrialization (manufacturing, healthcare industry)?
3) What economic and social significance does the Korean health insurance system have for establishing industrial relations?

4) How did the introduction of the health insurance system in Korea affect shared growth through income redistribution?

1.4 Methodology

This study collected data from various statistical databases and documents, including Bank of Korea, National Statistical Office, National Health Insurance Corporation, OECD, WHO, and World Bank, and examined from a political and economic perspective how Korea's health insurance system affected middle-class development, the establishment of community-based industrial relations, and income redistribution that are based on industrial development. Based on the historical background and analyzed results of the introduction of the health insurance system, the specificity of health in national and social development was highlighted from various angles through the concept of the narrow corridor. Through this, the dynamic influence relationship between each event within the national framework of Korea was confirmed, and the political, economic, and social background and implications of the successful introduction and implementation of the health insurance system were derived.

This paper is organized as follows.

Chapter 1 examines the background, purpose, and method of the study.

Chapter 2 examines the process and historical significance of the introduction and implementation of the Korean health insurance system and how health is related to social development, while focusing on manufacturing-based economic growth and industrial relations in terms of social development from a political and economic perspective.

Chapter 3 focuses on middle-class development, income redistribution, and industrial relations and analyzes the relationship between Korean health insurance system and the economic and social development through state-led development strategies in the 1960s and 1970s based on the concept of the narrow corridor proposed by A-R (2019). At the same time, this paper

attempts to examine the significance of the introduction and implementation of health insurance at the national security level at the time. This is analyzed along with Korea's affairs of state strategy at the time to newly illuminate the relationship between the state and society.

Chapter 4 attempts to derive implications for the sustainable development of the health insurance system in regard to today's challenges of an aging society and a digital transformation era based on the results of various views on economic and social development in Korea presented above.

Chapter 5 summarizes the results of the previously presented research and how to balance national and social development as a strategy for Korea’s sustainable development today.

Chapter 2

Literature Review

2.1 Overview of the Health Insurance System in the Republic of Korea

Article 36, Paragraph 3 of the Constitution of the Republic of Korea states that "the health of all citizens shall be protected by the State." The medical insurance system refers to "the institutional provision of health care services required by the state or society to protect the health rights of the people, and covers health insurance, medical aids, and industrial accident insurance" (HIRA, 2022).

Korea's health insurance system follows the Social Health Insurance (SHI) system adopted by Germany and Japan. "Social health insurance (SHI) is one of the principal methods of health financing" (Carrin & James, 2004). Unlike the British National Health Service (NHS), which relies entirely on government finances, SHI covers most of its health insurance financial revenues through public payment.

The adoption of the social health insurance system, despite various political and economic concerns at the time of the introduction of health insurance, can be seen as the main factor in the successful operation of the health insurance system to this day, considering the nation's fiscal space and sustainability.

2.1.1 Background of Introduction and Implementation on Health Insurance[1]

The government's perception of the need to introduce a social insurance system, including health insurance, dates back to immediately after the launch of the Korean government on August 15, 1948. In his administration speech at the National Assembly on

[1] This section draws on Kim and Kim (2022).

September 30, 1948, President Syngman Rhee vowed to implement land reform to stabilize the living base of farmers and implement a social insurance system to improve the lives of workers (Shin, 2006). The policy announced by President Rhee included the following.

"*It always pains my heart to see the yearning of farmers and workers for solutions to their livelihood issues. The gov't will take rapid actions to improve the livelihood of farmers and workers.*
For farmers, a law on land reform will be enacted and implemented under the Constitution. The basic goal of the reform is to eradicate the problems of the autocratic and capitalistic land system to ensure the independence of our farmers, thereby raising the productivity of our farmlands and foster our rural culture. The government will abolish the tenant farming system to ensure that farmers own the lands that they cultivate. However, in accordance with the wishes of our farmers, the government will distribute the lands to farmers at suitable prices or in-kind payment ...
*As for the workers, in accordance with the guiding spirit of the Constitution, the government will ensure balanced sharing profits. To that end, the government will develop **social insurance schemes**, and I hope that these measures will help all Koreans work diligently and march on in mutual help and cooperation, and ultimately build the strength of this nation and its people as members of a civilized country.*"
(President Rhee's speech at the Congress on 30 September, 1948)

Following President Syngman Rhee's administrative policy, JinHan Jeon, the first Minister of Social Affairs, announced in his campaign speech in January 1949 that he had begun research on the introduction of social insurance, including health insurance.

"*In order to reduce the burden of workers and low-income earners, and the risks caused by old age, incurable diseases, unemployment, and other unexpected events, and maintain social and economic peace and build public aid facilities required to preserve the national labor force, the government is currently conducting studies aimed at adopting suitable social insurances including health insurance, workplace accident insurance, care and incurable disease insurance, and unemployment insurance, for workers at factories, mines, public bodies, banks, companies, and stores, based on the systems of the developed countries and the circumstances in Korea.*"

Land reform was enacted in June 1949 and implemented as promised in 1950. However, social insurance, including medical insurance, was withheld due to the outbreak of the Korean War in 1950, and medical relief projects were carried out on a limited scale depending on aid from the United States and the United Nations (Medical Insurance Federation, 1997). Although health insurance legislation was not implemented by Rhee's government, their decision to consider German and Japanese social health insurance (SHI) for Korea's medical security rather than British tax-based National Health Service (NHS), which relies entirely on government finances, can be explained as the Constitution of Korea being greatly influenced by Germany's Weimar Constitution, which was the first to stipulate 'social constitutional rights.' The 'social constitutional rights' are the rights of the people to demand certain social considerations to secure a humane life. This reflects the demands of the times and is based on the grand compromise aimed at an economic order of social partnership between labor and management when the Weimar Constitution was established in 1919 after the First World War. In this way, it is highly likely that the 'social constitutional rights' reflected in the Constitution later influenced the ChungHee Park administration's legislation on the Health Insurance Act (1963).

Korea's health insurance scheme began with the enactment of the Health Insurance Act in December 1963 under the Park administration, which relied on Japan's experience with a similar scheme. Objective of Health Insurance Act was to provide security to workers' lives, raise their productivity, and promote industrialization through cooperation between businesses. The original plan was to require large firms hiring 500 or more workers to subscribe to the insurance (with a 5-year deferment) and allow smaller firms to subscribe at their discretion. The contributions were to be evenly paid for by firms(1/3), workers(1/3), and the government(1/3). However, not only was the government's fiscal space limited at the time, but due to opposition from the business community that compulsory medical insurance for employees would create a burden for companies, the provisions for compulsory application were removed in the process of the final examination of the bill, and labor and management were required to each pay half of the insurance premiums. As medical insurance was implemented in the form of voluntary application, not compulsory application, the pilot project was carried out, but it did not progress due to the non-cooperation of the employers who felt burdened with the cost sharing of insurance premiums, and the actual implementation was not made until July 1977.[2]

In January 1977, at the new year press conference, President ChungHee Park declared that from the fourth five-year economic development plan (1977-1981), he would put a great

[2] Prior to the implementation of the health insurance system in 1977, a factor that could have induced corporate cooperation was the 8.3 Emergency Economic Measure in 1972 (Kim & Kim, 2022). The 8.3 measure was a bail-out policy for desperate large firms, which grew largely dependent on foreign debt and bank loans. It eased the debt burden of those large export giants, which became insolvent due to the global economic recession in the late 1960s, to prevent chain bankruptcies and foreign exchange crises. At that time, the debt-to-equity ratio of Korean manufacturers more than quadrupled from 93% in 1965 to 394% in 1971 (Cho & Kim 1995). The 8.3 measure provided an important political and economic opportunity to gradually promote health insurance from 1977. The government strongly demanded social responsibility from large firms that benefited greatly from the 8.3 measure. At the time, the government's most focused on social responsibility was profit sharing and social return through public offerings of large-sized firms, but as the economic situation deteriorated due to strong opposition from companies and the oil shocks of 1973, the introduction of health insurance by which companies and workers shared costs, became an alternative which had been discussed as part of welfare policies before the 8.3 measures (Kim & Kim, 2022).

emphasis on social development and implement medical care and a health insurance system to create a society in which all people live well.

"The third goal of the fourth five-year plan's goals is to focus on social development. I think the ultimate purpose of economic policy lies in the development and improvement of balance in the life of the people. ... (omit) ... In the future, the government plans to pursue this policy on an annual basis, especially in areas where it can preferentially benefit people from low-income families, as long as it suits our situation and does not dampen growth. The medical aid system for low-income people, which will be implemented from the beginning of this year, will be one of these measures. In addition, the health insurance system for the general public will be phased out from July this year."

(January 12, 1977 New Year's Press Conference)

From January 1977, medical aid was separated from the Livelihood Protection Act and began to be promoted under the independent Medicaid Act.[3] Before the implementation of the

[3] The biggest feature of Medicaid is that while it is provided free of charge to those incapable of making a living, the principle of self-reliance and self-help is emphasized for the poorest and unemployed who are capable of making a living. In other words, medical aid recipients were classified according to their ability to work into class 1 recipients (incapable of making a living) and class 2 recipients (low-income recipients with the capability to make a living). Class 1 recipients' entire outpatient and inpatient treatment expenses were paid through government finances. Class 2 recipients' entire outpatient and 50% of their inpatient treatment was paid by the government, and the remaining 50% was paid by the recipient in installments without interest after government first made the payment to the medical institution in the form of loans (implemented from 1979). Yangji Free Medical Center was built by First Lady Youngsoo Yuk as part of the medical aid system to provide healthcare services to those who did not have the ability to support themselves. In addition, until health insurance was practically implemented and benefits were distributed to those in need, a night hospital was opened in the Holiness Church Seoul Theological University building in December 1976 with the voluntary participation of doctors and medical students to provide healthcare services. In principle, free medical treatment was to be provided for the elderly, and only actual expenses charged for the general public with blood donation headquarters opening for the first time. Medicaid for the poor expanded to 2.1 million on January 1, 1977(covered 5.8% of the population). Since then, the center reopened under the name of Saemaul Hospital in 1979, and by 1987, 4.3 million people had used its healthcare services. The free medical treatment was more than 10 billion won in terms of cost, and the polio youth center was also opened to provide a steady medical supply (Park, 2007, p.116-118).

medical aid system, only about 370,000 people without the ability to make a living could receive free healthcare services in public health facilities, but by 1977 when the medical aid system was implemented, about 2.1 million people (5.8% of the population at the time) could receive state-funded healthcare services.

The main aspects of the new medical insurance system, which changed from the conventional voluntary application to the compulsory application method from July 1, 1977, are as follows.

① Compulsory application to workplaces with 500 or more employees and gradual expansion of its scope in the future.

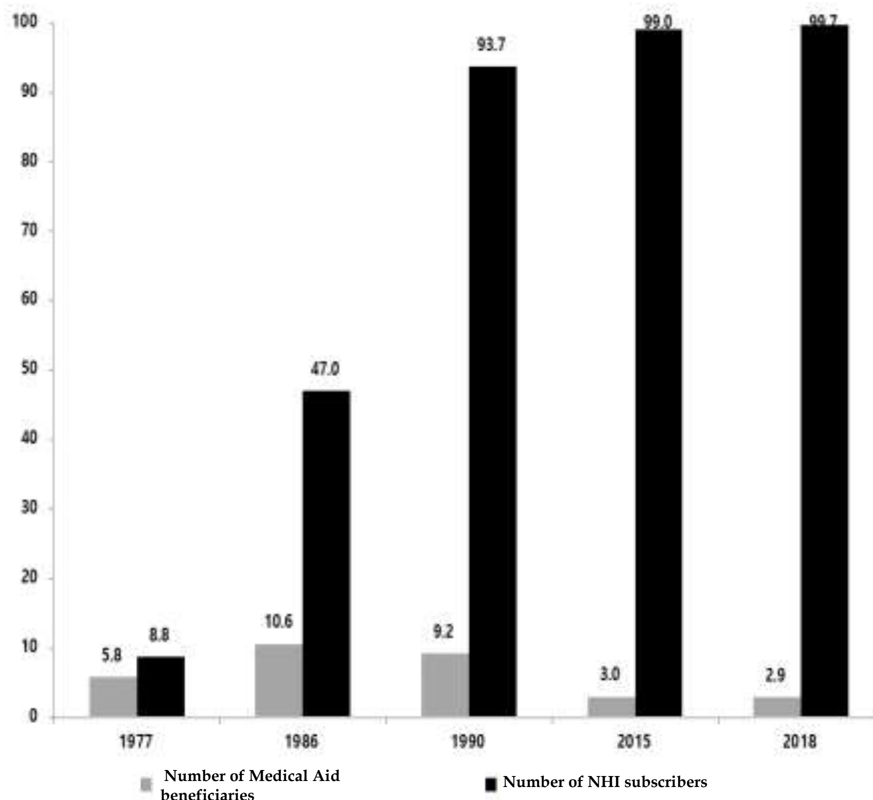
② Insurance premiums are set within the range of 3% to 8% of the monthly remuneration, and to be borne uniformly by users and employees, and government subsidies are limited to supporting operating expenses of the medical insurance association.

③ In order to prevent the overuse of healthcare and maintain the soundness of health insurance finances, the beneficiary pays a portion of the cost (coinsurance rate: 40% for outpatients, 50% for dependents; 30% for hospitalization, 40% for dependents).

The method of first implementing the medical aid system for low-income families from January 1977 and the subsequent compulsory medical insurance system from July 1977 was effective in resolving public dissatisfaction on equity and inducing a smooth settlement of the system in the initial stages. When the medical insurance system for large firms with more than 500 employees was being implemented, there were complaints and criticisms from the general public, saying, "Why are medical insurance benefits provided for high-income large firm workers first?" However, with the medical aid system for low-income families already being implemented, such criticism was not able to gain traction.

In 1988, local medical insurance began to be compulsorily applied to self-employed people in rural areas, and from July 1989, self-employed people in cities and districts were also subjected to mandatory local medical insurance, opening the era of national health insurance for the first time in 12 years after the application of compulsory medical insurance in 1977. In 1989, the TaeWoo Roh government's national health insurance became an important opportunity to maximize the risk pooling effect. Figure 2.1 shows the proportion of health insurance subscribers and Medicaid recipients to the total population by year.

Figure 2.1 Medicaid recipients and NHI subscribers against total population (Unit: %)



Source: *Medical Aid Statistics Yearbook*; *National Health Insurance Statistics Yearbook*.

Since the establishment of the national medical insurance system in 1989, the gap in financial capacity between local and workplace associations has widened, despite state funding for local associations, due to differences in income level and population composition

by association. In particular, the financial situation of the medical insurance association in rural areas, where the population was in decline and the proportion of the elderly population high, was unstable. In 2000, DaeJung Kim's government integrated the existing workplace medical insurance association and local medical insurance association to solve the gap in insurance premiums and financial capacity due to the difference in income levels by association and to enhance the risk pooling effect of diseases. As a result, the income redistribution effect of health insurance, which has been continued through corporate participation since 1977, has been greatly increased, laying the foundation for its development into social insurance.

Table 2.1 summarizes the introduction and development process of the Korean health insurance system.

Table 2.1 Health insurance expansion process and policy changes

Year	Health insurance policy change	Content
1963-1976	Voluntary implementation of health insurance	Established the Medical Insurance Act (1963)
1977-2000	Compulsory implementation and expansion of health insurance	Compulsorily implementing health insurance for companies with more than 500 employees (1977)
		Expanding health insurance for public officials and private school personnel (1979)
		Implementing primary (1981) and secondary pilot projects (1982) for local health insurance
		Expanding health insurance to urban area Achievement of national health insurance (1989)
		Integration of employee and local health insurance National Health Insurance Service separation of drug prescribing and drug dispensing (2000)

Source: NHIS (2015). pp.14-17.

2.1.2 Health Insurance Financing

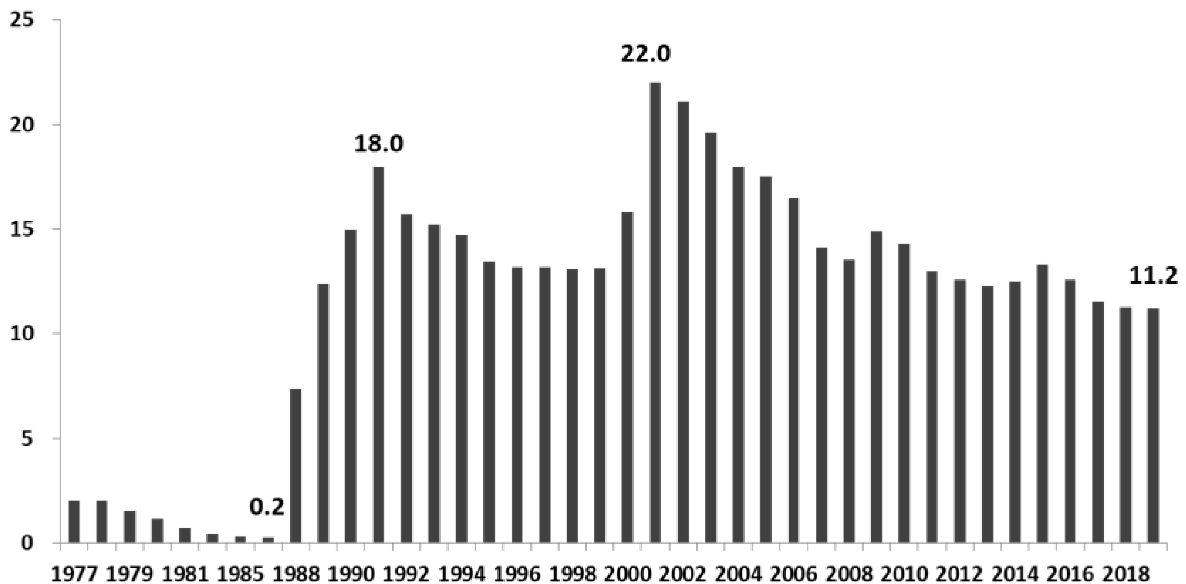
With the development of modern industrial society, the first social insurance system introduced in advanced Western countries was health insurance (The Korean Miracle 5, 2019, p.200). In the early 1960s, Korea was a small open economy that focused on economic development through export-led industrialization. During this period, the productivity of export companies and the growth of the national economy were directly linked. At that time, maintaining fiscal soundness was an essential factor for economic stability. Therefore, the introduction of welfare policies such as medical insurance was not an easy decision to make on the macroeconomic level of national management in that it resulted in a financial burden on companies (Kim & Kim, 2022).

The gradual implementation of medical insurance in consideration of financial conditions and affordability is considered a major factor in enabling the successful establishment of the Korean health insurance system. Korea's health insurance began in the form of private insurance, with little government financial support based on the benefit principle.

During the period from 1977 to 1987, when health insurance was operated mainly by the workplace health insurance association, by which labor and management equally paid for insurance premiums, the government's national subsidy was less than 2% of total insurance financial income, and fell to 0.2% in 1987 (Figure 2.2).

However, since 1988, when local medical insurance on the premise of government subsidies became compulsory, the proportion of state subsidies to total insurance premium income increased, reaching 18% in 1991. Since then, the absolute size of state subsidies has continued to increase, but the proportion of state subsidies to total income has decreased, falling to 13.1% just before health insurance was integrated in 1999.

Figure 2.2 Share of government subsidies out of total NHI revenues (Unit: %)



Source: Kim and Kim (2022). p.28, Figure 5.

However, in 2000, the insurance fiscal deficit increased significantly due to the integration of workplace insurance and regional insurance, and in 2001, the proportion of state subsidies rose to 22%. In January 2002, the National Health Insurance Finance Management Special Act, which was temporarily applied until the end of 2006, was enacted to resolve the immediate fiscal deficit of the medical insurance. In accordance with this special law, state subsidies were expanded to support local insurance. At the same time, a health promotion fund created by imposing a health levy on some of the cigarette sales was established to further aid government support. Since then, government support has gradually decreased, and the proportion of government subsidies dropped to 11.2% in 2019.

As of 2022, Korea is seeking an alternative to overcome the worsening fiscal balance of the health insurance system in preparation for an aging society stemming from improved medical services and low fertility rates. It has been pointed out that the proportion of state subsidies in Korean health insurance finances is relatively low compared to other OECD countries (Park, 2020; Shin, 2018; Lee, 2018). However, considering the main reasons why

health insurance fiscal income could be stably secured despite the second oil crisis in 1979 and the chain bankruptcy of large firms and increased insolvency of financial institutions following the 1997 foreign exchange crisis, it cannot be overlooked that private participation still remains important today.

2.2 Correlation between Health Insurance and Industrialization

According to Todaro and Smith (2020), who are major development economists, claim that "health is closely related in economic development". Many studies on how health is related to a country's economic growth have been conducted from the past to the present (Todaro & Smith, 2020; Hensher et al., 2019; Nam et al., 2008; Well, 2007; Kugler & Ofoghi, 2005; Bloom, Cannin & Sevilla, 2004; Bhargava et al., 2001; Rivera & Currais, 1999; Barro, 1996).

The World Health Organization (WHO, 2001) and the Pan American Health Organization (PAHO, 2001) have discussed and reviewed the effects of economic growth and health investment from an economic perspective. In particular, in developing countries where the manufacturing industry accounts for a large proportion of their economies, labor productivity of workers is an indispensable factor that serves as the basis for achieving the target economic growth rate. Workers' health is directly linked to quality labor (Nam et al., 2008; Nguyen & Zawacki, 2009). Health quality ensures equality of opportunities, which leads to a basic standard of living, in that it is a basic requirement that enables labor participation.

According to Nguyen and Zawacki (2009), the introduction of health insurance in the manufacturing industry improves labor productivity. They suggested that health insurance could be a way for both labor and management to coexist because workers' high labor

productivity consequently benefits employers by increasing sales through outstanding production.

Gruber and Madrian (2002) argued that health insurance has a significant effect on labor force participation and job choice. A fixed source of income from labor is particularly important for fostering the middle class in underdeveloped countries. Thus, the health insurance system that protects the health of the people so that they can participate in labor can be seen as related to economic growth as well as a basic right.

In summary, health affects economic growth by promoting labor participation and productivity, and the health insurance system guarantees health through the activation of supply according to medical demand. Therefore, it can be interpreted that the health insurance system has had a positive effect on the health of workers, which is the driving force for economic growth.

A number of empirical studies have also been conducted on the correlation between health expenditure and macroeconomic indicators to determine whether health affects economic growth. UNCTAD (1964) stated, "a sound national insurance and reinsurance market is an essential characteristic of economic growth." In general, as a country's economy grows, the proportion of ordinary health expenditures tends to increase (Hensher et al., 2019; Park, 2012; Lee, 2002). The result of a study analyzing the trends of Global Gross Domestic Product (GDP) and health expenditure shows that the increase in GDP and health expenditure improves health (Hensher et al., 2019). Park (2012) analyzed the level of national health expenditure and related factors, centering on OECD countries, and found that the proportion of national health expenditure increases as the proportion of per capita income and the elderly population increases. Nam et al. (2008) analyzed the relationship between health expenditure and macroeconomic variables using OECD social expenditure data between 1980 and 2003. As a result of the analysis, it was found that labor productivity and economic growth rate

(real GDP growth rate) had a strong positive (+) correlation (r=0.9023). In addition, it was said that there is a close linear relationship between the growth rate of health expenditure and the economic growth rate (GDP) (correlation coefficient = 0.899).

In the 1970s, Korea laid the foundation for sustainable economic development through the fostering of the middle class. This was based on active labor participation. When jobs are created due to industrial development, opportunities are provided for labor participation, and thus, the net function of the health insurance system to provide high-quality healthcare services to workers cannot be overlooked as one factor among others that contributed to the country's economic development through high labor productivity.

In summary, health insurance has economic and social significance in Korea's economic development. First, from the economic perspective, considering that Korea promoted a manufacturing-oriented economic development strategy in the 1970s, health insurance guaranteed active labor participation and labor productivity to manufacture excellent products, thereby increasing corporate sales and contributing to the growth of the national economy. Second, from the social perspective, it can be suggested that the nation's economic growth based on the development of the manufacturing industry guarantees continuous jobs for workers and fosters the middle class through a stable source of income, resulting in social integration in terms of national sentiment as well as providing the future background for the establishment of stable industrial relations and a decrease in the income gap.

Outreville (2013) reviewed 85 empirical papers on the relationship between insurance and economic development, and stated that insurance acts as an important determinant in the process of economic growth, and the level of economic development affects the demand for insurance. It also summarized that there are claims that insurance plays an important role in the process of economic growth, proving the causal relationship between insurance and

economic development. Other studies have explored the relationship between a country's financial development and insurance market development (Outreville, 1990a, 1990b, 1996). As the economy grows in this way, it is a general phenomenon that the demand for insurance as a social safety-net increases. However, it is noteworthy in the case of Korea that health insurance was introduced and implemented before economic growth.

The Republic of Korea prove such development economic statement through not only outstanding economic growth but also development of health insurance system as a social development. At the period of development (1961-79) president Park's government forced strategy of select and focus for economic development and construct the creation of a self-reliant independent Korea. First to tertiary the Planning of Economic Development succeed. From the fifth plan, The Planning of Economic Development changed title to the Planning of Economic Social Development.

However, at that time health insurance system was introduced in 1963 which before the highly economic growth. Although real implement had been started in 1977, in developing country stage social safety-net, generally sacrificed because of lack of fiscal space, human capital, or facilities. However, Korea focused on health insurance system as social safety-net in hard time. In these contexts, from the view of finance, Korea's health insurance system can observe the economic phenomenon not only improving income increase but also income distribution which goes same direction.

2.3 The Effect of Health Insurance on National and Social Development Strategy

Health insurance has significance as a social safety-net that protects the basic human right of health. This is not only a basic driving force that enables citizens to participate in society, but also a matter of basic trust in entrusting the function of society to the state. Public trust in the state became the basis for fostering a middle class through earned income with

macroscopic resource allocation of the national economy and establishing social trust through health insurance. It is true that Park's administration promoted a state-led economic growth strategy, but once an agreement was reached on the allocation of resources by industry and sector at a macro level, the efficient allocation of resources within each industry or sector was induced through corporate autonomy and market competition (Kim & Kim, 2022).

The Korean government's policy that emphasizes growth through voluntary participation also appears in the process of implementing health insurance. Korea's health insurance adopted a method in which management and workers paid 50% equally at the time of implementation in 1977. As an extension of the indicative planning of the five-year economic development plan, this is a model of cooperative industrial relations in that it emphasizes employees' voluntary participation in social development, and the firms also support the rights of employees participating.

The Factory Saemaul-Movement, conducted by the ChungHee Park administration, was promoted with the aim of establishing cooperative industrial relations through the success of export-led industrialization policies in the manufacturing sector and fostering a self-help spirit and a sense of community. The Factory Saemaul-Movement is a representative example in which industrial cooperation based on the trust of companies and workers has moved in a virtuous cycle into corporate profits and workers' wage improvements by applying performance-based differential incentive payments based on the principle of a free market economy. The goal of the Factory Saemaul-Movement was to foster a sense of community through mutual assistance between labor and management, maximize the business performance of employers by rationalizing management such as quality improvement and cost reduction through voluntary participation of workers, and ultimately enhance industrial competitiveness and expand exports (Ha, 2006). As a result, the Factory Saemaul-Movement improved the productivity of many companies and increased the income of workers. This can be interpreted

as contributing to improving the employers and workers' acceptance of medical insurance, securing the ability to pay medical insurance premiums, and improving workers' welfare (Lee, 1977). Health insurance was able to be steadily expanded as companies' financial space and employees' insurance affordability increased through the Saemaul-Movement.

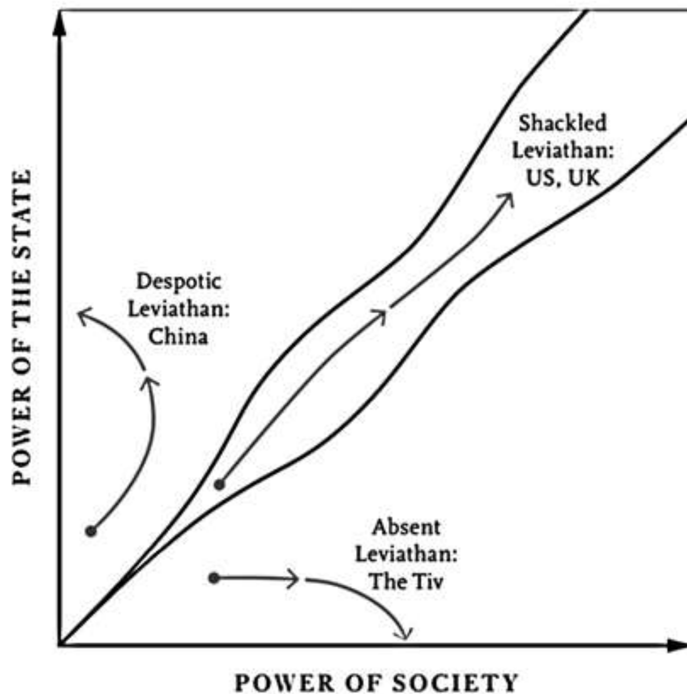
The guarantee of health through the health insurance system led to an increase in corporate sales and revitalization of the national economy by improving worker productivity, and it enabled participation in education provided by companies, such as night schools. In addition, for the Korean Peninsula, whose security was threatened by a communist country, the guarantee was accompanied by physical health necessary for self-defense through military service, and as a derivative effect, Korea achieved economic and social security through economic growth and income distribution by fostering the middle class through stable earned income. This is an example of how Korea's 'despotic growth' of political form could achieve a harmonized growth between the development of society and the growth of the country in the development process from the concept of the narrow corridor proposed by Acemoglu and Robinson (2019). Starting in 1977, Park gov't, that fostered industrialization since the mid-1960s, replaced the "growth-first" strategy with a strategy that promotes "harmony between growth and distribution."

2.3.1 The Narrow Corridor

Acemoglu and Robinson (2019) present the concept of the narrow corridor. The narrow corridor means the nation's status which walk on the equilibrium path through well-balance with society. To summarize, a narrow corridor is the concept in which the way the state and society interact and control each other determines the national capability and government policies, namely, the resilience, prosperity, safety, and ultimately the degree of freedom of a

nation. Figure 2.3 shows a narrow corridor according to the balance of power between the state and society.

Figure 2.3 The Evolution of Despotic, Shackled, and Absent Leviathan



Source: Acemoglu and Robinson (2019). p.132, Figure 1.

Today's liberal democracy countries are enduring hard time to walk on the narrow corridor. In order for citizens to not lose their freedom and for the country to prosper at the same time, the state and society must enter a "narrow corridor" in which power is balanced. It is not a door but corridor because development is proceeding of balance on nation and society. The reason of the corridor is narrow, is that difficult to well-balance between nation and society (A-R, 2019). The shackled Leviathan can build a basic foundation for freedom by fairly resolving disputes, providing public services and economic opportunities, and preventing domination. It is also a Leviathan that allows people to trust, cooperate, and develop the nation's capabilities, believing that they can control the power of the state. Acemoglu and Robinson (2019) believe that the Red Queen effect works at this point. The

fight between the state and society contributes to strengthening both parties, and predicts the inside of the corridor to be the place where power between the state and society can be balanced miraculously. The shackled Leviathan stands side by side with society, not above society.

Chapter 3

Main Results

3.1 The Impact of Health Insurance on Industrial Relations for Shared Growth

3.1.1 Cooperative Industrial Relations Based on Factory Saemaul-Movement

The Saemaul-Movement began in 1970 in provincial regions to narrow the income gap between urban and rural areas resulting from rapid industrialization and focused on cultivating a community spirit based on the "economic will" of local residents and the spirit of hard work, self-help, and cooperation. At that time, the ChungHee Park administration emphasized the long tradition of cooperation in all areas of social life, and especially observed that the bond between family and relatives of the Confucian tradition was still intact and strong despite rapid socioeconomic changes. Thus, in 1974, Park's government expanded the Saemaul-Movement centered on rural areas to the domain of industrial relations and was called Factory Saemaul-Movement (Choi, 1988).

President Park explained the Factory Saemaul-Movement as follows in a speech commemorating Export Day on November 30, 1973.

"The Saemaul-Movement in offices and factories is no different from what is currently being carried out in rural areas. This is because the basic spirit of hard work, self-help, and cooperation remains the same. The company must work together from top-down to reduce waste, improve efficiency, and devote its energy to increasing productivity. This requires close cooperation between labor and management. Business owners must do their best to raise salaries, improve working conditions and welfare as if employees are their own families, and workers must do their duty responsibly and sincerely, caring for factories as if

they were their own, and perform their jobs as if they were their own. In such companies, productivity will increase in a family-like atmosphere, and employees will be duly rewarded for their devoted performance. The government will provide full support and help to companies and factories that make such efforts."

President Park emphasized the nature of family as a commonly destined community in the company, as can be summarized in the slogan of the Factory Saemaul-Movement, "Employees Like Family, Factory Work Like My Work."

"When an entrepreneur cares about and loves his employees as if they were his family,… Harmony will take place between entrepreneurs and employees and efficiency and productivity will increase.… As such, the Factory Saemaul-Movement is a unique industrial cooperation movement in Korea that cannot be seen in other countries, and is the driving force behind accelerating the cultivation of national power."
(Presidential speech at the Saemaul Leaders' National Congress on December 9, 1977)

In the monthly presidential Export Promotion and Expansion Conference, President Park also stressed that the fundamental spirit of the Factory Saemaul- Movement leads to an improvement in employee welfare, and pointed out repeatedly that corporate productivity can improve if employee welfare is realized.

"The issue of improving the quality of goods is paramount. ... Entrepreneurs should always treat their employees as their own family, and make sincere efforts to improve their treatment and welfare, which is the most important factor in improving the quality of products and increasing productivity. That's what I see. ...Let's start with something that improves the working environment of employees, and this is something the entrepreneur has to take the lead

on... The profits that come from improved productivity should be returned to the employees through the improvement of their treatment or an increase in remuneration, and I think this will lead to the success of the Factory Saemaul-Movement."
(January 28, 1976, transcript II, p.292).

"There will be many things we need to do to improve the quality and productivity of our products in the future, but I think the most important thing is that entrepreneurs are striving to improve the treatment and welfare of their employees. So, when the people who work there start to think that it's our factory rather than someone else's factory, I think there will be a lot of tangible results in many ways, such as quality improvement or productivity improvement."
(August 25, 1976, transcript II, p.453)

From this point of view, the Factory Saemaul-Movement can be defined as a national and social development strategy that facilitates social integration and labor productivity improvement through stability of industrial relations in Korea, as well as economic stability through an increase in real wages. In addition, as part of an economic strategy that enabled economic development centered on export-led industrialization, it was the driving force behind the government's improvement in corporate export performance. In terms of social development strategy, it was a policy that achieved a positive sum between companies and workers by awarding differential incentives based on performance from the government to companies, and companies to workers. In the end, the increase in corporate profits through the Factory Saemaul-Movement enabled the economic development of the country, which was moved in a virtuous cycle into the rise in wages of workers.

Shin (1983) judged that the increase in added value through productivity improvement is the best means of increasing the ability to pay wages since productivity

improvement is the source of wages. He also argued that if productivity improves, the cost directly decreases in turn, and the domestic and foreign markets expand as the price decreases. As a result, the outcome of productivity improvement is distributed to financiers, workers, and consumers.

Kim & Kim (2022) listed fostering a sense of community through mutual assistance between labor and management, maximizing business owners' management performance following management rationalization such as quality improvement and cost reduction through voluntary participation of workers, promoting workers' income and welfare, and ultimately strengthening industrial competitiveness and expanding exports as the goals of the Factory Saemaul-Movement. The 'Principle of Priority Support for Outstanding Locals', which was consistently applied in the rural Saemaul-Movement, was also applied in the Factory Saemaul-Movement.

Since 1977, strict evaluations have been conducted of mining companies with more than 50 regular workers, economic rewards such as administrative support, funding, and rewards have been provided to excellent companies, and training and guidance have been strengthened for poor companies. Administrative support for excellent companies, for example, included giving priority in the selection of foster companies, which are provided with state support through industrial policy. In addition to giving priority in the selection of various policy fundings, financial support included preferential treatment of more than 10% based on the calculated amount of the corporate evaluation table when a company receives a loan from a financial institution (Ha, 2006). The evaluation items consisted of four major areas: ① creating conditions (status of Saemaul training and organization) and base business (sense of unity, environmental beautification, saving) ②improving productivity (task distribution activities, proposal system, management improvement performance) ③ welfare (welfare system, welfare

facilities) ④ other autonomous projects (neighborhood help, regional development cooperation). The inclusion of the level of welfare for employees in the evaluation criteria for companies made it possible to contribute to the formation of labor and management's positive perspective on the introduction of medical insurance.

Table 3.1 shows the expansion of the Factory Saemaul-Movement nationwide. The Saemaul-Movement, which was applied to a factory pilot company with more than 100 employees in 1974, was applied to a factory with more than 50 employees in 1978 for evaluated companies, and the number of target companies increased by more than 10 times.

Table 3.1 Number of Factory Saemaul-Movement target company, 1974-1979

Year	Number of company	Standard
1974	500	Factory pilot company with more than 100 employees
1975	1,030	Factory pilot company with more than 100 employees
1976	1,465	Factory pilot company with more than 100 employees
1977	2,200	Factory pilot company with more than 100 employees
1978	4,000(12,000)	Companies subject to evaluation for factories with more than 50 employees
1979	5,200(15,200)	Companies subject to evaluation for factories with more than 50 employees

Note: ( ) includes the number of companies subject to training.
Source: Shin (2003). p.358, Table 1.

Table 3.2 shows the status of the completion of Factory Saemaul training. Given that not only ordinary workers and executives, but also corporate representatives and spouses participated, the government was determined to achieve stability in industrial relations by creating a working environment with a family atmosphere through the welfare of workers as well as economic growth from increased company profits through the Factory Saemaul-Movement. This served as an opportunity for corporate representatives to understand the advantages of the Factory Saemaul-Movement and realize that the purpose of disseminations is to coexist through such a movement.

Table 3.2 Number of trainees by occupation at Factory Saemaul Training in end of 1979

(Unit: number)

	Business leader	Executive	Business women	Director·Manager	Captain	Employee
Number of trainees	6,027	33,500	5,950	60,700	79,000	1,624,000

Source: Ministry of Commerce and Industry (1981). Guidelines for the Vitalization of the Factory Saemaul-Movement. (as cited in Lim (1991). p.163).

According to the results of the 1982 Factory Saemaul-Movement, 4,555 companies with 50 or more regular workers were evaluated. 22.7% were 1,032 excellent companies, 65.3% were 2,975 normal companies, and 12.0% were 548 poor companies, and the results of corporate evaluation by industry are shown in Table 3.3.

Table 3.3 Performance evaluation of Factory Saemauel-Movement by industry in 1982

(Unit: count)

Industry	Excellent Company	Normal Company	Poor Company	Total
Textile	230	860	203	1,293
Chemistry	155	308	64	527
Electric	130	271	41	442
Machine	82	230	26	338
Metal	105	328	68	501
Wood	9	52	20	81
Food·Medicine	106	205	25	336
Others	186	626	93	905
Mining	29	95	8	132
Total	1,032 (22.7%)	2,975 (65.3%)	548 (12.0%)	4,555 (100.0)

Source: Ministry of Commerce and Industry, Factory Saemaul-Movement Promotion Headquarters (1983). Evaluation results of the Factory Saemaul-Movement in 1982. (as cited in Shin (1983). p.65).

Kim and Chung (1988) analyzed whether the Factory Saemaul-Movement was increasing the welfare of employees in 239 companies located in the Korea Export Industry

Complex (Seoul District) in 1986. A total of 40 questions related to welfare were statistically treated on a 5-point scale, with 5 points for the most favorable response, 4 points for relatively favorable response, 3 points for intermediate response, 2 points for relatively unfavorable response, and 1 point for the most unfavorable response. As a result of the analysis, it was estimated that the medical insurance (4.42 points) system earned the highest score among the total 40 questions (Table 3.4).

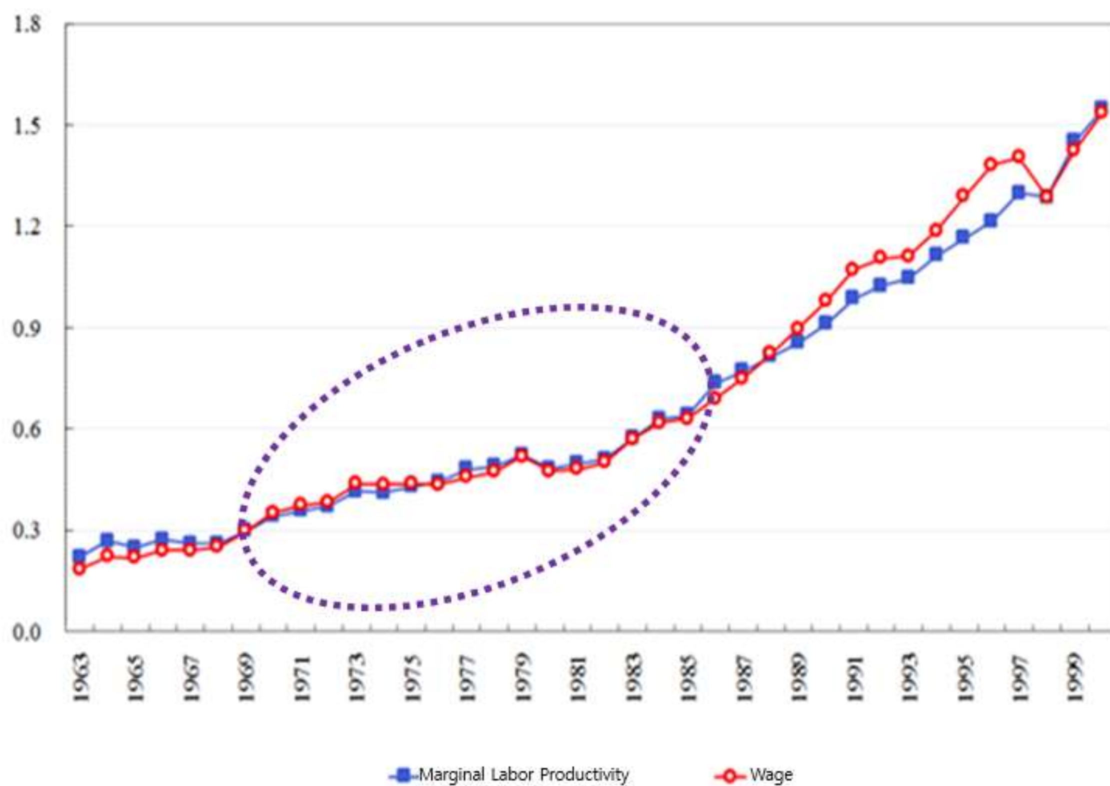
Table 3.4 Welfare status of the investigated corporate organization (Average score for each category)

Welfare (Incentive)	**Financial protection for employee safety**	User legal charges	3.41
		Medical insurance	4.42
		Paid sick leave	3.19
		Accident insurance	3.24
		Unemployment benefit	2.55
		Life insurance	2.24
		Pension	3.83
	Paid vacation	Public vacation	2.90
		Private vacation	1.94
		Military vacation	2.26
	Extra pay	Overtime pay	3.61
		Weekend pay	2.83
		Holiday pay	3.72
		Special shift work pay	2.94
	Bonus and scholarship	Regular bonus	4.01
		Special bonus	2.51
		Scholarship	3.18
	Saving and plan for a lump sum	Employee stock ownership plan	2.65
Welfare (Life)	**Service facility**	Recreation facility	2.36
		Sport facility	2.46
		Dining facility	3.58
		Medical facility	2.67
		Lounge	2.47
		Library	2.31
		Bathroom	2.71
		Hair shop	1.74
		Laundry	2.66
		Day-care facility	1.56
		Dormitory	2.54
		Company housing	2.02
	Service system	Meal subsidy system	3.52
		meal payment system	3.24
		Consumption Association (Purchase of Goods)	2.82
		Credit union (loan)	3.31
		Purchase of company products, discounts	2.59
		Councelling	2.59
		Company training system	2.66
		External training system	2.91
	Service event	Picnic	2.97
		Party	2.61

Source: Kim and Chung (1988). p.30, Table 4.

As such, it can be seen that the Factory Saemaul-Movement promoted the welfare of workers, contributed to improving the acceptance of employers and employees' medical insurance by enhancing productivity and increasing worker income, and expanded the affordability of medical insurance. The increase in the affordability of medical insurance premiums for companies and employees is well supported by the marginal labor productivity and the course of wage growth of Korean industry (Figure 3.1). Despite the first and second oil crises that broke out in 1973 and 1979, labor productivity and wages in the non-housing business sector continued to rise until the late 1980s, when national health insurance was achieved.

Figure 3.1 Marginal labor productivity and wage growth rate, 1963-1999



Source: Park (2007). p.716, Figure 2.

This rise in labor productivity and wages is due to the stable community-based industrial relations created through the Factory Saemaul-Movement in urban areas. In

particular, the expansion of workplace medical insurance, especially in private companies, is a key factor in the rapid success of Korea's health insurance system. This is a historical example of how the creative private sector played a key role in achieving economic growth and social development employing Korea's state-led economic strategy with regard to entering the narrow corridor. Industrial relations in Korea were able to achieve a positive sum and establish a community spirit by developing bonds through the motivation of companies and workers by paying differential incentives according to the capitalist market principles implemented in most liberal democracies. In this context, it is possible to interpret that the width of the corridor expanded in the process of the national development of Korea and health insurance contributed to Korea eventually entering the narrow corridor.

The reason why many countries, including the United States, have failed to introduce workplace health insurance is due to the opposition against corporate burden of insurance premiums. According to Nguyen and Zawacki (2009), the proportion of U.S. companies in which business owners provide health insurance to workers increased from 52.4% in 1997 to 59.3% in 2000, but then steadily decreased to only 55.8% as of 2006. Among the factors that contributed to Korea's workplace medical insurance expansion and application to all companies in a short period of time (1977-1989) is the cooperative and reciprocal industrial relations.

3.1.2 The Effect of Income Distribution on Health Insurance

The stabilization of industrial relations in Korea was achieved by balancing the economic development resulting from increasing the real wages of workers and the social development of night school education and the extension of basic rights through health insurance. Health insurance in Korea functions as a basic health right to enable welfare without discrimination through a strong income redistribution effect. The reasons as to why the income redistribution effect was possible include medical insurance organization

integration (2000.3) and health insurance financial integration (2000.7). The National Health Insurance Corporation (2000.7.1) was launched in the form of a single-payer scheme by merging the National Medical Insurance Corporation and the workplace association. This financial integration of health insurance created a foundation with a strong income redistribution function through differential insurance premiums according to income (property) and equal insurance benefits unrelated to income (Kim & Kim, 2022). Table 3.5 shows the benefits of medical insurance according to income class between 2014 and 2019 after the financial integration of health insurance.

Table 3.5 Contributions against benefit expenses by income bracket: 2014 vs. 2019

Income quintile	Covered population (unit: 1000 persons)		Monthly average per person (unit: 1,000 won)					
			Contribution (A)	Benefit Expense (B)	B/A (time)	Medical expense	Co-payment (C)	OOP (A+C)
Total	2014	38,071	40.8	68.7	1.7	88.4	19.7	60.5
	2019	46,906	93.7	106.5	1.1	135.2	28.6	122.4
1 (poor)	2014	7,614	15.8	69.3	4.4	87.6	18.3	34.1
	2019	9,381	1.6	134.9	85.8	168.3	33.3	34.9
2	2014	7,614	27.5	61.8	2.3	78.9	17.1	44.6
	2019	9,381	4.0	124.9	31.4	157.5	32.8	36.7
3	2014	7,614	37.1	66.8	1.8	85.7	18.9	56.0
	2019	9,381	33.7	107.8	3.2	135.9	28.1	61.8
4	2014	7,614	46.9	69.5	1.5	90.2	20.7	67.6
	2019	9,381	113.6	82.1	0.72	105.7	23.5	137.1
5 (rich)	2014	7,614	76.7	75.9	0.99	99.6	23.7	100.4
	2019	9,381	316.1	83.2	0.26	108.8	25.5	341.6

Source: NHIS (2020). 2019 Status analysis of benefits compared to the insurance premiums.
NHIS (2015). 2014 Status analysis of benefits compared to the insurance premiums.

As shown in Table 3.5, looking at the standard of premium payments per household by income class, it can be seen that there is a strong income redistribution function. In particular, in terms of the ratio of insurance benefits to insurance premiums paid as of 2019, the first

quintile (lower 20%) representing the low-income class reached 86 times, while the fifth quintile (upper 20%) representing the high-income class was less than 0.3 times (Kim & Kim, 2022).

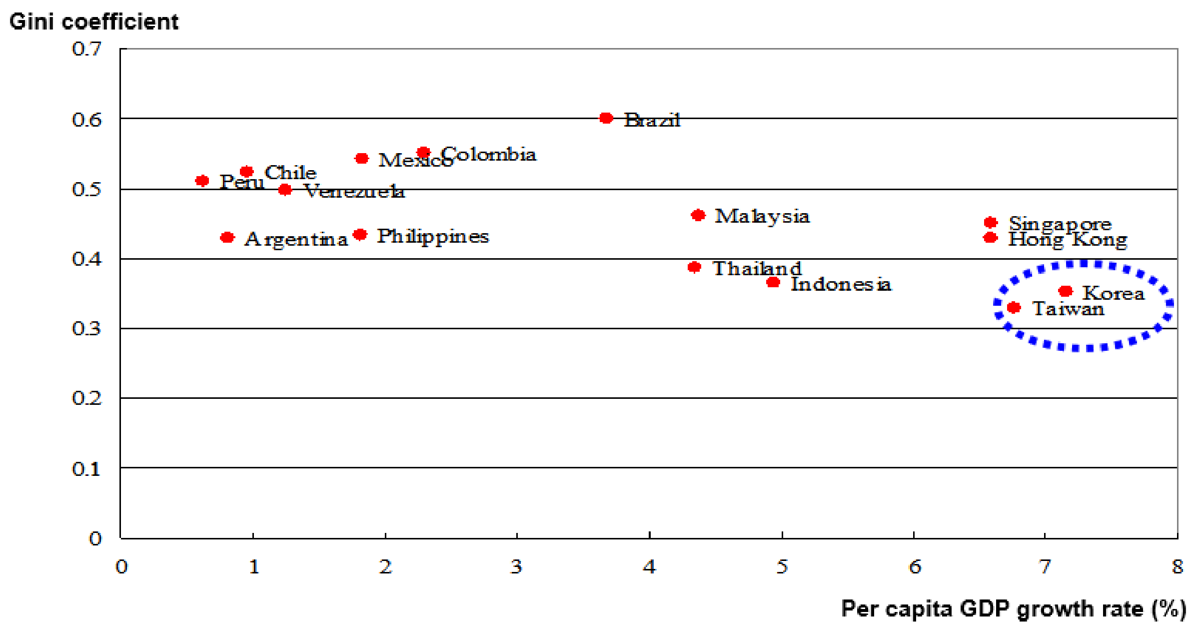
Along with the rapid economic growth of the development era, Korea shows a remarkably balanced development in which the income gap decreases due to government policies such as the Factory Saemaul-Movement. Figure 3.4 below shows that Korea's economic growth at the time was moving along with an income gap reduction toward shared growth.

Income inequality has been partially improved by means of a structure through an appropriate level of income redistribution, thus benefitting society in terms of social integration. This includes welfare through corporate health insurance participation, hospital construction to provide healthcare services, and education through night schools.

Pickett and Wilkinson (2015) state that health and welfare are improved when income inequality is reduced. Kawachi, I., & Kennedy (1999) argued that health can be affected by income distribution within society, and that individual health status is at a higher level in an equal society. They also suggested that the lack of investment in public education and healthcare hinders social cohesion. In conclusion, it was argued that when income distribution is fair, the level of health of the people increases. Subramanian and Kawachi (2004) said that health is fundamentally affected by an unequal distribution of wealth, political power, and social culture, as well as income inequality. With the implementation of workers' education and health insurance policies at export-oriented companies during the development era (1963-1979), which designated Korea as a strong state, Korea laid the foundation for social development and democratic construction through despotic growth and the consequent decrease in income inequality. This shows that Korea was in a process of entering the narrow corridor.

Some argue that income inequality is not related to health (Daton, 2001), but most of the aforementioned studies have revealed that there is a correlation between income inequality and health. Figure 3.2 shows Korea's high economic growth rate and low income inequality compared to other countries.

Figure 3.2 Level of income inequality and economic growth in selected country



Source: World Bank (1992). *The East Asian Miracle*.

The difference between other despotic Leviathan and Korea in the 1960s and 1970s is that Korea promoted policies that suppress income polarization, so that all citizens could enjoy "Freedom of Hunger." Representative examples are the nurturing of the middle class, the effect of social integration, and income gap reduction through industrial cooperation via the Factory Saemaul-Movement.

3.2 The Impact of Health Insurance on Industry for Nurturing Middle Class

3.2.1 Development of Manufacturing Industry: Focusing on Labor Productivity

Economy-fostering policies centered on the heavy and chemical industry are possible only when an excellent labor force is supported. A country's national health is related to economic growth in terms of human capital as well as a basic right that the state must protect. Rivera and Currais (1999) saw that health affects economic growth through productivity, and Barro (1996), Bloom, Cannin, and Sevilla (2004), Bhargava et al. (2001) and Well (2007) also revealed that health and economic growth are closely related.

The types of medical insurance systems, including health insurance systems, and health care values reflect the historical characteristics of a country (Brown, 1989). The fact that Korea's industrialization and the establishment of the health insurance system have been achieved within the shortest period of time in the world suggests that economic and social policies that can function as a positive sum have been implemented in the continuum of economic growth and health.

In the 1970s, the Korean government implemented a government-led export industrialization economy fostering policy through a five-year economic development plan. For export competitiveness, quality production based on quality labor is an essential requirement. The health insurance system had a direct or indirect effect on the improvement of labor productivity in the manufacturing industry, as well as increasing the participation rate of labor. In the end, it can be considered that behind Korea's export-led industrialization policy's ability to drive economic growth, lies the "economic will" of the government and the private sector, as well as improved labor productivity through investment in the development of the medical industry and health insurance system.

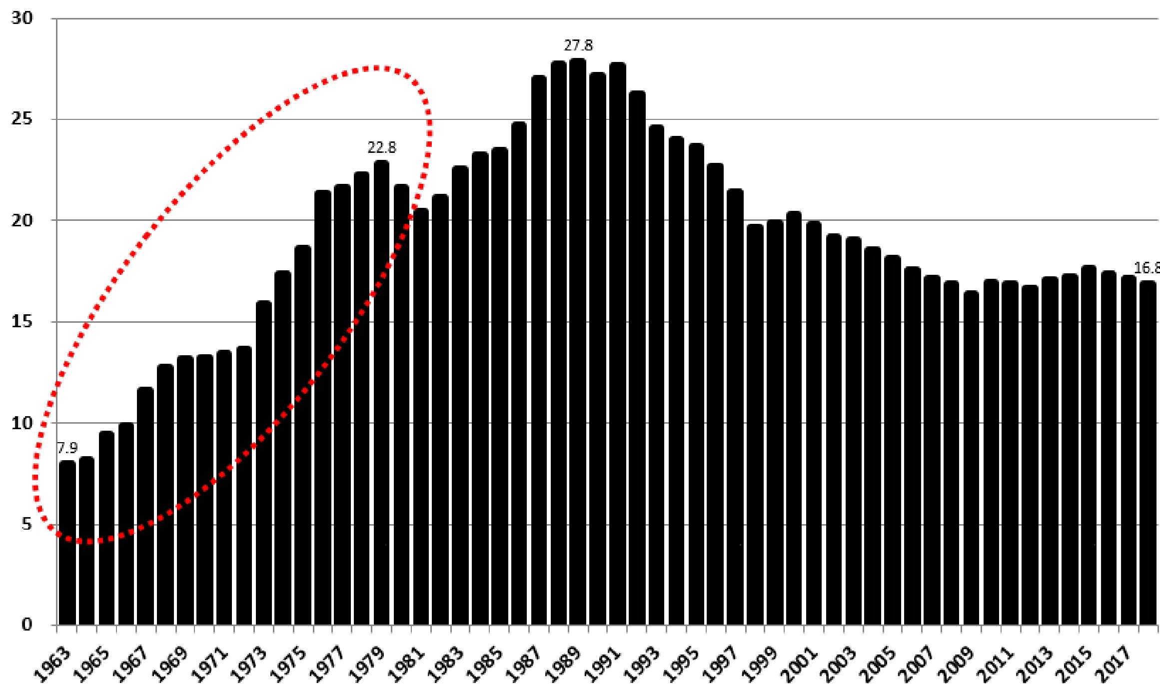
By aiming for equal development of the state and society, this economic and social strategy can be interpreted as an entry process into the narrow corridor through the construction

of a fundamentally independent state. In addition, based on the fact that healthy people have a higher attendance rate at school and educational achievement is possible (Todaro & Smith, 2020), the government's investment in social overhead capital is the main factor behind the decrease in illiteracy and the increase in enrollment in educational institutions. Accordingly, it can be seen that the Korean government showed its willingness to establish a balance of power between the nation and society in the narrow corridor in that it provided the capital necessary for social development at the same time as the state's development.

The middle class nurturing policy was inevitably a policy that strengthened the power of society. The government-led policy to nurture the middle class through economic development led by the Park administration started with the basic principle that a country with stronger national power is formed when the nation's internal strength is cultivated through fostering hard and soft power via the formation of a healthy middle class without hunger. As such, nurturing the middle class was a strategy in which checks against communism were made internally as well as strengthening the power of society through 'Freedom of Hunger.' In order to nurture the middle class, stable labor participation through skill training was essential. Figure 3.3 shows the proportion of employment in the manufacturing industry.

As shown in Figure 3.3, the proportion of employment in the manufacturing industry continued to increase from 1963 to 1979. It shows an increase of about 28% from 7.9% in 1963 to 22.8% in 1979. This is due to the adoption of an industry-academic cooperation structure in which skilled workers necessary for the industry are supplied through education training at Kumoh Technical High School and Jeongsu Academy.

Figure 3.3 Manufacture share of total employment in South Korea, 1963-2018



Source: Bank of Korea.

In development economics, when health is maintained, the time required for hospitals and treatments is reduced, thereby allowing more time for education. From this point of view, the Park administration's introduction and implementation of the health insurance system not only protected the basic rights of the people as based on the Weimar Constitution, but also expanded opportunities to participate in skills education, achieved social stability through the nurturing of a middle class with labor participation, improved productivity based on the health of workers, and subsequently succeeded in export-led industrialization and economic growth.

Table 3.6 shows Korea's export growth rate and global export share as a result of the export industrialization policy.

Korea's global export share continues to increase during the 1968-88 period. This proves that it was possible to produce products with high export competitiveness as a result of the increase in the labor productivity of workers.

Table 3.6 Exports and share of world exports in South Korea

	Total exports (million dollars)	Share of world exports (%)	Period	Total exports growth rate (%)	Share of world exports growth rate (%)
1968	455.4	0.2	-	-	-
1973	3,225.0	0.6	1968-1973	39.0	19.4
1978	12,722.0	1.1	1973-1978	23.3	13.4
1983	24,460.0	1.5	1978-1983	10.2	8.4
1988	60,696.4	2.3	1983-1988	15.7	6.4
1989	62,377.2	2.1	1984-1989	15.5	4.7
1990	65,015.7	2.0	1985-1990	13.4	2.2

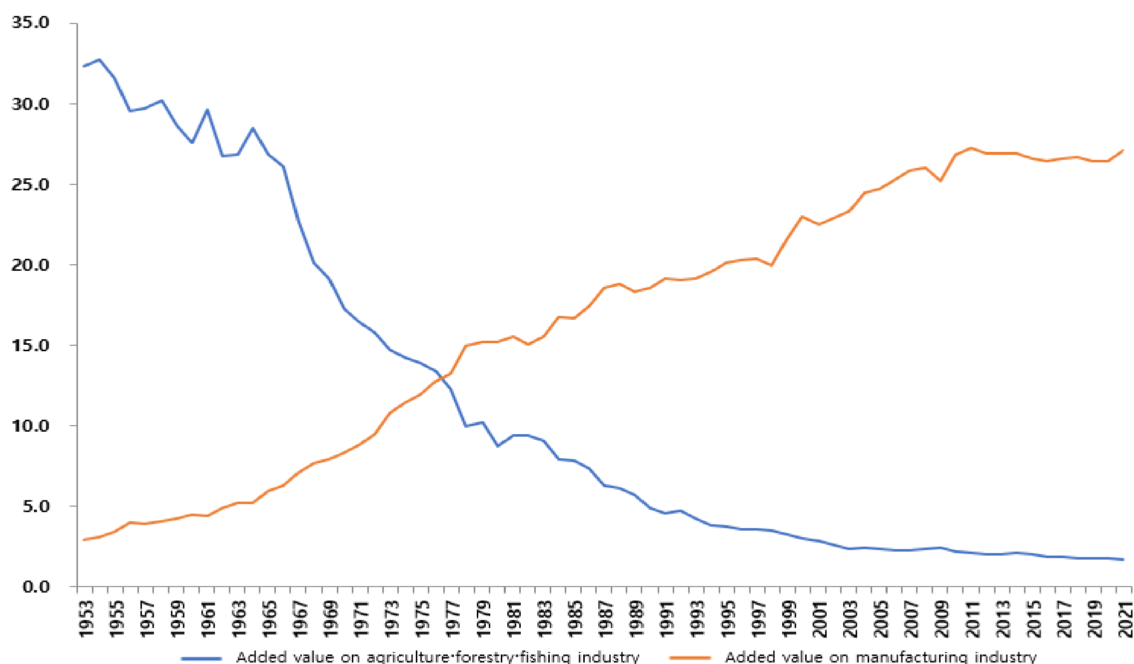
Note: 1) Korea's total export growth rate is based on the current price, and both Korea's total export growth rate and the share of global exports are the average annual growth rate for a given period.

2) The period was set so that the comparative years would not be the year when there were two international oil crises and the global economic recession.

Source: IMF. *Direction of Trade Statistics Yearbook.*

"Industrialization" is defined as the process during which the employment share of agriculture fell from above 50% to below 20%. Figure 3.4 shows the proportion of manufacturing, agriculture, and fisheries in the entire industry.

Figure 3.4 Share of manufacturing and agriculture·forestry·fishing industry by added value



Source: Bank of Korea ECOS.

As shown in Figure 3.4, the proportion of agriculture, forestry, and fisheries decreases while the proportion of manufacturing in the entire industry increases as the industrialization based on export-led growth under the five-year economic development plan is carried out. This reflects the phenomenon that export industrialization policies drive the growth of the Korean economy through industrialization.

Looking at Korea's GNP in the 1960s and 1970s, it can be seen that the share of machinery and transportation equipment occupies a higher proportion than chemical and manufactured products in the total GNP. In the end, from the perspective of the narrow corridor, it can be interpreted that the implementation of a health insurance system, which realizes Weimar Constitution’s basic rights so that all citizens may lead a healthy life, provided the engine for economic growth.

3.2.2 Development of Healthcare Industry: Focusing on the Foreign Investment

Before the introduction of the health insurance system in 1977, the healthcare industry in Korea was in a situation in which it was difficult to supply the demands of healthcare services due to the lack of medical personnel and facilities. The government's continued interest in national healthcare through national health insurance also had a positive effect on fostering medical personnel and expanding healthcare facilities for the supply of healthcare services. There were frequent outflows of excellent manpower post-graduation from medical schools as the medical market for providing medical services was not well formed. However, the determination in sustaining economic growth at the state level by securing stable demand in the medical market through the implementation of health insurance and company benefits, functioned as a motivation for companies to participate in building hospital facilities to revitalize the national health insurance and health care industry as part of CSR and income redistribution.

Under a special presidential directive, large firms established non-profit foundations to

build hospitals in rural areas. Hyundai, Daewoo, and other business groups participated in medical projects aimed at hospital construction as part of their corporate social responsibility(CSR) activities. Against this background, the proportion of medical personnel who could supply medical services increased in Korea. Table 3.7 shows the number of graduates of Seoul National University Medical School during the 1956-75 period.

Table 3.7 Demography of SNU medical college graduates during 1956-1975

		Graduated Overseas		Graduates in Korea	Deceased	Other
		US(%)	Other			
1956	122	27 (22)	2	54	36	3
1957	150	30 (20)	2	85	27	6
1958	139	50 (40)	-	67	19	3
1959	149	54 (36)	2	68	23	2
1960	142	54 (38)	4	58	18	8
1961	135	57 (42)	1	58	15	4
1962	123	56 (45)	1	53	11	2
1963	131	74 (56)	-	44	11	2
1964	128	74 (58)	1	41	11	1
1965	113	58 (51)	-	48	7	-
1966	117	51 (51)	-	55	9	2
1967	124	60 (48)	-	52	10	2
1968	100	52 (52)	2	43	3	-
1969	103	47 (45)	-	50	6	-
1970	81	39 (48)	-	40	1	1
1971	107	51 (47)	-	53	1	2
1972	99	37 (37)	-	57	3	2
1973	97	21 (22)	--	71	3	2
1974	97	16 (16)	-	79	1	1
1975	109	15 (14)	-	89	4	1
Total	2,366	923 (Ave. 39)	15	1,166	219	44

Source: Lee (2006). Dissertation, SNU Medical College Alumni Association, SNU Medical College.

Table 3.8 presents the timing of foreign loans received from abroad to build hospital facilities in areas other than the capital and its repayments. The gov't addressed the rapid increase in the demand for healthcare services by using foreign loans between 1978 and 1992. Low interest rate loans from the Japan's OECF (Overseas Economic Cooperation Fund), the World Bank, and KFW (the Kreditanstalt für Wiederaufbau) in Germany were used to construct 239 hospitals including 168 private hospitals in rural areas.

Table 3.8 Foreign loan and repayment for hospital construction

Foreign Lender		Time of provision	Interest rate	Repayment terms	End of repayment	Total amount	Beneficiaries
Japan OECF	**KO-12**	1978	3/5%	7-year grace period/ repaid over 18 years	2003	JPN 30.7 billion	153 institutions
	KO-15	1980	4%	7-year grace period/ repaid over 18 years	2005		
	KO-17	1981	4%		2006		
	KO-35	1985	5%		2010		
World Bank	**3330-KO**	1991	Variable	5-year grace period/ repaid over 10years	2006	USD 76.98 million	38 institutions
	3516-KO	1992	Variable		2007		
KFW		1982	2%	10-year grace period/ repaid over 20ears	2012	EUR 12.78 million	3 institutions

Note: The IBRD interest rate ranged between 4% and 7%. KO-15 and 3516-KO were provided only to public and national institutions.

Source: Ministry of Health and Welfare (July 10, 2006). Press release. (as cited in Kim, Choi & Yi (2012). Table 2-3, p.35).

During the 1978-92 period, the Korean government showed its willingness to provide the necessary supply to meet medical service demand by increasing foreign funds. In addition, after the 8.3 measures, hospitals were built to supply necessary healthcare facilities in rural areas at the CSR level of companies. Chung, Ju-Yung, Chairman of Hyundai Engineering and Construction, established the Asan Foundation with 50% of his shares in the company. He also founded the Asan Social Welfare Foundation, which built first-grade general hospitals in medically disadvantaged areas such as Jeongeup and Boseong County. Daewoo Chairman Kim, Woo-Choong also founded the Daewoo Cultural Welfare Foundation in 1978 to build general hospitals in three remote islands (Sinan, Jindo, and Wando) and Muju County.

Since then, Korea has established a system that can provide medical benefits to the entire nation through the integration of national health insurance (1989) under the TaeWoo Roh government and medical insurance integration (2000) under the DaeJung Kim government. National health insurance subscriptions in 1989 became the basis for health insurance to

maximize risk pooling functions, and the successful integration of health insurance in 2000 by the Kim government became a policy for strong income redistribution functions. This is believed to have greatly increased the consumption of low-income people with high marginal propensity to consume medical services (Kim & Kim, 2022). Table 3.9 shows the number of outpatient treatments per citizen by country.

Table 3.9 Number of doctor's outpatient consultations per person (2019)

(Unit: number)

	Germany	**Japan**	**Republic of Korea**	**France**	**Canada**	**Mexico**	**OECD Average**
Number of consultations	9.8	12.5	17.2	5.9	6.6	2.3	6.8

Note: The Value of France and Japan is in 2018.
Source: Statistics Korea KOSIS.

Korea's health expenditure to GDP is lower than that of other major developed countries, but the number of outpatient treatments per capita is 17.2, which is about 2.5 times higher than the OECD average. This can be interpreted as proving the efficiency of national health insurance. Although the political, economic and social situations vary depending on the geographical environment in which each country is located, Korea's political and economic cooperation cases at the time of introduction and implementation of health insurance have great implications for other countries that still lack health insurance systems. By tracking Korea's health insurance system along with the development trajectory of the medical industry, it can be confirmed that Korea today has a globally recognized medical facility, manpower, and insurance system, providing a foundation for entering the narrow corridor at the national level.

3.3 The Impact of Health Insurance System on National and Social Development Strategy

This section presents the results of analyzing the trajectory of the introduction and implementation of the Korean health insurance system in relation to the ideological change and growth process of a country through the national development strategy at the time.

One of the special characteristics of Korea is that the government, since its initial establishment, was determined to promote economic and social development in a balanced manner.

There is a deep historical relationship between the types of health insurance systems in society and health care values, and the political process of pursuing specific health policies varies from country to country (Brown, 1989). Each country in which SHI and NHI were introduced has a unique political background from introduction to settlement. First is the awareness of the importance of health and the national and public awareness of the health insurance system. The national and public perception of the legitimacy of corporate participation in medical welfare, such as workplace health insurance, leads to the pursuit of a specific type of health insurance system. Second is the society's perception of the appropriateness of the proportion of government support for the medical insurance system and the state's financial capacity. SHI receives a small proportion of government subsidies, and the insurance income is mainly paid by the private sector. On the other hand, NHS receives a large proportion of government subsidies. The type of national medical insurance system is selected in consideration of the state's financial capacity and social awareness.

Korea, which was ruined after the Korean War in 1950, recognized the importance of health insurance after the establishment of its first government, as mentioned in President Syngman Rhee's speech. The government's interest in health insurance and economic development since then was confirmed during the 1960s ChungHee Park government by the rapid growth through export promotion and the introduction of health insurance in 1963. The

manufacturing-oriented economic development strategy was directly related to the security of the Korean Peninsula through the heavy and chemical industry policy in the 1970s. In addition, with the implementation of health insurance in 1977, national security and social stability were balanced by nurturing the middle class through economic growth and health promotion.

Acemoglu and Robinson (2012) argued, “Despotic growth and extractive growth needs to be distinguished. These two are very similar, but the latter argues that the growth of the country is limited and the possibility of long-term and sustained prosperity is very low." Looking at the background, process, and results of Korea's industrialization, it can be interpreted that Korea corresponds to "despotic growth." As mentioned earlier, Korea achieved economic prosperity through rapid industrialization within 19 years (1970-89).

According to McKinsey (1998), “Korea’s real income per capita has increased five-fold from $2,500 in 1970 to $12,600 in 1995. Korea’s impressive growth performance over the past years has been part of what is described as the East Asian miracle”. The Factory Saemaul-Movement, which was held up as part of promoting the stability of industrial relations through export-led industrialization of companies and employee welfare, was able to reduce the gap between labor productivity and real wages due to the backward effect from increasing corporate sales. As a result, the Factory Saemaul-Movement presented a community model that enables shared growth through stabilization of industrial relations. In addition, the health insurance system not only improved labor productivity but also guaranteed health for workers so that they could participate and function as members of society. In other words, in the 1960s and 1970s, Korea's economic growth resulted in not only national development but the derivative effect of social development as well. Therefore, tracking the impact of the health insurance system on Korea's industrial development and the middle class nurturing process, along with the trajectory of economic development, will help

diagnose the factors of sustainable economic and social prosperity in Korea today. This view of balanced development resulted in equality of power between the state and society.

In terms of the narrow corridor, Korea's process of rapid growth due to the rapid increase in exports in the 1960s and the development of specific industries and export industrialization through heavy and chemical industrial policies in the 1970s, the reduction of income gaps and middle class nurturing was made possible through the active participation of all strata of society, laying the foundation to achieve 'Freedom of Hunger.'

The active participation of society was also shown through the Factory Saemaul-Movement. It has achieved stability in industrial relations by inducing the active participation of workers through incentives based on performance. The movement is also key to enabling the shared growth of companies, workers, and even the state. This is an example proving that government-private cooperation is possible through the spirit of community.

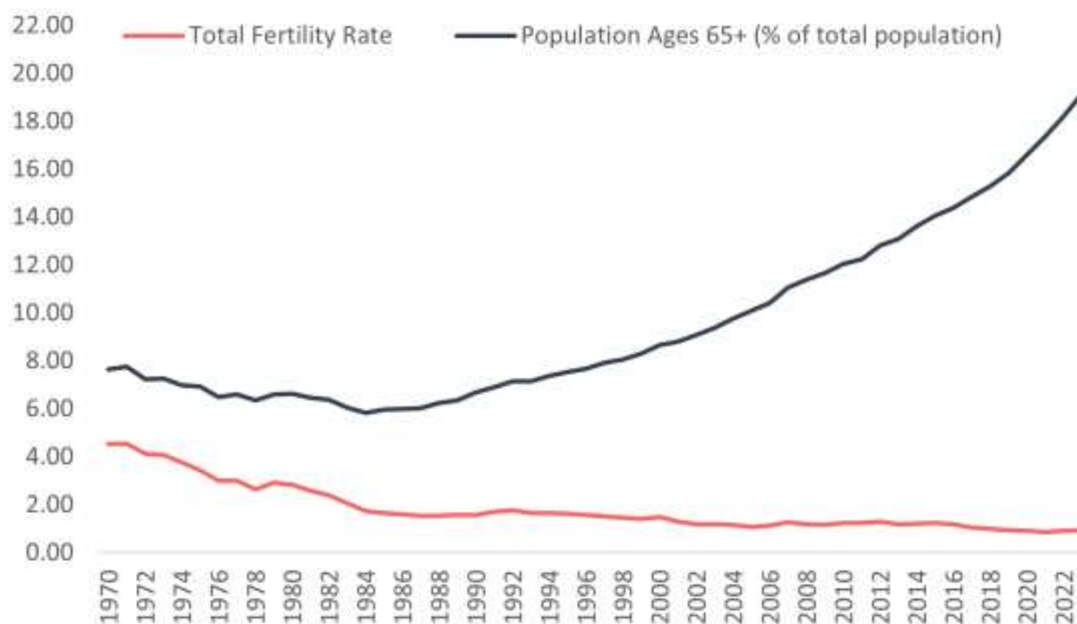
Chapter 4

Future Challenges

4.1 Health Financing for Sustainable Development in Aging Society

One of the important challenges facing the world and Korea is the preparation for an aging society regarding the fiscal space of health insurance. Figure 4.1 shows the total fertility rate in Korea and the development of the proportion of the population aged 65 or older. As shown in Figure, the total fertility rate in Korea is continuously decreasing, while the proportion of the population aged 65 or older is increasing.

Figure 4.1 Trend of Aging Society in South Korea, 1970-2022



Note: 2022 is estimated.
Source: Statistics Korea KOSIS.

According to the National Statistical Office's forecast, Korea is expected to have a super-aged society with 20.6% of the population made up of the elderly by 2025 (KOSIS,

2022). The data show that Korea took the fastest time at within just seven years to become a super-aged society from an aging society among 37 OECD countries. Currently, 11 countries, including Japan, Italy, France, and Germany, are classified as super-aged societies.

A more serious problem is that the finances to cope with the super-aged society have not been arranged. According to the OECD (2021), Korea's potential growth rate is expected to decrease to 0.86% by 2030. The integration of workplace insurance and regional insurance has resolved the gap between health insurance finance associations, but as life expectancy, along with the number of people retiring, increases, it is necessary to find ways to expand health insurance finances. Conflicts between generations are also a problem in terms of social integration. Due to the decrease in the productive population and the increase in the elderly population, it may be difficult for a financial structure that relies on insurance premiums borne by workplace subscribers to maintain a health insurance system in which the entire nation enjoys sufficient benefits.

There have been previous discussions on expanding the proportion of government subsidies, but this clearly cannot be relied on considering the long-term system operation. It is then necessary to consider improving the financial structure of health insurance premiums and to discuss a preventive treatment system.

If the high life expectancy is an indicator that quantitatively measures the accessibility and quality of people's healthcare services in a country, healthy life expectancy is more closely related to the quality of life of the people. This also affects labor productivity. The term "healthy life expectancy" (HALE) refers to a life expectancy minus a period of illness or disability, and also refers to a period of life without any physical or mental abnormalities (WHO). As an aging society progresses, measures to enable the maintenance of families and individuals' quality of life by investing in treatment systems for early prevention along with supporting patients currently suffering from diseases must be discussed in regard to financial

support for severe and chronic diseases. Table 4.1 shows the healthy life expectancy of Korea and major OECD countries.

Table 4.1 Healthy life expectancy at birth (Unit: years)

	2000			2010			2019		
	Both sexes	**Male**	**Female**	**Both sexes**	**Male**	**Female**	**Both sexes**	**Male**	**Female**
Belgium	67.8	66.1	69.5	69.2	68.0	70.4	70.6	69.8	71.3
Denmark	67.6	66.7	68.3	69.4	68.8	70.0	71.0	70.7	71.4
France	69.3	67.4	71.1	71.2	69.7	72.5	72.1	71.1	73.1
Germany	68.5	67.0	69.8	70.0	69.1	70.9	70.9	69.7	72.1
Italy	69.0	67.6	70.4	71.1	70.0	72.2	71.9	71.2	72.6
Japan	71.6	69.5	73.5	73.0	71.2	74.7	74.1	72.6	75.5
Republic of Korea	67.4	64.9	69.7	70.9	68.7	72.9	73.1	71.3	74.7
Sweden	69.9	69.0	70.7	71.2	70.7	71.7	71.9	71.7	72.1
United Kingdom	67.6	66.5	68.6	69.4	68.7	70.2	70.1	69.6	70.6
United States	65.8	64.6	67.0	66.7	65.7	67.7	66.1	65.2	67.0

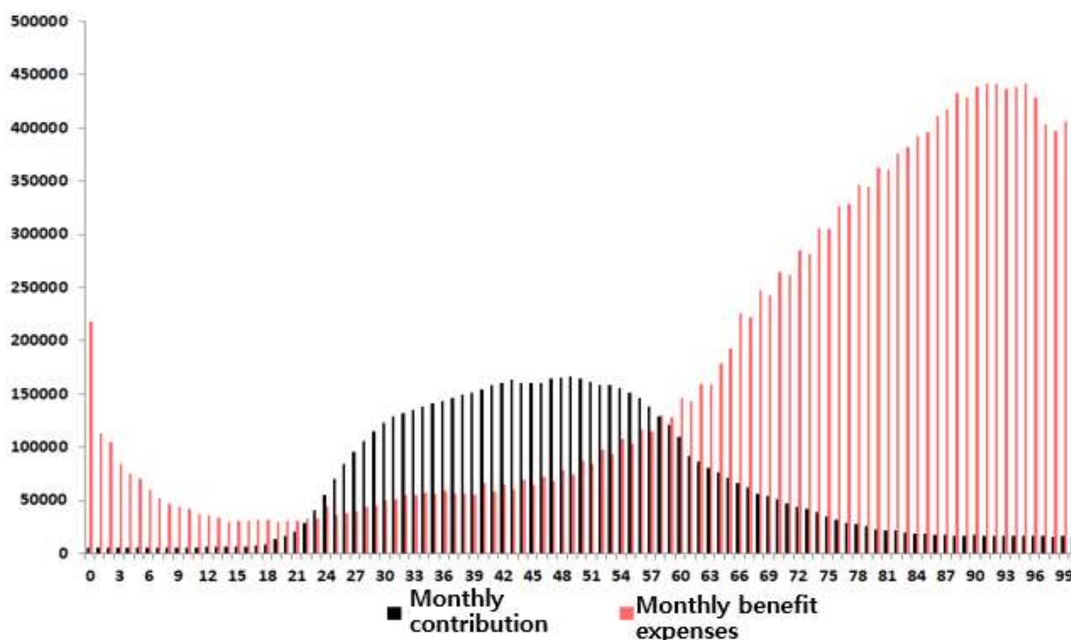
Source: WHO (2020, December 4). World Health Statistics.

In general, even as healthy life expectancy increases, the number of beneficiaries of medical services provided by health insurance may not increase. This is why a preventive treatment system for health is needed by supporting the immune system against diseases through policies, along with additional health insurance financial security measures. Korea's healthy life expectancy increased by about 6 years from 67.4 years in 2000 to 73.1 years in 2019. This is at a high level even in comparison to other countries where health insurance is relatively well established and operated, such as the UK (70.1 years), Germany (70.9 years), and Belgium (70.6). Japan has a life expectancy of 74.1 years, a year higher than that of Korea, and due to the huge proportion of national funds in health insurance, problems caused by the insurance fiscal deficit have become prominent in Japan. This is an example that

Korea should be mindful of when making decisions in regard to the proportion of public health expenditures among funds for ordinary health expenditures in the future.

In addition, efforts to raise awareness through a shift in social health awareness are needed. If a disease that can be sufficiently prevented through a healthy lifestyle develops into a serious disease due to insufficient access to medical information, not only the patient's health but also the psychological stability and economic burden of the family community around the patient may be increased as well. Figure 4.2 shows the status of monthly contributions and monthly benefit expenses by age per covered person in 2019.

Figure 4.2 Monthly contributions and monthly benefit expenses per covered person by age in 2019 (Unit: Korea Won)



Note: The horizontal axis represents age (no. of years).

Source: NHIS (2020). 2019 Status analysis of benefits compared to the insurance premiums.

As premiums are imposed based on affordability, the amounts are lower for adolescents and the elderlies, and higher for middle-aged persons, creating an inversed U pattern. On the other hand, health insurance benefits increase with age, at a faster pace in 50's and afterwards. Benefits exceeded contributions in the 58 or older group.

Even if health insurance finances are secured for an aging society, procuring stable financial resources to fight global infectious diseases such as COVID-19 cannot be overlooked. In modern times, there is no guarantee that there will be no other outbreaks of diseases following MERS, SARS, and COVID-19. When designing a national safety-net, there is a need to establish a more solid and flexible health financial system to enable the use of emergency resources.

Another important issue in health insurance finance is that when life expectancy increases, the financial conditions of health insurance are likely to worsen as the number of workplace subscribers decreases. In 2020, Korea's life expectancy was 83.5 years, higher than the OECD average (80.5 years). Among all countries, Japan (84.7 years) ranked second (National Statistical Office, 2020 Life Table), and is urgently in need of measures to secure health insurance finances to prepare for the super-aging era.

According to data from the Korea Health Insurance Corporation, health insurance treatment costs for people aged 65 or older were 37.4737 trillion won in 2020, up 4.6% from 35.8247 trillion won in 2019. Of the total health expenditures, those aged 65 or older accounted for 43.1% in 2020, up 4.6% from 41.4% in 2019. As of 2020, the average monthly health expenditure per person (141,000 won) of those aged 65 or older were 2.9 times higher (Health Insurance Corporation, 2021). As of the end of 2019, the number of people aged 65 or older covered by health insurance was about 7.904 million, accounting for 15.4% of the total. As such, it can be seen that the increase in the elderly population is affecting the increase in health insurance premium expenditures. Therefore, the current health insurance financial structure, which relies heavily on workplace insurance for health insurance funds, may suggest that it needs improvement to prepare for an ultra-aged society in the future. Table 4.2 shows the health expenditure and healthcare utilization status of people aged 65 or older.

Table 4.2 Health expenditure of ages over 65 in South Korea, 2010-2020

		2010	**2012**	**2014**	**2016**	**2018**	**2020**
Population	Total	48,907	49,662	50,316	50,763	51,072	51,345
	65+ (% of 65+)	4,979 (-)	5,468 (11.0)	6,005 (11.9)	6,445 (12.7)	7,092 (13.9)	7,904 (15.4)
Total health expenditure (billion Korean won)	Total	436,283	462,379	543,170	645,768	776,583	869,545
	65+ (% of 65+)	141,350 (-)	153,768 (33.3)	197,417 (36.3)	250,187 (38.7)	316,527 (40.8)	374,737 (43.1)
Health expenditure per capita per day	Total	48,125	50,262	54,979	63,213	73,799	90,391
	65+	58,717	60,721	65,306	76,446	88,704	104,819
Number of patient days (inpatient, outpatient)	Total	90,656	95,179	98,796	102,157	105,299	96,198
	65+ (% of 65+)	24,073 (-)	27,090 (28.5)	30,411 (30.8)	32,727 (32.0)	35,684 (33.9)	35,751 (37.2)

Source: NHIS Statistics; MOHW Statistics.

Identifying the average number of hospital spent days by type of health insurance can be a reference to help improve the structure of health expenditures. Table 4.3 shows a survey of the average number of hospital spent days for recipients of health insurance and medical benefits. In addition to health insurance and medical benefits, medical insurance includes veterans insurance, auto insurance, and industrial accident insurance. However, this study focuses on health insurance and medical benefits related to the health insurance system.

Table 4.3 Average number of days spent in hospital by type of medical insurance, 2015-2019

(Unit: day, year on year growth rate (%))

Category	2015	2016	2017	2018	2019
Health Insurance	14.6 (-)	14.4 (-1.4)	15.3 (6.3)	15.8 (3.3)	15.4 (-2.5)
Medical Benefit	55.4 (-)	50.4 (-9.0)	53.7 (6.5)	54.9 (2.2)	51.3 (-6.6)

Source: NHIS statistics.

Attention to the excellence of health insurance has once again been drawn due to COVID-19, which broke out in 2020. According to data from the National Health Insurance Corporation, "After COVID-19, 91.5 billion won in health insurance premiums have been exempted for the socially vulnerable. In addition, 300 billion won was provided for COVID-19 tests, treatment costs, and increased insurance fees. Due to policies that increased coverage, ultrasounds and MRIs, which were previously excluded but were in high demand under health care utilization, were gradually included in benefits.”[4]

Kim and Kim (2022) suggested three factors that enabled Korea to successfully take preventive measures against COVID-19, including rapid response through Emergency Use Authorization (EUA), public acceptance and cooperation in compulsory preventive measures that could infringe on individual freedom and privacy, and the role of national health

[4] Medigate News (2021, February 16).

insurance. The Emergency Use Authorization (EUA), which was applied immediately after the MERS outbreak in 2015, was modeled after the U.S. regulation system and introduced to enable early detection and isolation of confirmed patients through mass tests as rapid diagnostic reagents from private companies were developed and commercialized (FDA 2021). In addition, ICT-based epidemiological surveys quickly identified the route of infection of confirmed patients and contact tracing was also made possible as related legal systems were organized to utilize civilians' personal information such as mobile phone location information and credit card transaction information. National Health Insurance was not only important in terms of practical health expenditures and benefits but also demonstrated the significance of a social safety-net in that it ensured access to medical services for the people. Because there were no concerns about the huge cost of treatment for COVID-19, participation in early COVID-19 testing and active treatment were possible. The role of National Health Insurance against COVID-19 can be seen as the basis for upholding the people's right to receive protection from the state, that is, the right to be 'protected from diseases.' Thus, it can be emphasized that "in the process of introducing and developing the national health insurance, the accompanied quantitative and qualitative development of the medical service industry has enabled rapid and effective financial support even during infectious disease crises, along with the establishment of medical competence that allows effective quarantine/protection/observation and high-quality treatment for severely ill patients" (Kim & Kim, 2022).

Some pointed out that public health expenditures among financial resources for ordinary health expenditures account for less than the average of other social insurance-type countries such as Germany, Sweden, Japan, and the Netherlands. However, relying on the increase in the proportion of state subsidies for health insurance premiums cannot be a fundamental solution to sustainable health insurance financial management. This can be

confirmed through the cases of the UK and Japan, where state subsidies account for a high proportion of health insurance premiums. As suggested by Brown (1989), the types of medical insurance systems, including the health insurance system, and values for health care reflect the historical characteristics of a country. The Korean Constitution was influenced by the Weimar Constitution in Germany, which was the first to stipulate basic social rights. This is why health insurance was discussed immediately after the establishment of the government in 1948, and was introduced in the form of social medical insurance in 1963. Discussing today's health insurance financial operations based on these initial constitutional values will enable a more balanced insurance income structure and a more sustainable system operation.

4.2 Health Insurance and Healthcare Industry in Digital Transformation Era

Richard Baldwin (2016), the well-known international economist, claims that “The whole world is facing new stream which do not compare for the second industrial revolution. It is called ‘the Great Convergence’”. Including world best manufacturing industrial powerhouse, Germany, Sweden, U.S., Japan, and Korea is changing to digital transformation era. The phenomenon of knowledge servicification in the manufacturing industry due to digital transformation is further increasing the correlation between the manufacturing industry and the service industry. The share of global GDP in advanced industrial countries such as the United States, Germany, and Japan is related to the growth of the knowledge service industry centered on IT services (Kim, Yuk & Hur, 2020).

Castro and Faria (2020) diagnosed that the fourth industrial revolution based on digital transformation is causing structural changes in the healthcare industry, thus affecting finances regarding medical efficiency and effectiveness, government measures, human capital, health system organization, and health. Today, changes in the form of healthcare services following digital transformation can affect health care expenditures, and new

countermeasures are also required for the financial operation and supply and demand of health insurance.

Korea is showing a long-term trend of increasing service industry growth and servicification of manufacturing based on ICT. Changing structure of industry provide evidence that today's society need new training system and new manpower to industry. Manufacturing support services that support the digitalization of the manufacturing industry are driving growth (Kim, Yuk & Hur, 2020). The healthcare industry includes manufacturing industries such as healthcare devices and pharmaceutical manufacturing, and IT-based healthcare services such as personalized healthcare services, video telemedicine, and diagnostic treatment. The healthcare industry, which has a large proportion of professional science and technology services, is an industry with a high job creation effect and high added value, and thus, has great significance in the growth of the economy in the digital transformation era.

Data economy is a phenomenon in which DPA (DATA, Platform, AI) drives all sectors of the economy, including industry, finance, and labor, based on digital transformation. In the smart factory, where today's HMI (Human, Machine, Interface) solution is highly emphasized, labor is likely to be engaged in intellectual labor that manages and operates AI, and not in manual labor as in the past. The size of the data market, which is the core of digital transformation, is also increasing. Based on ICT, big data market size is expected to continue to grow, and it is predicted to increase 1.5 times in 2027 compared to 2021 (Statista, 2022). It is not just limited big data market but impact to all industry including healthcare, financing, airline, automobile, steel, and the others. This phenomenon can suggest the possibility that health insurance services can grow as a knowledge service industry.

Currently, the public's health information data is stored at the National Health Insurance Corporation due to national health insurance subscription, but there are limitations

in using these data for actual research due to privacy issues. The formalization of health data is also a task to be predetermined in order to analyze its utilization. If a national institution, not an individual, collects and analyzes health information that is encrypted so that privacy is protected, this could be an alternative to identifying the health level of the people and including appropriate healthcare services under health insurance. To realize this, it is necessary to prepare a national foundation for nurturing professional manpower. The necessity of establishing and implementing an education policy that can nurture and supply customized manpower suitable for the changing economic structure by expanding manpower nurturing through industry-university-research institutes is raised.

The health insurance system is a social safety-net meeting the demand for healthcare services as the healthcare industry faces changes following digital transformation. In the future, health insurance will have to respond to the demands of an aging society and the digital transformation era as a medium to support the demand and supply of the insured. The possibility of a change in the operation of the health insurance financial structure required to prevent chronic diseases and treat severe diseases as the elderly population increases can be predicted. In terms of economics, digital transformation issues can result in changes in accessibility and usage patterns in healthcare service provisions according to changes in the healthcare industry. Therefore, it is necessary to find ways to change the existing health insurance system and policies according to the financial structure and the distribution by income class.

Chapter 5

Conclusions

5.1 Summary

This study explores the main implications discussed in the stage of the introduction and development of the Korean health insurance system through two pillars of the national development strategy: economic development and social development.

As we mentioned in the previous section, health is closely related in economic development of a country. Therefore, looking at how Korea's health insurance system is related to economic development and social development strategies provides an important starting point in establishing sustainable economic and social development strategies to cope with today's aging society and digital transformation era.

To this end, this study focused on the following three points.

First, we looked at the impact of the Factory Saemaul-Movement on the economic and social development of the country and the expansion of corporate medical insurance, which is the background of health insurance being established over 12 years. This paper also examined how the establishment of cooperative industrial relations and strong income redistribution effects through the Factory Saemaul-Movement functioned through health insurance. Second, the effect of health on economic growth was examined in relation to export-led industrialization policies, improvement of labor productivity, and growth of the healthcare industry. Third, Korea's economic and social development process was highlighted using the concept of the narrow corridor in regard to the significance of the health insurance system in the national and social development. Through this, this paper examined the existing challenges in the operation of health insurance finances in relation to changes in the healthcare industry in today's aging

society and digital transformation era and in consideration of the success factors so far.

The reason why the health insurance system, which can be largely classified into Korean social development, could be in line with the economic development strategy, which can be classified into countries, is the fact that a continuous balanced development policy was implemented through the process of the shackled Leviathan in a long-term perspective. As discussed above, the Korean government had characteristics distinct from most hard states when it was developing in that the state has laid the foundation for sustainable development with society as well as maintaining freedom.

Health is closely related not only to social welfare policy aspects but also to the economic development of the country. In general, health insurance reduces self-burden costs and increases accessibility and use of healthcare services. To this end, it is important to secure financial resources for implementing health insurance policies in addition to infrastructure such as healthcare facilities and manpower. This is why health insurance policies are attracting attention as social safety-nets despite the lack of financial capacity in developing countries.

5.2 Conclusion

Another reason why Korea's health insurance system has been successfully established and sustained is cooperation based on positive public perception. Korea's health insurance system received attention as one factor that enabled the active promotion of health care utilization without concern about cost burdens in the wake of the COVID-19 pandemic outbreak in 2020. According to a public opinion poll conducted by the National Health Insurance Corporation after COVID-19 in 2020, the public's perception of national health insurance was also found to be positive (see Table 5.1).

Table 5.1 Sense of citizenship survey result on National Health Insurance

Why is your perception toward the NHI positive after the COVID-19 outbreak?	Response rate (%)
Because I witnessed the superiority of Korea's NHI firsthand compared to other countries	40.0
Because patients can be safely diagnosed and treated for COVID-19 through the NHI without any burden of costs	23.0
Because I am confident that I will be able to receive effective treatment safely if I am infected with COVID-19	21.6
Because I was able to recognize the importance of social safety-nets during a national disaster which, in this case, is COVID-19	13.8

Source: NHIS (July 27, 2020). Press release.

The reason why the Korean health insurance system was able to function as a strong social safety-net even amidst the 2020 COVID-19 crisis lies in the policy continuity that has persisted since its introduction in 1963. In general, economic and social development policies that have been promoted according to the government have undergone changes. However, given that health insurance in Korea has been promoted continuously for about 70 years regardless of the government, this presents implications for future decision-makers by suggesting success factors to be mindful of prior to making important policy decisions for sustainable development in Korea.

As of 2022, Korea is in great need to prepare for the financial capacity of health insurance due to the aging society, in addition to the ongoing COVID-19 crisis. The government's strengthening of fiscal support is suggested as an answer, but it cannot be a complete solution when predicting the sustainability of fiscal conditions. Trust in the government will act as a basic condition to gather better proposals by inducing active participation in society. Before addressing the new policy challenges, one question needs be asked. When health insurance was introduced and implemented in the 1960s and 1970s, was it predictable that Korea's health insurance system would be a successful system recognized in the world as it is today? At that time, concerns raised by economic conditions in Korea and

the immediate burden that the insured would bear presented a risk of settling into a life that was stuck in the present rather than perceiving a policy designed for the future. However, the will for policies that were for the people, and not based on populism, has continued from the past to the present, becoming a major factor in establishing today's health insurance system with a solid foundation. The important thing would be our answer as to whether we are ready for the changes in Korea today and our willingness toward launching a new era. We cannot know and prepare for everything. What we can do is to face the reality and be prepared to design a policy that can stand in as a feasible alternative for another new prosperous era.

5.3 Research Limitation and Future Work

To supplement this study, it is considered necessary to conduct a qualitative study (interview) on how the industry directly or indirectly affected the cultivation of the community spirit of labor and management at the time of the introduction of health insurance finance. Through this approach, it will be possible to examine more precisely how industrial relations along with the health insurance system have had a direct or indirect effect on the social integration process.

As a follow-up study, it will be necessary to improve health insurance services and establish financial management plans of public health expenditures by highlighting the social issues of aging in the digital economy era, and discuss national development strategies that support sustainable development of a country.

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