

**Changes in the Minimum Wage  
Policy for the Age of Automation:  
A Historical Institutional Case Study in  
South Korea**

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# Abstract

While Korea adopted Japan's approach to the minimum wage in 1988, it developed its own policy very distinctly from Japan's. This study explores how and why Korea's minimum wage policy has evolved as it has done so over the past 35 years. Moreover, it seeks to establish the causal relationship between technological progress and changes in Korea's minimum wage policy. Given the centrality of technological development in Korea's policy to date, technological progress has surely influenced changes in social policy.

This study focuses on three significant moments of social policy reform. In 1988, minimum wage policy was applied by each industry in such a way that it changed to a single national minimum wage. In 2000, the coverage expanded, becoming a universal policy. This has precipitated an improvement in the ratio of the minimum to median wage since 2003, rising from 0.33 in 1988 to 0.63 in 2019. As a result, Korea's minimum wage level is the second highest among Organisation for Economic Co-operation and Development high-income countries.

This study demonstrates that there is a causal relationship between technological advances and changes in minimum wage policy. As technological development has caused the income gap in Korea to increase, policy-makers are recognised this trend and developed minimum wage policies to address income inequality.

Korean policy-makers have understood that economic issues, such as economic growth and global economic crises, produce income inequality. The government has, however, only slowly come to recognise that technological progress creates an income gap and that minimum wage policy must change in order to reduce this income disparity. In the late 1980s, it was the private sector that began to realise this correlation, but the awareness only spread to government officials by the late 1990s; by the 2010s, however, all policy-makers took this as a given.

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## **Author's declaration**

I declare that this thesis is a presentation of my own, original work, of which I am the sole author. This study has not previously been submitted in partial or full satisfaction of an award at the University of York or any other organisation. All sources are acknowledged as references.

# Chapter 1: Introduction

## 1.1 Backgrounds

Ever since the Industrial Revolution in the 18th century, technological advances have brought about economic and social changes (Galor and Moav, 1999). Recent commentators have considered technological progress to be an independent variable in transforming society, with the socio-economic transformations resulting from technological progress affecting how policies and systems develop in different countries. According to Schwab (2017), the employment crisis for low-skilled workers and the technological revolution are closely related to one another, precisely because technological progress may lead to a decrease in simple and repetitive jobs over the medium to long term. Artificial intelligence and machines, that is, are able to replace low-skilled workers in the labour market. Typically, governments enhance social policies, like minimum wage policies, in order to address socio-economic shifts and safeguard low-skilled workers (ILO, 2014). Like many other countries, Korea has witnessed changes in its labour market resulting from technological development; and its government has responded by modifying its minimum wage policy. Korea has prioritised technological progress as a critical policy for economic growth, so the impact of these technological advances on social and economic change, including minimum wage policy, is likely to be significant.

Korea's minimum wage policy exhibits a number of characteristics that make it distinct from similar policies in other countries. The Korean government implemented its minimum wage policy in 1988, adopted the policy from Japan, the only developed nation in East Asia (Joo, 1999). This policy represented a complex system. Its institution entailed industry-specific minimum wages, which, in relative terms, were applied at a lower rate than in other Organisation for Economic Co-operation and Development (OECD) countries: Korea's

minimum-to-median wage ratio of 0.34 was lower than the OECD average of 0.5 (Lee, 2019). Over the past 35 years, however, Korea's minimum wage policy has developed in the opposite direction to Japan's. It has changed from a complex to a simple system, with a minimum wage that has gone from being one of the lowest to among the highest in the OECD countries. This study therefore began by asking: why has Korea's minimum wage policy changed and developed so differently from Japan's over the last 35 years?

Until now, a significant number of researchers have endeavoured to identify the drivers behind the development of minimum wage policies, examining the economic, political, and social factors underlying this development. Previous research tends to focus on short-term policy changes over five or ten years. Yet it largely overlooks a crucial factor in social change: technological advancement. In addition, the study aims to overcome this shortcoming in research to date by exploring the relationship between technological progress and changes in Korean minimum wage policies since 1988.

Technological innovation is at the heart of Korea's development, and the country has achieved comparatively rapid technological progress (Krugman, 1994). Choi (2018), from the Science and Technology Policy Institute, offers a historical account of this progress. After the Korean War in 1950, Korea, which suffered from an absolute shortage of capital and labour, did not spare investment in economic growth. The government, along with both public and private sector bodies, focused much of their research and development capacities on identifying an optimal technological and industrial path for the country, learning from developed countries and growth theories. Korea has also benefited from policies designed to increase its education levels, which are now ranked highly on an international level (World Bank, 1998). Indeed, the rate of Koreans going to university from 27% in 1980 to 79% in 2010, much higher than the OECD (2022) average of 41%.

## **1.2 Research objectives**

This project is underwritten by three research objectives. First, I examine how Korea's minimum wage policy has changed since 1988. To this end, I analyse empirical evidence, focusing on the evolution of minimum wage policies and their structural changes. In 1988, the Korean authorities adopted a complex system from Japan, but they had already made it more simple by 1989. Notably, in 2000, this policy underwent significant expansion encompassing all categories of workers, thereby transforming it into a universal policy. Subsequently, between 2003 and 2019, Korea experienced a dramatic increase in its minimum-to-median wage ratio, rising from the lowest among OECD countries (0.34) to a considerably higher level (0.63).

The second purpose of the study is to identify what caused these changes in the minimum wage policy. To explain why minimum wage policy in Korea has changed over the past three and a half decades, my research applies and tests a number of possible propositions and hypotheses. Thanks to my thorough study of prevailing studies and policies, multiple hypotheses have arisen, including those that attribute changes in Korea's minimum wage policy to economic, social, and political causes. But meticulous data analysis allowed me to reject unsuitable hypotheses, leading to the adoption of a singular hypothesis regarding what has substantially driven the changes observed in the minimum wage policy over my 35-year timeline. Through this logical process, this study demonstrates the correlation between the rise in income inequality and the changes in the minimum wage policy.

The third research objective is the most challenging and significant of all three. Its central aim is to find the link between the cause of the change in minimum wage policy, which is the aim of the second objective, and technological development. My primary goal here is to discern the root cause of income disparity in Korea. This study formulates and assesses diverse hypotheses, particularly the method of process-tracing outlined with regard to my second and third questions. It ultimately confirms that technological advancement is the catalyst for

worsening income inequality. In exploring material with a view to meeting my second and third objectives, this research delineates a two-step progression. First, it demonstrates how technological development has deepened income inequality. Second, it argues that the income gap underpins changes in Korea's minimum wage policy. The principal aim of this study is to illustrate how technological development serves as both the cause and catalyst for alterations in minimum wage policy in Korea. To summaries, my three research questions are as follows:

- How has Korea's minimum wage policy changed from 1988 to 2023?
- What factors have led to changes in the minimum wage policy?
- Has technological progress been related to these factors that cause changes in the policy?

### **1.3 Theoretical Framework**

My research harnesses the theoretical arsenal of Historical Institutionalism to understand changes in minimum wage policy and to analyse how and why this policy has altered. It does so for three principal reasons. First, exploring this subject through the framework of Historical Institutionalism can assist us in identifying historical evolutions in Korea's minimum wage policy. This way, we can move beyond short-term policy research and instead observe how the policy itself and the institutions that frame it have evolved over the period in question. Second, Korea's minimum wage policy has developed in a manner dissimilar to that of other developed countries, like Japan. The policy has experienced its own distinct development, responding to Korea's economic, social, and technological development. Historical Institutionalism enables us to analyse the characteristics of these policy changes. Third, with its foundational finding, that policy shift depends on path dependence and critical moments, such as the Asian Economic Crisis of 1997, Historical Institutionalism helps us to understand the dynamics behind how policies and institutions have changed in the long term. We can, therefore, determine which factors acted as drivers of policy change.

## 1.4 Research Methods

This study employs qualitative research methods, specifically documentation and process-tracking. Documentary methods are primarily used as a means to gather data and procure supporting evidence. The significant advantages of document research methods lie in their being well suited to finding the causes of changes in specific policies, and they can open the door for particularly in-depth analysis of specific policy phenomena (Yin 2009). My research sources documents from diverse organisations, acquiring robust data and evidence in the process. Amongst these, I scrutinise official documents from the Korean government, including National Assembly minutes and lawmakers' remarks. The significance of these sources lies in their pivotal role in investigating policies and institutions. Additionally, reports from reputable international organisations such as the OECD, the International Labour Organization (ILO), and the United Nations (UN) are included, offering insights into how these entities evaluate Korea's policies. Furthermore, I draw upon reports and studies by previous researchers, leveraging the expertise of scholars who assess and analyse policy changes. Lastly, I study media documents, recognising the media's role in conducting interviews with high-ranking government officials and presenting perspectives not readily available from governmental sources or research institutes.

This investigation also employs a process-tracing method in seeking to establish the causal relationship between technological progress and shifts in the minimum wage policy. This methodology enables us to scrutinise how policy-makers perceive and respond to socio-economic transformations. More specifically, it seeks to delineate the causal links within two key stages. The first involves the correlation between the deepening income gap and changes in the minimum wage policy. Through an examination of how the income gap has gradually worsened, I analyse how policy-makers address these societal challenges by recognising, responding to, and subsequently revising the minimum wage policy. Given Korea's rapid and

continuous technological advancements, the second stage sets out to elucidate how policy-makers have responded to technological progress and its role in widening the income gap. Indeed, my research offers evidence not only that technological development intensifies income inequality, but also that income inequality triggers adjustments in minimum wage policy. In sum, this study demonstrates the influence of technological progress on minimum wage policy in Korea.

## **1.5 Analysis Strategy**

This thesis conducts a comprehensive case study of Korea's minimum wage policies. In order to do so, it employs a meticulous analysis strategy that precisely defines the objectives and priority areas of my research. It is underwritten by a structured framework for addressing research questions, thoroughly examining specific instances of change in Korea's minimum wage policy and elucidating the impact of technological development on policies. It is important to note that this thesis is not designed as a theory-verification or theory-building case study. Instead, it adopts an explanatory case study approach, employing three analytical strategies, as proposed by Yin (2003): i) analysing policies through the lens of Historical Institutionalism; ii) formulating explanatory hypotheses to elucidate policy changes and developments; and iii) establishing a causal relationship between technological progress and changes in minimum wage policy.

The primary research strategy centres on policy analysis, aiming to explore the evolution of Korea's minimum wage policy (research question 1). This is accomplished by applying path dependence and critical moments, tools developed by scholars of historical institutions. These instruments aid us in identifying the underlying reasons for changes in minimum wage policy (research question 2). In the subsequent phase, various hypotheses regarding minimum wage policy reform are formulated based on existing knowledge gleaned from policy analysis and

literature reviews. The ultimate research strategy involves employing the process-tracing method to establish a causal relationship between societal issues, such as the income gap, and changes in the minimum wage policy. In addition, this approach scrutinises the causal link between technological advancements and income disparities (research question 3). The responses to research questions 2 and 3 generate multiple hypotheses, eliminating incorrect ones through evidence and data. The surviving hypothesis, upon further scrutiny, adequately elucidates this causal relationship. This systematic methodology provides robust evidence in support of a causal link between technological progress and changes in the minimum wage. A well-defined analysis strategy therefore substantiates that technological development is a significant factor influencing changes in Korea's minimum wage policy.

## **1.6 The Organisation of the Thesis**

This thesis comprises seven chapters, including this Introduction. Chapter 2 serves as the literature review, initially exploring the existing literature on technological advancements and considering both numerical and qualitative definitions of technological development. We delve into the historical context of technological progress, tracing its trajectory from the Industrial Revolution to the present. We also review previous research that addresses contemporary shifts in the economy, politics, and society resulting from technological progress. The chapter also engages in a comprehensive literature review within policy studies, examining theoretical frameworks that illustrate changes in Korea's minimum wage policy. I then examine the status of research on Korea's minimum wage policy before concluding by identifying limitations and knowledge gaps.

Chapter 3 serves as the cornerstone for both research design and methodology. It elucidates the methodological framework employed to examine the intricate relationship between technological development and changes in the minimum wage policy over three



decades in South Korea. Firmly rooted in a constructivist perspective, this study recognises the dynamic and socially constructed nature of reality, highlighting the perceptions inherent in societal constructions related to technological progress and minimum wage policies. That is, this investigation acknowledges the dynamic and socially constructed nature of reality, delving into shifts in actors' awareness surrounding technological progress and minimum wage policies. My research therefore entails a long-term exploration, within a historical institutionalist framework, of how the government, workers, and researchers perceive both technological developments and their influence on the development of minimum wage policy. In this chapter, I also provide my rationale behind the research purpose and questions and provide a detailed analysis strategy, outlining why I have adopted a document method for my qualitative research and how I have applied it to analyse Korean minimum wage policy. Additionally, I present a comprehensive account of how I apply process-tracing as a method in this thesis to uncover those causal relationships that are at the centre of my focus. Chapter 3 concludes by proposing strategies to mitigate the limitations inherent in qualitative research methodologies. In particular, I discuss the methods I deploy to enhance both the validity and reliability of my approach, thus providing a robust foundation for the subsequent phases of the research.

Chapter 4 analyses South Korea's minimum wage policy through the lens of Historical Institutionalism. It opens with an examination of the legal and institutional landscape as well as the governmental structures that play their part in Korea's minimum wage policy. Following this, I investigate the historical backdrop of changes dating back to 1988, when the minimum wage was first introduced. Here, my research employs the '3 Is' framework—focusing on institutions, interests, and ideas—to comprehensively examine the contextual factors that influence policy shifts. At the same time, the chapter explores the presence of veto players and veto points that may resist policy changes. Finally, chapter 4 examines the external factors that contribute to policy changes and, in particular, critical junctures like the global economic crisis.

In all, therefore, chapter 4 provides a critical review of a number of dimensions involved in the historical foundations of policy alterations and developments.

Chapter 5 endeavours to elucidate the factors that underpin the evolution and progression of Korean minimum wage policy. In order to do so, I define the dependent variable and present an array of hypotheses based on existing knowledge. I use Hoop Tests to eliminate inaccurate hypotheses, leaving two remaining hypotheses that can be compared and validated. I employ three illustrative cases—i) the adoption of a national single minimum wage in the late 1980s; ii) the transition of the minimum wage policy into a universal approach in the late 1990s; and iii) the increase in the minimum-to-median wage ratio from below the OECD average to a high level since 2003—to scrutinise and verify hypotheses related to economic growth and income disparity. By closely examining how policy-makers' perceptions and responses have evolved, the study uncovers and addresses contradictions in hypotheses concerning economic growth. Furthermore, it substantiates why income inequality has remained a driving force behind changes in minimum wage policy for the past three and a half decades.

Chapter 6 establishes the causal nexus between technological progress and the widening income gap. Employing a methodology similar to that employed in Chapter 5, I define both the dependent variables and the hypotheses, before I turn to testing and verifying hypotheses. I subject hypotheses to meticulous examination pertaining to economic factors and technological progress, aiming to pinpoint the underlying cause of the expanding income gap in Korea. Drawing on the three illustrative cases introduced in Chapter 5, I undertake my analysis using a hypothesis that demonstrates historical explanatory power across all three. In all, this chapter convincingly establishes that technological advancements are a causative factor in the observed widening income gap.

The concluding chapter of this thesis is dedicated to providing a comprehensive discussion of what has preceded it. The conclusion recapitulates and elucidates the

transformations precipitated by technological progress and perceptions of these within Korean society. I begin by asking whether the study's objectives have been met and whether my research questions have been adequately addressed. Alongside this I assess what contributions my research has made to knowledge as well as outlining the limitations I encountered in my research. Last of all, my concluding chapter draws attention to future avenues for research.

# Chapter 2: Literature Review

## 2.1 Introduction

This chapter aims to set out how research on technology development and Korea's minimum wage policy has progressed and to identify the limitations of existing scholarship on these subjects.

I begin by reviewing scholarship on technological progress as a driving force for change. Indeed, while in the 200 years since the Industrial Revolution, the advancement of technology has brought about economic, social, and political change (Galor and Moav, 1999), recent studies have begun to consider technological development as an independent variable in advanced countries. Further to this, I also examine how scholars have defined and measured technological development to date.

In the second part of this chapter, I review theories of policy and institutional changes from the mid-20th century to the present. This study focuses on frameworks that analyse the causality and rationale for changes to social policies. I therefore examine the specific features and concepts of theories such as Functionalism, Rational Choice Institutionalism, and Historical institutionalism. I then clarify why Historical Institutionalism is appropriate to the aims and objectives of this study.

The last part reviews the research on minimum wage policy, specifically focusing on research on Korea's minimum wage policy. I closely analyse which parts of the minimum wage policy and institution have been intensively researched as well as identifying the characteristics, strengths, and weaknesses of the minimum wage policy studies based on institutional theories. I conclude this chapter by discussing ways in which my research might overcome the limitations of previous research and contribute to our knowledge.

## **2.2 Changes Attributable to Technological Development**

### **2.2.1 The History and Characteristics of the Industrial Revolutions**

At the outset of this literature review, it is crucial to undertake a thorough investigation into the theoretical understanding of technological development. This is because, over the last two centuries, economic, social, and political changes have largely been influenced by advances in machinery (Galor and Moav, 1999). According to Galor and Moav (1999), both economic growth and social change in the developed countries have resulted from a combination of three factors: technological advancement; increased education that has been aimed at using new technologies; and a higher level of education amongst workers that has enabled industrialisation to develop further. In all, technology, education, and high-skill personnel have interacted to maintain continuous technological development, thereby affecting economic growth and social change. Technological advances have therefore been one of the fundamental driving forces that have changed humanity over the past 200 years.

#### **2.2.1.1 History of Industrial Revolutions**

Debate surrounding the history of technological advancement tends to be based on a number of perspectives and standards. One perspective of the history of technological innovation connects it specifically with the history of conflict. Such research describes the development of technologies and how these have been used in warfare from ancient to modern times (Roland, 1995; Van Creveld, 2010). Another perspective in the research maps the history of technology on to developments in the method deployed for producing and manufacturing. Singhal (2001), for example, has provided a historical analysis of the development of technology and innovation in the manufacturing industry, focusing on industry. One vein of scholarship also analyses the history of technology and science through the lens of how these developed in

response to economic and social problems. Hong (2011), for example, uses this approach in studying technological advancement through the history of disease treatment and management.

Scholars also differ with regard to the phases involved in technological development. Brynjolfsson and McAfee (2014), for example, argue that humanity has advanced in two technological phases. The industrial revolution initiated by the development of steam engines provided physical power, thus initiating the so-called first machine age. According to this understanding, the second machine age is our current era, in which, owing to the development of computerised systems and artificial intelligence (AI), software represents humanity's new machines. Since the late 1900s, humans have increasingly harnessed the possibilities of software and, through this, have been able to handle more information than in the first machine age. As a result, human productivity has also increased.

Salgues (2018) provides a different perspective that divides technology development and human history into five stages, each comprising historical developments and social changes: hunter-gatherer society (Society 1.0); agricultural civilisation (Society 2.0); industrial development (Society 3.0); the information society (Society 4.0); and humanity currently lives in the fifth society, being an era characterised by the use of digital innovation and AI.

While Brynjolfsson and McAfee (2014) posit two phases of human technological development and Salgues (2018) posits five, Schwab (2017) claims that humanity has experienced a total of four industrial revolutions. Schwab (2017) argues that technological development concerns all fields such as politics, economics, and society, and provides a history of technological revolutions based on the model of four industrial revolutions than other studies that is far more detailed than either Brynjolfsson and McAfee's (2014) or Salgues's (2018). This detailed four-step history is described below.

The 1st Industrial Revolution was triggered by James Watt's invention of the steam engine in 1760. The steam engine replaced the need for humans or animal muscle power, as

machines were able to undertake hard and physically challenging work. This led to the development of the garment industry, the steel industry, and the railroad, all of which require a lot of physical energy, and enlarged productivity in all three (Schwab, 2017; Xu, David, and Kim, 2018).

The 2nd Industrial Revolution began with Edison's discovery of how to harness electricity in the early 1900s. This era was considered the time of the energy revolution, and electricity and oil started to replace coal as the leading source of energy. This technological advancement led to the commercialisation of internal combustion engines such as automobiles and aeroplanes. It also gave rise to innovations in transportation as well as supporting greater productivity in factories that used these new sources of energy. Thanks to energy from electricity and oil, human industry entered the era of real mass production (Schwab, 2017; Xu, David, and Kim, 2018).

According to Toffler (1980) and Schwab (2017), the 3rd Industrial Revolution, known as the digital revolution, started in the 1960s. What began with the development of computers and the spread of personal computers grew as the Internet and telecommunication services led to innovations that could allow people to connect from across world. As a result, any individual can quickly obtain information that, in the past, might have been owned and guarded by a specific group. This weakened the power and the privilege of the groups that had historically monopolised information. The information and communications technology (ICT) industry has grown into a core industry in most developed countries and has played a pivotal role in improving economic growth and labour productivity (OECD, 2003).

During the 3rd Industrial Revolution, the nature of technological advancement changed significantly. Castells (2000) and Castells and Himanen (2004) argue that technological innovation and dissemination began to develop independently during the 3rd Industrial Revolution. According to their research, prior to the 1980s, technology policy or technological

development were subordinated to the national economic, political, and social policy. Since the 1980s, however, independent agencies dedicated themselves to technological research and development (R&D). Furthermore, ICT, the main driver of the 3rd Industrial Revolution, grew and spread into the hands of the private sector. Companies that provide Internet and mobile services and software have increasingly been able to develop their own technology without the need for government funding. In Finland, for example, in 1991 private companies such as Nokia were responsible for about 60% of the country's total R&D output; by 1999, that number had risen to about 70%. Additionally, small companies have gained more independence than was previously possible, because they have been able to access resources directly through the Internet. Before the 1980s, small firms tended to be vertically subordinate to large companies. In other words, smaller firms were not so well placed to find new customer bases on their own, so they would sell their technological services or products to the larger companies. Now, however, advances in ICT and improvements in corporate management mean that small businesses can develop and sell their own technology. As such, one of the characteristics of the 3rd Industrial Revolution is the independence of technological advances from political interests, enabling R&D to be driven by the private as opposed to the public sector and permitting even the smallest companies to develop independently from large companies.

The 4th Industrial Revolution was initiated in the early 2000s (Schwab, 2017; Xu, David, and Kim, 2018; Ministry of Science and ICT of Korea, 2019), since the development of technology that enables computers to collect data and make decisions without human assistance or instruction. AI, the Internet of Things (IoT), and Machine to Machine communication (M2M) have all appeared in this period. Before analysing the 4th Industrial Revolution, however, it is necessary to briefly examine both the definition and the history of AI. A clear definition of AI has not yet been agreed on internationally and is still the focus of much discussion for international organisations such as the International Telecommunication Union (ITU; Vinuesa,



2020). From a technical perspective, AI is difficult to definition, because its functions and capabilities are constantly developing. AI is also elusive when it comes to policy, because the role in and influence of AI in the economy and in society are ever growing (Haenlein and Kaplan, 2019; Krafft et al., 2020). That said, there are some definitions of AI that are both useful and helpful. The OECD, for instance, defines AI as ‘a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments’ (OECD, 2019, p. 1). The *Oxford Living Dictionary*’s entry for AI (2021) defines it as ‘The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.’ Both of these definitions are grounded in listing the roles and functions of AI. Dictionary definitions aside, researchers have also tried to tie down what AI means. One study, for example, defines AI as a machine or computer that thinks and acts like a person; in other words, AI refers to a computer system that can recognise and judge things as intelligently as humans (Kim and Jang, 2017).

A brief outline of the history of AI illustrates why there is still no consensus on how to define it. The history of AI sheds light on why the 4th Industrial Revolution began in the early 2000s. Of course, AI’s history spans much further back than 2000. Indeed, Alan Turing first proposed the concept of AI in 1950 (Wang et al., 2016; Kim, 2017; Haenlein and Kaplan, 2019) in his article, ‘Computing Machinery and Intelligence.’ In it, he explored how to build intelligent machines and test artificial thought. Marvin Minsky and John McCarthy first coined the term AI in 1956. Research on AI continued right throughout the second half of the 20th century, bringing great success along the way. In 1997, for example, a computer called Deep Blue beat the human chess champion (Haenlein and Kaplan, 2019; Marguerita and Saint-Martin, 2021). Since 2010, global companies and research institutes have researched and commercialised autonomous vehicles and AI-enhanced home appliances. Indeed, voice

recognition refrigerators have been available since 2017. And AI assistants are now widely used on smartphones (Kim and Jang, 2017).

While AI has been around since the 1950s, the AI era only began in the early 2000s as a result of the introduction of a new method called machine learning, with a new technology called Deep Learning introduced and commercialised in 2010. Thanks to this technology, AI's capacity to learn and make judgments has increased rapidly in comparison with the end of the previous century (Wang et al., 2016; Haenlein and Kaplan, 2019). Since 2010, innovations in AI technology have originated from two larger developments.

First, owing to Deep Learning technology, AI entered the stage of self-learning, rule-making, and problem-solving (Kim and Jang, 2017; Haenlein and Kaplan, 2019). AI technologies are primarily divided into top-down and bottom-up methods, with Deep Learning being of the latter persuasion (Kim and Jang, 2017). What top-down and bottom-up technologies have in common is that they solve problems by themselves, just like humans. But there are critical differences between the two. In the top-down model, AI can solve problems only when humans input rules for problem-solving, problems to be defined, and data in advance. In bottom-up technology, AI classifies data after recognising the differences in those data using nothing but those data alone. It finds rules for problem-solving and complex solutions on its own without assistance from humans (Wang et al., 2016; Kim and Jang, 2017).

The second innovation is well explained by Kim and Jang (2017). For bottom-up technology to be possible, AI must be able to recognise the sound, language, and visual information accurately. Since 2010, Deep Learning technology has aided AI to gain recognition capabilities of sound, language, and visual information that are on a par with those of humans. In the closing decades of the 20th century, for example AI could not correctly recognise human speech, with an error rate was about 23%. By 2010, however, Deep Learning had reduced the error rate to 7%. The technology for AI to recognise visual information has also been

dramatically upgraded. Until 2000, the probability that AI could accurately recognise human faces was only 75%; but in 2010 it had achieved a level of 99.6%. AI has continued to grow and now learns and changes by itself, becoming more competent, even without human help. And as AI's capabilities expand since the dawn of the 4th Industrial Revolution (Schwab, 2017), it may be difficult to ever reach an international consensus on a clear definition of AI (Haenlein and Kaplan, 2019; Krafft et al., 2019).

### **2.2.1.2 Commonalities and Differences Between the Industrial Revolutions**

We might ask at this point: what do these Industrial Revolutions share in common and what differentiates them from one another? Turning to the similarities first, they have two main things in common. Although every Industrial Revolution has taken different forms and used different methods, each time that one has occurred, humankind has been assisted by technological development. In the 1st Industrial Revolution, the steam engine supported innovations in manufacturing and the growth of factories. The 2nd Industrial Revolution was underwritten by a new kind of energy, electricity, which was harnessed by factories and households alike. The 3rd Industrial Revolution enabled humans to access real-time information anytime and anywhere thanks to personal computers and, later, using mobile phones. And the 4th Industrial Revolution has given us access to AI, also meaning that simple and repetitive tasks can be performed with the assistance of AI (Schwab, 2017; Xu, David, and Kim, 2018).

According to Schwab (2017), the second commonality is not only that new industries arise with new core technologies but also that these technologies affect innovation in other industries. In the 1st Industrial Revolution, for instance, locomotives were created with a new technology called steam engines. And the steam engine has influenced the production methods of other industries, such as the textile industry. In the case of the 2nd Revolution, electricity's

effects extended to almost all industries with most businesses taking advantage of electric energy. The 3rd Revolution was initiated by computers and the Internet, but now most individuals, workplaces, and homes use ICT. Through ICT, new types of businesses and interfaces have emerged, including Internet banking, online shopping, and various software companies, such as Microsoft, Google, and Meta, which have become the biggest companies in the world. The 4th Industrial Revolution is still in its infancy, but its effects are already being felt across a diverse range of industries and areas of life, including robot tellers and advice terminals in banks, smartphones, and driverless vehicles, all using AI.

With regard to the differences between these Industrial Revolutions, however, there are three that are the most striking. First, the 1st and 2nd revolutions provided physical assistance to humanity (Schwab, 2017; Xu, David, and Kim 2018): the steam engine, that is, enabled humanity to exceed the limits physical human and animal muscles; and, unlike coal energy, electricity can be used in homes and factories by the simple flick of a switch. The 3rd and 4th Industrial Revolutions, however, have resulted in assistance in the form of intelligence as opposed to physical power (Schwab, 2017; Xu, David, and Kim 2018): thanks to the digital revolution, individuals can obtain information or knowledge at anytime and anywhere with mobile phones and the Internet, everybody can communicate with anyone in the world in real time; and the 4th Revolution has resulted in routine and repetitive tasks being performed or assisted by AI (Kim and Jang, 2017; Schwab, 2017; Xu, David, and Kim 2018; OECD, 2019).

Second, the digital revolution and AI have resulted in advances in automation across a number of industries (Xu, David, and Kim, 2018). Before the 3rd Industrial Revolution, most factories and workplaces were largely manual; in other words, humans had to participate in most areas of production, such as design, manufacturing, sales, inventory management, accounting, and personnel management. ICT and AI, however, promoted automation in a variety of fields. AI and software programmes support the creation of product plans and design

drawings for large-scale factory construction and civil engineering projects (Ministry of Science and ICT, 2019). In manufacturing, a lot of parts are produced by robots with built-in programmes. And software has made inventory management and accounting more accurate and faster than when these are performed by humans (Kim and Jang, 2017).

The last of the three major differences is that the later Industrial Revolutions have led to stronger connections between industries. According to Schwab (2017), ICT and AI are characterised by a wide range of fast-acting effects in other fields. The drivers of the 1st and 2nd Industrial Revolutions also influenced related industries, but the two most recent revolutions show remarkable convergence between dissimilar industries. For instance, the healthcare industry and ICT now repeatedly converge. A software application that looks much like a video game is now used to identify and treat patients with brain injuries, having been commercialised in Korea and the US (Ministry of Science and ICT, 2019). Patients' heart rates can be measured using wearable device that uses AI to identify medical histories, diagnose, and prescribe medicines. IBM's Watson has been used as an AI doctor in some hospitals. 700,000 new treatments emerge each year in Watson's data, giving it a high diagnostic accuracy that makes it well placed to recommend the best treatments to doctors (Lee and Kim, 2019). The financial sector also brings ICT and AI together. For instance, financial companies have provided Internet and mobile banking for a long time and have recently rolled out AI-assisted investment advisors to provide personalised investment advice to customers (Schwab, 2017).

### **2.2.2 Economic Changes Resulting from Technological Development**

Advancements in machinery have the potential to enhance the economic efficiency and performance of companies, countries, and individuals. As Toffler (1980) argues, the first effects of Industrial Revolutions are felt in the economy. In this light, the following section explores

two vital elements of economic change precipitated by technological development: the rise of a new economic growth theory; and escalations of productivities.

### **2.2.2.1 The Rise of a New Economic Theory**

Although there have been many shifts in the economy as a result of technological development, one of the significant changes in the academic world is the emergence of a new theory of economic growth. The endogenous growth theory (Romer, 1986; 1994; and Lucas, 1988), for which its founders were awarded the Nobel Prize in Economics, stresses that technological advances are essential for long-term economic growth. Romer (1986; 1994) and Lucas (1988) argue that the theory of endogenous economic growth differs from the classical theory of economic growth because technological development allows for a constant increasing marginal productivity, which in turn increases countries' income and growth. By contrast, according to classical economic theory, physical capital, such as labour and principle, decrease marginal productivity in the long run. As a result, the classical model cannot explain the continuous economic growth of countries that use high levels of technology. Romer and Lucas present examples of four 'Asian dragons,' using these to explain their new theory of growth. Korea, Singapore, Hong Kong, and Taiwan, which grew rapidly in the late 20th century, concentrated their national capabilities on technological development. In the 1990s, these same four countries recorded annual economic growth rates of more than 5% per year, higher than any other country, despite initially being poor countries lacking capital and having low labour productivities. Yet now these nations are regarded as developed countries.

It is significant that a new paradigm of growth emerged in the 1980s. First, the 1980s was a decade in which the digital revolution blossomed and ICT played a pivotal role in economic development (OECD, 2003). Endogenous growth theory could naturally emerge during the 3rd Industrial Revolution, that is, because technology was beginning to help and support human

intellectual abilities. This can be seen as reflecting the role of technology development in growth theory. Second, perspectives on technological progress have changed. According to Romer (1986; 1994) and Lucas (1998) and their theory of endogenous growth, technological innovation is regarded as an essential factor, much like labour and capital. Classical economic growth theory regards technological development as simply an external effect that is not intended by economic actors. The theory of endogenous growth, however, regards technological development as arising from the intentional actions of companies and countries. Moreover, the new theory explains the technological spill-over effect achieved by new technology when large amounts of money and human resources are invested in companies and industries within a nation. In the classical theory, the newly developed technology is considered a public good to be used equally anywhere in the world. Endogenous growth theory, however, argues that technology cannot be a public good because the companies that have acquired new technologies cannot enjoy exclusive use rights without the help of Patent Law and Intellectual Property Law. The firms with new technology at their disposal can have the monopoly on it, benefiting from this financially for a certain period.

Endogenous economic growth theory provides us with a conception of technological development. While technological advancement is a factor that is difficult to observe and measure (Lucas, 1988), in attempting to tackle this difficulty, Romer (1986) highlights that technological advancement means expanding knowledge. He explains that, as individuals' knowledge increases, both how they work in the workplace and their skills develop. Specifically, knowledge is a medium that helps us use the technology of production more efficiently, making it an essential factor in enhancing productivity. Romer (1986) also maintains that the knowledge created by individual companies through research could be protected by patents. Yet knowledge has a natural externality because it cannot be concealed entirely in secret. Thus, one company's knowledge can spill over, benefitting individual

companies from the overall knowledge that they have not generated themselves. If companies rely solely on the knowledge they have generated, their output could not grow exponentially. But if a company can use knowledge that has been generated elsewhere, even if that company is faced with limitations in creating new knowledge, it can still increase productivity by looking beyond itself. In this case, productivity increases with knowledge and external effects of knowledge.

Lucas (1988) refers to technological development as the accumulation of human capital. He suggests the accumulation of human capital through education. The critical point is that the way individuals allocate time at the present moment can affect both productivity and the future accumulation of human capital. From an individual's point of view, human capital accumulation cannot affect the future human capital, but Lucas (1988) highlights that human capital accumulation is a social activity. Moreover, he asserts that an individual's accumulation of human capital has an internal effect that raises the productivity of that person as well as an external effect that raises the productivity of society as a whole. In other words, the accumulation of individual human capital can increase the level of the society as a whole, which can be passed on to future generations. Therefore, when human capital increases through education and learning, individual abilities improve and companies and society become more efficient.

#### **2.2.2.2 Technological Development Can Be Defined**

Defining technological development with precision is challenging; nonetheless, we can operationalise it in research by drawing upon endogenous growth theory and related work. There are also a number of difficulties involved in achieving a uniform definition of technological progress across all countries. But by using measurement data and evidence employed in a range of studies that scrutinise technological development in Korea, we can find



ways to measure and define technological development that will be tailored to the Korean context. For a start, Romer (1986) and Krugman (1994) use the example of ‘four dragons’—Korea, Singapore, Malaysia, and Taiwan—in Asia to explain endogenous economic growth theory. In addition, the OECD’s report on ‘ICT and economic growth’ (2003) and the UN’s ‘Technology and Innovation Report’ (2020) analyse OECD member countries. Among the countries mentioned in the empirical studies of international organisations and the theory of endogenous growth, Korea is the country that features frequently. These factors combined show that Korea is a suitable example for applying definitions and measurements related to technological development and implementing empirical research.

At this point, I shall offer a definition of technological development that I shall adopt throughout my thesis. There are two methods for assessing technological progress, with some research using input or output indicators to do so. According to Lucas (1988) and Romer (1986), we can define technological development from two points of view: Romer (1986) argues that technology can advance through R&D; while Lucas maintains that human capital, in the form, for example, of higher education, is a critical factor in technological development. For Romer and Lucas, respectively, R&D and human capital are the independent variables that cause technological advancement.

A second perspective on technological development considers the output factors of technological advancements. It is possible, for example, to measure and define the aspects of technological progress that occurred during the digital revolution of the 1990s. Using terms in the OECD’s report on ‘ICT and economic growth’ (2003), we can measure technological development with one country’s ICT service subscription ratio, ICT sector investment ratio to entire industries, and ICT industry value-added creation ratio compared to overall industries. The results gained from applying these statistical indicators of ICT presented by the ITU and OECD can provide adequate representations of technological progress. Moreover, in the UN’s

‘Technology and Innovation Report’ (2021), the organisation uses five indicators to assess the degree of technological development. These are: the level of ICT service development; the ratio of high-skilled workers in the population; R&D activity; the proportion of high technology in industry; and access to finance.

In summary, researchers have tried to use a number of methods to analyse the abstract concept of technological progress, and their attempts largely fall into two camps. On the one hand are those that study the driving forces of technological development, such as R&D activities and human capital. On the other hand are those that explore the outputs of technological progress, such as the development of information technology (IT) services and the proportion of the IT industry in a nation’s economy as a whole. If we want to measure technological development in Korea, therefore, we can measure the driving forces behind technological development as well as IT development, which indicates the degree of technological evolution.

### **2.2.2.3 Improvements in Labour Productivity**

Scholars have so far reached numerous and varying conclusions on the correlation between technological progress and labour productivity (Moody, 2000). The current, generally accepted perspective, however, is that the technology has helped to increase labour productivity (Arrow et al., 1998; Kim, 2003; OECD 2003; Bartel et al., 2007; Bughin et al., 2017; Schwab, 2017; Graetz and Michaels, 2018).

At the beginning of the 3rd Industrial Revolution, ICT was regarded as a means to enhance efficiency in factories. But its effectiveness has extended to encompass numerous products and services (Graetz and Michaels, 2018). According to the OECD (2003), investment in and use of ICT can positively affect labour productivity and business performance. Moreover, ICT has the potential to contribute to economic growth in the future. It goes without saying

that many factors come together in increasing labour productivity. Growth in and the improvement of labour productivity are, therefore, determined not only by technological development but also by a number of elements such as capital, labour, skill levels, regulations, and policies. The OECD (2003) conducted an empirical survey of the impact of ICT on labour productivity in technologically advanced countries. Owing to difficulties involved in obtaining official statistics and data, only 13 countries were observed. The data collected included statistics on the degree to which ICT contributes to gross domestic product (GDP) growth, the rate of increase in labour productivity compared to ICT investment, the amount of ICT investment, and the ability to use ICT amongst the general population. Most OECD countries invested heavily in ICT infrastructure (hardware, software, network) in the 1990s. According to the OECD's statistics, many states made their largest investments between 1995 and 2000 during their efforts to establish a nationwide broadband networks. Since 2000, ICT investment has declined, but investment in software and AI has continued (Bughin et al., 2017). High investment in ICT does not, however, necessarily lead to an increase in a country's labour productivity (OECD 2003; Bughin et al., 2017). This is because the ability to use computing technology is also required and, moreover, both policy-makers and society as a whole must be open to technological advances. The right labour market conditions, such as the supply and demand of workers who can use technology, are, of course, also necessary (Bughin et al., 2017).

Various factors must work in combination to increase labour productivity, but we cannot deny that the development of ICT plays an important role in increasing productivity (OECD, 2003; Bughin et al., 2017). The data examined by the OECD (2003) testify to a number of findings on this front. First, companies that actively use ICT show a tendency to launch a variety of services and products with high labour performance. These companies pioneer and expand the market in various fields through introducing new services. ICT companies have, for example, begun manufacturing driverless vehicles and software companies have also

entered the financial services and healthcare industries in many developed countries. Second, among the developed countries researched by the OECD (2003), nations with advanced ICT manufacturing, producing, for example, mobile phones, semiconductors, and software, showed higher labour productivity improvements than other countries. The reason for this improved productivity is that the development of the ICT manufacturing industry influences the development of other industries and induces innovation across the country. For instance, Finland, Ireland, Japan, Korea, Sweden, and the US are countries where ICT manufacturing accounts for a high proportion of the total national production. These countries are strong in the field of ICT manufacturing, and the rate by which their annual labour productivity increases is high, largely thanks to ICT. From 1995 to 2000, the average annual increase in labour productivity as a result of ICT was more than 1% in Korea, about 0.9% in Finland and Ireland, and about 0.5% in the US, Japan, and Sweden. In the UK, France, Germany, the Netherlands, Italy, Switzerland, and Belgium, however, it was about 0.2%.

## **2.2.3 Changes in the Labour Market Attributable to Technological Development**

### **2.2.3.1 Reduction in Labour Demand**

For a long time now, researchers have asked whether there is a correlation between technological advancement and a decline in the workforce. And they have offered a number of competing perspectives in answer. On the one hand are those scholars who argue that jobs are or would be diminished because of advances in automation. These researchers predict the consequences of the decline in labour demand owing to technological progress, basing their findings largely on theoretical frameworks or surveys. A recent report by the OECD (2019) anticipates that AI and robots will likely put 14% of all jobs worldwide at risk of being obsolete,

while it predicts that 32% of all jobs would change in the face of technological progress. The World Economic Forum (2018) presented similar findings, claiming that about 75 million of the world's jobs would disappear in the near future. According to the OECD's (2019) report, the main area in which jobs would decline is in the fields of simple repetitive work, and these jobs can be simply replaced through automation. As ICT's performance continues to improve and the cost of automation continues to decrease, employers may well replace their low-skilled workforce with machines. In addition, based on the OECD's (2019) survey, 60% of adult workers do not receive vocational training for new skill advancement. These workers can be replaced easily because they would find it difficult to adapt to changes in technology, such as AI. It also predicts that the delay in institutional improvements, such as the minimum wage and social protection networks, related to the development of new technologies could threaten workers' jobs.

There is a body of research that studies job loss. Frey and Osborne (2017), for instance, analyse 702 occupations in the US labour market and present how exposed these occupations are to the dangers of automation. They claim that there is a real danger of losing 47% of American jobs in the future. Larson (2018) argues that the advancement of AI would reduce the number of jobs available in low-income countries, meaning, for example, that more than half of the garment and shoe factories in Southeast Asia would close. The development of automation technology and a reduction in the cost of machinery, have made the garment manufacturing industry possible even in developed countries, where automated machines have the benefit of being less likely to cause problems compared to their human counterparts: machines, that is, will neither be violent to or harass one another, nor will they go on strike.

Yet some scholars show that, rather than declining, employment opportunities have continually been created. To put it another way, they claim that jobs move from old industries to new industries without diminishing. Goos (2004), Aaronson and Phelan (2017), and Bughin

(2017) present empirical evidence to aid their arguments in this regard. Historically, in the 20th century, technological and industrial developments led to the disappearance of a huge number of jobs in the agricultural sector, but new jobs were created elsewhere. In 1840, for example, agricultural workers accounted for more than 60% of the total workforce in the US, while manufacturing accounted for 10% and the service industries for about 30%. In 2010, however, agriculture accounted for less than 2% of the US's workforce. But while the ratio of workers in the manufacturing industry was less than 10%, service industries had increased to account for more than 85% of all jobs.

According to Bessen (2015) and the World Bank (2021), this phenomenon matches what happened across a number of developed countries in Europe and Asia. In the 1970s, during the digital revolution, an automated machine, the ATM, was introduced into the banking industry, reduced the costs incurred in running banks. As additional consumer demand arose, however, banks responded by opening more branches. Increased service and consumer demand, therefore, offset the decline in bank teller staff, helping the raw number of jobs to hold steady. To provide another example, in the 1990s logistics systems and automation ushered in the appearance of large supermarkets. This industry has created significant economies of scale and lowered prices, allowing consumers to increase spending in other industries in turn; and as a result, new employment opportunities continuously arose, increasing overall employment (Autor and Salomons, 2018).

Empirical literature also demonstrates that there is a small positive relationship between AI and increasing labour demand. Felten et al. (2019) examined the US labour market from 2010 to 2015, focusing on AI and labour demand. Their study suggests that those sectors that were exposed to AI had a low association with job losses. Acemoglu et al. (2020) analysed the US labour market from 2010 to 2018, where they witnessed a low correlation between AI development and job decline; they claim, therefore, that it is too early to conclude whether AI

will reduce employment rates, because there is not enough empirical data to say definitively either way (Lane and Saint-Martin, 2021).

### **2.2.3.2 Income Inequality**

The second change in the labour market that can arise from technological advances is income inequality (Autor et al., 1997; Richmond and Triplett, 2018). We know that income inequality can be caused by several factors: economic growth rate; increase in international trade; tax policy; social protection; education; and health policy. These factors interact to determine a country's income inequality (Schmitt, 2005; Jaumotte et al., 2013; Autor, 2014). Schwab (2017), Bauer (2018), and Kharlamova (2018), however, argue that income inequality may well result from technological change. They demonstrate that income inequality within a country increases in four stages as a result of technological advances. First, as mentioned in the previous section, improvements in automation and robotic technology are likely to enhance labour productivity. The ICT industry, particularly in advanced nations, is beneficial to economic growth in various sectors, directly and indirectly (OECD, 2003). Second, and as a result of this, routine and repetitive tasks can be performed by robots and computers. The increasing affordability of factory automation and unmanned devices in retail establishments contributes to this trend. Consequently, individuals engaged in low-skilled and low-wage occupations, particularly those easily replaceable by technological advancements, find themselves in competition with machines in the job market. This competition poses challenges for wage growth among the underprivileged, as their earning potential becomes constrained in the face of technological competition. Third, employers exhibit a preference for high-skilled workers with expertise in ICT, seeing them as key to enhancing productivity through the utilisation of computerised infrastructure. Behind this preference is the rationale that specialists in robotics and ICT can harness technological advancements to craft automated systems that are capable

of managing a broader range of tasks. High-skilled workers, that is, could augment the overall productivity of companies and shops. Lastly, as automation progresses, those with advanced skills will likely see their wages grow, while it is difficult to enhance the income of low-skilled workers, given their competition with machines and their susceptibility to being replaced by automated technologies. Technological progress can, therefore, widen the income gap between high-skilled and low-skilled workers. For example, in 2020, the median annual salary for an engineer, such as a programme developer or a data manager in the ICT industry, in the US was \$97,859 (Dice, 2020). According to statistics from the US Census Bureau (2020), the median annual salary of the population at large is, by contrast, almost one third of this sum, at \$35,977.

We know that the disparity in income resulting from technological development may fluctuate based on factors such as a country's political landscape, historical context, cultural dynamics, economic scale, and social policies. Kharlamova (2018) investigates the origins of income inequality in European nations, specifically examining the role of technological progress in it. Employing empirical methods, Kharlamova explores the correlation between technological change and income inequality, revealing that the extent of income disparity resulting from technological development varies between countries. The relationship between income inequality and technological development in European countries is, for instance, found to be contingent on the size of each particular country's economy. While income inequality tends to rise owing to technological progress in most European countries, diverse outcomes emerge for nations with large economies, such as Western European nations, and smaller economies like Cyprus and Malta. Notably, in countries with larger economies, the impact of income inequality caused by technological development is comparatively smaller. This is attributed to the effects of proactive government measures that are aimed at mitigating income inequality through initiatives in education, training, tax policies, and social protection. Conversely, in countries with smaller economies, policies addressing income inequality are



observed to be less actively, promptly, and directly promoted than in their economically larger counterparts.

Moreover, Bauer (2018) and Richmond and Triplett (2018) undertake empirical investigations to identify ICT and services that exert a substantial impact on income inequality. Taken together, they contend that ICT can in fact contribute to deepening income inequality. For Bauer (2018), the increase in people with broadband and mobile phones correlates with a rise in income inequality across both high- and low-income countries. Richmond and Triplett (2018) highlight that the upsurge in broadband users has had a more distinct impact on income inequality than the increase in those with access to mobile services. This is evident in the substantial investments that both corporations and governments made in broadband infrastructure during the 1990s, fostering rapid advancements in Internet and telecommunications during that era. As a result, high-speed Internet became prevalent in governmental operations, manufacturing, service industries, and households. The digital revolution, rooted in the use of the Internet and computers, created an environment that helped technology companies and highly skilled workers to access diverse forms of information with ease. During the 2000s, mobile communication services called for much less extensive investment than broadband services, which bring greater advantages with regard to enhancing the accessibility of information. In essence, where access to information and the digital revolution are concerned, mobile services had a comparatively minor impact on societal change compared to the substantial influence of broadband.

Antonelli and Gehringer (2017) study the link between the pace of technological advancement and income inequality. Their research illustrates that the faster the pace of innovation and technological progress, the lower the level of income inequality. This is because, when the speed of innovation is fast, various companies and start-ups can enter the market and compete. As a result, the entry threshold into the marketplace can be lowered and numerous

products and services can be supplied at low prices. Thus, in such conditions, it is harder for any one company to have a monopoly in that specific marketplace, enabling a variety of companies to be profitable and to offer decent jobs. If, however, the pace of technological development is slow, income disparity may be reinforced. This is because a slow pace of innovation makes it difficult for innovative companies to enter an existing market and compete with existing companies, meaning that most of the gains in the marketplace are made by the few companies that enjoy monopoly status. As a result, access to low-price consumer products decreases and companies and workers find themselves unable to gain from the advantages stemming from innovation and technological development. This engenders a societal phenomenon where specific groups are afforded opportunities to sustain high incomes, as they possess the means to do so.

In Korea, too, income gaps have emerged due to technological advancement. The characteristic of income inequality in the study is 'Inequality as a Whole'. It is not 'Lower-Tail Inequality'. This is covered in detail in chapters 4 and 6, but to explain it briefly. Over the past few decades, South Korea has undergone swift economic expansion, transforming from a low-income nation to a prosperous economy. However, this remarkable progress has been accompanied by growing inequality. Economic disparity in South Korea, often gauged through measures like the Gini coefficient, has shown an upward trend, reflecting a widening chasm between the wealthy and the poor (Choi, 2003). This inequality is evident not only in income distribution but also in wealth, access to education, and job prospects. The labour market has become increasingly polarised, with a significant portion of the workforce employed in precarious, low-wage positions, whilst a smaller segment enjoys high-paying, stable employment (Lee, 2013).

In summary, the relationship between technological development and income inequality warrants careful examination, and income inequality is not influenced by technological

development alone. As my research will show, the intricate relationship between technological development and income inequality is shaped by various policies, encompassing tax policies, economic scale, and social protection. Nevertheless, recent research underscores that growing attention is being given the role of technological advancements in income inequality in the labour market (Richmond and Triplett, 2018).

### **2.2.3.3 Employment Polarisations**

The third change in the labour market that results from technological development is the polarisation of employment. Polarisation in the labour market has various causes (Badunenko, 2012; Autor and Dorn, 2013; Foote and Ryan, 2014; Goos et al., 2014; Lee and Shin, 2016; Maloney and Molina, 2016), including, for example, increased labour productivity, technological development, trade with foreign countries, changes in the structure of industry, and inequality in income distribution. For our purposes, it is worth highlighting some of the recent research that has analysed the correlation between technological development and polarisation in the labour market.

Autor and Dorn (2013) assert that technological advances have resulted in polarisation the US labour market. Their analysis of data pertaining to the US as a whole shows that, between 1980 and 2005, jobs for low-skilled workers increased significantly. As a result, income inequality and polarisation in the labour market became apparent at the same time. The leading cause was computer and information technology that automated simple and routine tasks, reducing jobs for middle-skilled workers. With the development of ICT, middle-skilled workers have moved to the services sector. At the same time, however, the demand for higher levels of education and high-skilled workers has increased, resulting in changes to the structure of labour itself: with increased demand for low-skilled and high-skilled workers, the number of middle-skilled workers has decreased.

Lee and Shin (2016) assert that technological advancements in manufacturing comprise the primary catalyst for labour market polarisation in advanced countries. Through their empirical analysis of data, they emphasise that technological change is the pivotal factor, contending that the expansion of ICT from the 1980s onwards led to increased labour productivity. This period saw a shift in how industry was structured, from manufacturing to services, coinciding with the occurrence of labour market polarisation. Lee and Shin note in particular that demand for middle-skilled technicians, predominantly within manufacturing, reduced as the development of specific task skills advanced, primarily driven by the technological automation of routine manual tasks. By contrast, polarisation in the service sector is comparatively less severe, as there has been limited progress in automating interpersonal skills.

Michaels's (2014) statistical study delves into the relationship between ICT investment and labour polarisation in developed OECD countries, analysing the US, Japan, and nine European countries from 1980 to 2004. Michaels's findings reveal that labour market polarisation rapidly intensified with the expansion of ICT investment. The swift replacement of simple routine tasks by ICT resulted in a rapid reduction in demand for middle-skilled workers during this period.

Labour polarisation is not limited to advanced nations but is also evident in developing countries. In their study of labour polarisation in developing nations, Maloney and Molina (2016) demonstrate that, while a common relationship between technological development and labour market polarisation can be observed in advanced countries, the situation is nuanced in developing nations. In such contexts, technological advances may not necessarily result in labour market polarisation and outcomes vary based on factors such as the level of economic development, wealth redistribution, and income levels. Nevertheless, even in developing countries, the potential for labour polarisation exists owing to continuous increases in labour

productivity resulting from technological advancements, leading to a heightened demand for highly educated workers—a phenomenon akin to that observed in developed nations. For instance, certain developing countries with advanced manufacturing industries, such as China, have experienced rapid progress in the deployment of robots and automation in factories. This indicates that technological changes can diminish the demand for middle-skilled workers. These countries also tend to outsource routine tasks to less affluent nations in Southeast Asia or Africa. Technological development, therefore, presents significant potential for labour market polarisation in developing countries, just as it does in the developed world.

#### **2.2.4 Political Changes Resulting from Technological Development**

In the foregoing sections, we saw that technological advancement might result not just in economic growth, but also in income inequality and labour polarisation. If this is so, it may be worth asking whether technological development has had a positive or negative effect on the political field. Kaufmann and Jeandesboz (2017) provide a concise answer to this, finding that technological advancement has changed politics dramatically. Thanks to the Internet, everyone can obtain political information, and even ordinary citizens can easily present their opinions on political decisions at some level (Lee et al., 2008; Kim 2016). These political changes have been made possible by the transparency, accessibility, transferability, and scientific nature of digital technology. The development of ICT has, however, had a number of adverse effects on politics (Lee et al. 2008; Kim, 2016; Kaufmann and Jeandesboz, 2017; Schwab, 2017; Tucker et al. 2017; Smith et al. 2019). I shall outline some of the positive and negative aspects of political change resulting from ICT developments below.

##### **2.2.4.1 Positive Effects**

Current scholarship has identified two regards in which ICT has had a positive effect on politics. While, on the one hand, it has enhanced access to political information, it has, on the other hand, increased participation in political decision-making processes. In the following, I shall explore each of these in turn.

#### **2.2.4.1.1 Collecting, transmitting, and expressing opinions through the Internet**

First, anyone can access and obtain information on political issues thanks to the Internet. While, in the past, information on political patterns was gained passively, via the media of newspapers or broadcasting (Lee et al. 2008; Shirky, 2011; Kim, 2016; Tucker et al. 2017; Kahne and Bowyer, 2018; Smith et al. 2019), between them, smartphones and the Internet provide access to information anytime and anywhere, enabling individuals to actively inform themselves and source the news that they want.

Kim (2016) conducts a focused examination on the distinctions between obtaining information and knowledge through ICT and doing so through so-called legacy media. The introduction of radio and television broadcasting in the 19th century enabled the dissemination of political information to the public, but the advent of the Internet at the end of the 20th century marked an innovative shift in how that information could be distributed. Despite the shared nature of information and knowledge distribution across the Internet and traditional media, the use of information differs between them. Conventional media, such as newspapers and television broadcasting, exhibit a tendency for mass information distribution, where individuals passively receive information. In contrast, the Internet facilitates a personalised approach to gaining one's own knowledge and information whereby users seek, customise, and tailor information searches according to their preferences and needs. Another crucial distinction lies in the access to information, which is either one-way or two-way. While information acquisition through traditional printing and broadcasting is regarded as one-way, the

acquisition of ICT-mediated information is interactive. Today, netizens engage in the interactive exchange and accumulation of knowledge and information through the Internet and social networking services; and they play an active role in fact-checking and correcting the information acquired in this way (Lee et al., 2008; Tucker et al., 2017).

Kahne and Bowyer's (2018) empirical study focuses on the differences between young people (teens and twenties) and older adults regarding accessing and using information on the Internet. More than 90% of 18- to 29-year-olds have grown up using social media services every day, with social media playing a vital role in obtaining information on political issues and more (Perrin, 2015). While young people use social media to interact with others regarding social or political issues, adults over the age of 30 tend to use social media to access the news. Young people, that is, tend to use political information acquired via social networking sites with three purposes in mind: information gathering; social interaction; and creative production.

#### **2.2.4.1.2 Information Use and Political Participation**

Second, the Internet constitutes a significant way in which the public can actively participate in politics. Lee (2008) investigates the Internet's effects in changing the roles of political participants. Participants in policy decision-making processes can be divided into primary and secondary participants. The primary participants in a country's political processes are its national parliament, the central government, local governments, and local councils. Secondary participants consist of civic groups, citizens, non-governmental organisations, and academic experts. In the past, the national parliament and the government played a decisive role in making political or policy decisions. Now, however, the enhanced transparency and accessibility of political processes ensured by the Internet has changed this. Secondary participants can now express their views on the strengths and weaknesses of political positions and can now actively participate in most process, such as setting up the political agenda,

making decisions, and implementing them. This gives them a much more central role in political decision-making (Cerna, 2013; Kaufmann and Jeandesboz, 2017; Kahne and Bowyer, 2018).

Nasrallah and Sarkis (2011) and Kim (2016) point out that social media have enabled the development of political debates and increased participation. Citizens can now find a range of views and opinions on political issues, extending to global news and foreign experts' opinions on domestic political issues. The netizens of today can therefore discuss domestic political issues with foreign newspaper broadcasters, form new alliances, further inform domestic political issues internationally, and seek cooperation from other countries. And these acts of political participation can help to reduce corruption amongst domestic politicians when foreign media and foreign governments apply pressure.

Ko and Song (2010), Shirky (2011), and Kim (2017) examine the emergence of novel avenues for political engagement facilitated by the Internet. The confluence of democratisation and ICT development has yielded positive results, giving rise to a distinct form of political participation. This includes the capacity for widespread demonstrations to materialise both online and offline, challenging political corruption and irrationality. Noteworthy instances of this form of ICT-enhanced democratisation include the sizeable protests against the Philippine President in 2010, the Arab Spring in 2011, and the presidential impeachment protests in Korea in 2017. Of particular significance is the voluntary participation of citizens in large-scale political protests, in which knowledge is acquired independently online. Rather than being motivated by political parties, most participants make their decisions to engage in online or offline assemblies voluntarily. Recognised as a form of participation surpassing the confines of elections or voting, this novel type of political engagement signifies a departure from traditional modes of involvement.



#### **2.2.4.2 Negative Effects**

Digital technology has not always had positive effects on the political realm, and, indeed, there are a number of negative side effects produced by Internet use (Kim, 2016; Kaufmann and Jeandesboz, 2017; Schwab, 2017; Smith et al., 2019; Orso et al., 2020). The first of these is that there is a so-called information gap between generations. While young people readily take advantage of the Internet and smartphones, elderly people often have difficulty doing so. Kim (2016) and Smith (2019) note that this disparity creates further political disagreement and reinforces generational conflicts in political matters.

Second, the political systems of a number of countries have fallen prey to the spread of fake news and false rumours (Smith, 2019). Fake news has a range of targets, from politicians' arguments to public health and security. Social networks were widely used in the 2016 US presidential election, for instance, where false information targeting specific groups was produced and shared on the Internet (Tucker et al., 2017; Ward, 2018). This created space for a new political conflict. Likewise, during the COVID-19 pandemic, the dissemination of fake news led to people believing comments made without scientific backing and, in turn, using inappropriate treatments (Orso et al., 2020).

The third negative effect is that it is now more difficult than ever before to make policy decisions. While it is true that ordinary citizens take part in political decisions and express their opinions more openly, Baum (2019) presents this in a negative light: when there are too many perspectives to consider, it is harder to reach decisions. Decision-making can therefore be made more difficult when fake news, rumours, and radical perspectives enter into debates on political issues. Moreover, rogue actors and hackers use social networks to disclose confidential information directly related to national security, making it more difficult for governments to know how much information should be disclosed to whom and what information should be

kept confidential. These potentials for political damage caused by the development of ICT (Schwab, 2017) make it harder for politicians and policy-makers to reach definitive answers.

### **2.2.5 Conclusions**

The foregoing discussion has outlined the economic, social, and political changes driven by technological advances. Over the past 200 years, humanity has made significant technological advances (Galor and Moav, 1999). The 1st and 2nd Industrial Revolutions allowed humans to exceed their physical limits, while the 3rd and 4th Industrial Revolutions helped and began to replace aspects of human intellectual activity (Schwab, 2017; Xu et al., 2018). Economic growth theory has highlighted the importance of technological development since the 3rd Industrial Revolution. Moreover, following the digital revolution, a number of developed countries improved labour productivity through active investment in and use of ICT. The Internet and social media guarantee participation in politics to ordinary people, enabling citizens to actively participate in political decision-making processes (Lee et al., 2008; Shirky, 2011; Kim, 2016; Tucker et al., 2017; Kahne and Bowyer, 2018; Baum et al., 2019; Smith, 2019).

Despite the economic and political benefits of technological development, it presents extensive challenges when it comes to social issues. Over the past decades, developed countries have experienced income inequality and polarisation in the labour market (Goos, Manning, and Salomons, 2014; Brülle et al., 2019). And the realm of politics has not been unaffected, with ICT presenting a number of challenges, including creating information gaps and the increasing spread of fake news, meaning that the public cannot be certain what is true and governments and politicians find it difficult to make decisions on policy.

## **2.3 The concept and Features of Institutional Research Theories**

From its birth in the 19th century to the present day, the study of social and political institutions has continuously developed (Hall and Talyor, 1996; Rhodes, 2011). In the 1970s, a new approach to studying political and social institutions, called New Institutionalism, emerged, and this approach is widely followed in the field of political science (Hall and Talyor, 1996). New Institutionalism traditionally encompasses two strands: Rational Choice Institutionalism and Historical Institutionalism (Hall and Taylor, 1996; Thelen and Conran, 2016; Mahoney, 2017). Functionalism, by contrast, is a form of Old Institutionalism and focuses on the development of institutions (Rhodes, 2011; Duignan, 2020).

This thesis studies how and why the institution of Korean minimum wage policy has changed over time, and it employs an institutionalist lens in doing so. In the following, therefore, I shall outline the theoretical schools of Functionalism, Rational Choice Institutionalism, and Historical Institutionalism. These three theories were developed successively following World War II: Functionalism rose to prominence in academia in the 1950s (Parsons, 1977), Rational Choice Institutionalism started to be adopted in the 1970s (Hall and Taylor, 1996), and Historical Institutionalism gained widespread usage from the 1990s onwards (Mahoney, 2017). I present each one below.

### **2.3.1 Functionalism**

Functionalism is a crucial theory in studying institutional and policy changes since the mid-20th century (Myles and Quadagno, 2002). According to Parsons (1977), Functionalism approached its peak in the 1940s and 1950s, a particular stage in the methodological development of social science. This framework looks at the various elements, such as norms, traditions, and institutions that constitute a society as a large organisation. From this point of view, functionalists view society like an organism in which each element plays a role in organisational harmony. According to Duignan's (2020) findings, within the large organism of

society, individual elements such as institutions, norms, and rules can adjust, adapt, and respond to tensions caused by transitions in the political, economic, and social environment.

Macionis (2015) understands society and policy from a functionalist perspective, whereby every factor within a society is interconnected and interrelated, achieving harmony and balance with one another. Therefore, when one function, such as institutions and customs, has a positive effect on the balance of society, that part can be regarded as functional. As a corollary of this, if one factor negatively affects the stability of society, the factor can be said to be dysfunctional.

### **2.3.1.1 Industrialisation and the Development of Social Policy**

According to a functionalist perspective, industrialisation can affect the social welfare state in developed countries. For Flora and Heidenheimer (1981), industrialisation refers to the change that enabled mass production based on mechanisation, including the transformation from a society based on agricultural to one based on manufacturing. This transition is an essential component of the development of social policies (Myles and Quadagno, 2002). As industrialisation and urbanisation intensified in the 20th century, the social organism's elements changed. For example, as industrialisation progressed, many workers gathered in the city in search of work. As a result, the number of low-wage workers increased in cities and this urbanisation led to social issues such as labour polarisation, income inequality, and housing problems. Prior to industrialisation, agricultural society centred on large families, meaning that such social issues as these could be solved on an individual basis, with the help of family and relatives. With urbanisation, however, those workers who left their hometowns and moved to the cities found it difficult to receive assistance from their families. Governments therefore had to devise a variety of social policies that would respond to these tensions adaptively. Moreover, as industrialisation and urbanisation progressed rapidly, labour too became commodified. The commodification of labour increases the social risk to the vulnerable, such as elderly, sick, and

young people (Quadagno, 1987). Faced with these social problems, state agencies had to establish social policies and avenues for financial support (Zhang, 2013). Social policies developed, therefore, as a direct result of the increased labour productivity brought about by industrialisation. Economic development also provided governments with resources they could use to address social problems associated with the urbanised and commercialised society, as states obtained the means to offer financial support through their increased financial revenues (Janowitz, 1976). In short, although the development of industrialisation and social policies are different factors, they worked in harmony with each other to stabilise society. In this sense, the development of social policy can be regarded as direct result of industrialisation, urbanisation, and economic development (Offe and Keane, 1984).

### **2.3.1.2 The Limits of Functionalism**

We can see that Functionalism is a valuable framework that explains changes in social welfare and social policy. But Functionalism has two limitations. First, functionalists do not analyse or seek to explain the original causes of specific institutional changes (Deutscher and Coser, 1977). Instead, they study the changes in specific institutions, cultures, and policies from a macro perspective, whereby these factors contribute to maintaining the stability of the societal organism. Functionalism is, however, ill-equipped to explain the core and fundamental cause of a social policy change (Duignan, 2020). Second, functionalists overlook interpersonal and intergroup conflicts that could arise in a country or society. Functionalists believe that societies develop and stabilise primarily cooperative rather than conflictual relationships (Holmwood, 2005; Duignan, 2020). Moreover, Holmwood (2005) points out that some institutions within a society can suppress certain classes or vulnerable groups and that conflicts between groups can spread throughout a society or a country. From a neo-Marxist perspective, these social phenomena occurred frequently in a number of countries in the 1960s and 1970s—for example, racism, civil rights movements, and the conflicts involved in the cold war. In the reality in

which people live, a society cannot always be harmonious and free from conflict. And industrialisation does not necessarily entail the development of social policies. Unfortunately, however, the present state of society is such that social conflicts, such as income inequality, education gaps, environmental pollution, and increases in crime, arise owing to industrialisation and urbanisation, which continue unabated.

In brief, Functionalism has limitations: it does not accurately identify what causes policies to change; and it ignores social conflicts. As I shall show in the following, however, Rational Choice Institutionalism was established in order to address these limitations.

### **2.3.2 Rational Choice Institutionalism**

Rational Choice Institutionalism is a central theoretical framework for scholars working on institutional change (Hall and Taylor, 1996). Having been established in the late 1970s this school of thought has been adapted for various fields encompassing political, economic, and institutional research (North, 1990). The primary concept of Rational Choice Institutionalism is that political actors and policy-makers create institutions to maximise efficiency. It therefore explains the origins, effects, and development of institutions by regarding people as rational individuals who seek to maximise utility (Calvert, 1995; Levi, 1997).

#### **2.3.2.1 Institutions Converge by Countries**

According to Levi (1997), Rational Choice Institutionalism presupposes that people are rational and strategic individuals, whose interactions with other objects are essential to achieving their purpose of achieving an 'equilibrium.' At the scale of a nation, for instance, one country will determine its course of action based on how it believes other nations will behave. If one country acts in anticipation of another nation's choice, other nations modify their choices and behaviours in turn, based on neighbouring countries' activities. These decisions and re-selections are continuous and, at some point, a situation is reached that can no longer be

improved upon. Rational choice theories call this state an equilibrium. Once an equilibrium is reached, there is no reason for any country to modify its actions unless circumstances within this set of intermingled relationships change.

Using the theoretical concept of equilibrium, Shepsle (1986), DiMaggio and Powell (1991), and Dobbin (1994) argue that policies and institutions converge across different countries. Given that many countries face similar economic, political, and cultural problems, their governments look for the best solution by sharing information with the governments of other countries. And thanks to the development of transportation and communication technologies and active cooperation between countries, accurate and detailed information can be shared (Schwab, 2016). Moreover, some countries share an economic market (take, for example, European countries in the EU), meaning that they have similar social and economic issues as one another; political actors can therefore look to their economic neighbours to find proven solutions to social issues. In this political, economic, and social environment, policy-makers reduce their own levels of uncertainty, often resulting in reforming or disposing of institutions and creating new ones. Indeed, by adopting another country's institutions, nations contribute to reaching institutional equilibrium.

### **2.3.2.2 Optimal Choice**

Within a theoretical framework that understanding institutions as necessarily converging, Bouget (2006) and Voeten (2019) maintain that developed countries are well placed to find the optimal solution rather than alighting on suboptimal options. As stated above, countries share socio-economic issues, allowing governments to share information and compare policies across international boundaries. They can therefore recognise which policies are likely to fail and can look to successful policies, systems, or institutions implemented in other countries to find what are likely to be the most appropriate and successful for their own nation's circumstances.

### **2.3.2.3 Institutions Are Dependent Variables**

Rational Choice Institutionalism understands policies and institutions as dependent variables (Krasner, 1988) that function as the so-called ‘rules of the game’ (Weingast, 2002). As rules of the game, institutions have two features. First, they provide procedures and methods for resolving social conflicts when they occur. When, for example, a conflict arises between an employer and an employee concerning wage negotiations, minimum wage laws and collective bargaining rights provide a procedural framework that each side follows, simultaneously anticipating that the other will adhere to it too. The second regard in which institutions serve as rules arises from changes in circumstances, such as when conflicts, economic crises, or pandemics arise, both internationally and domestically. In such cases, the state tries to solve problems by devising new rules or modifying existing institutions. Policies and institutions can therefore be regarded as dependent variables of political activity.

Furthermore, Krasner (1988) stresses that policies and institutions can appear or disappear as dependent variables. As a dependent variable, institutions can have two meanings. On the one hand, there is a causal relationship between the independent and the dependent variable. If a social conflict or political activity, for instance, is viewed as an independent variable and a cause, institutions and social policies can be regarded as a dependent variable and a result. On the other hand, being a dependent variable means that institutions can become a matter of choice. Indeed, as outlined above, rational people choose institutions in a way that reduces uncertainty and increases utility.

### **2.3.2.4 Features and Limitations**

In the light of the preceding discussion, Rational Choice Institutionalism appears to possess the following three characteristics: i) the institutions of various countries converge and reach a state of equilibrium; ii) governments can choose the optimal institution in response to particular



economic, social, and political problems, even modifying or scrapping existing institutions in the process; and iii) institutions serve as rules for overcoming social problems. These rules are dependent variables that can be changed by social events and external shocks. Taken as a whole, these features illustrate that rational choice institutionalists focus on maximising utility, reducing uncertainty, and choosing optimal institutions.

Rational Choice Institutionalism is, however, imperfect and has a number of limitations. For instance, social policies such as minimum wage policy differ from country to country. A nation's minimum wage policy will vary according to that country's specific historical, social, political, and cultural characteristics (ILO, 2014). Indeed, from the mid-1970s to the early 1990s, advanced countries implemented varying levels of domestic social welfare spending and research would do well to explore the reasons for these differences (Myles and Quadagno, 2002). Rational Choice Institutionalism cannot, however, explain why minimum wage policies are different in different countries.

Moreover, as Riker (1980) argues, even if political, economic, and social issues are shared between national governments, political actors and policy-makers cannot always predict optimal outcomes. Indeed, developed countries have implemented large swathes of inefficient public and social policies. This is because a country's domestic institutions are necessarily intertwined with other institutions across all fields of society and are influenced by each other (North, 1990). And the relationships between institutions in modern societies have become more and more complex (Steinmo, 2016). For example, if a country reforms its pension system, this will have knock-on effects on that country's taxation regime which might, in turn, be met with resistance by members of the public.

### **2.3.3 Historical Institutionalism**

While, as stated above, Rational Choice Institutionalism arose in the 1970s (Hall and Taylor, 1996), since the 1990s Historical Institutionalism has been largely considered to have superseded it (Mahoney, 2017). The central tenets of Historical Institutionalism can be summarised by the following three main points: i) a policy is stable as ‘path-dependent’ and does not converge; ii) owing to the existing political legacies and linkages with other institutions, the state select suboptimal institutions; and iii) institutions act as both independent and dependent variables (Pearson, 2000; Thelen and Conran, 2016; Mahoney, 2017). With these principles, Historical Institutionalism seeks to overcome the limitations of Rational Choice Institutionalism.

#### **2.3.3.1 Institutions Do Not Converge**

In contrast to Rational Choice Institutionalism, historical institutionalists such as North (1990) and Pierson (2000) maintain that national policies and institutions do not converge. The development of institutions and policies is different from country to country because each country has its own unique political structure, system, history, and, therefore, political legacy. Countries with different political and policy backgrounds therefore reach a diverse range of solutions, even when they are faced with identical or similar social and economic issues. By being generated in response to unique national trajectories, institutions are considered to be path dependent. Moreover, since various institutions and policies are intertwined with numerous economic, social, political, and cultural factors, one national government cannot simply follow another government’s policies or abolish its existing systems quickly.

Pierson (1993, 2000) and Arthur (1994) argue that institutions are stable and do not converge across countries. They present four factors to explain this stability.

- **Large installation or fixed cost:** If the initial costs and effort involved in creating an institution or implementing a policy are very high, it is not easy for countries and organisations to change existing policies. Thus, individuals and organisations are strongly incentivised to keep to existing options.
- **Learning effect:** Experiences gained in the operation of complex systems lead to higher returns owing to continued use. Individuals and organisations improve and utilise existing institutions rather than creating new ones.
- **Coordination effects:** Actors may stick with existing institutions. These occur when an individual's benefits from a particular policy increase as others adopt and follow the same option.
- **Adaptive expectations:** Actors may expend resources on an institution over another because it is likely to remain or become the dominant institution.

Esping-Andersen (1990) likewise objects to the rational choice institutionalists' premise that institutions converge internationally. Instead, he argues, welfare states and labour markets interact to produce different post-industrial trajectories. Through a detailed study of the socio-economic environment and the policy structure in the US, Germany, and Sweden, Esping-Andersen concludes that policies influence public behaviour about education, career choices, and life after retirement. Furthermore, he discovers that once a policy is established, it affects not only the public but also political actors, resulting in specific patterns of political behaviour in each country. He presents the degrees of de-commodification, that is, the extent to which workers can live without selling their labour-power as a commodity, and social stratification as criteria by which we can judge the type of welfare state in place. Using these two indicators, he sets out a welfare state typology, consisting of the liberal welfare state, the corporatist welfare state, and the social-democratic welfare state. And central to his findings is that

institutions and policies do not converge across countries, but instead take on very different characteristics.

### **2.3.3.2 Suboptimal Choice**

As Thelen and Conran (2016) argue, there is always a high probability that governments will establish suboptimal institutions rather than arriving at the best solution to current political, economic, and social problems. This is because abandoning old policies and generating new ones incurs enormous costs and effort. Once a particular path has been chosen, therefore, it becomes more difficult to reverse or change, so governments strive to solve problems within the framework of existing institutions. For this reason, many countries do not make ideal or optimal choices in matters of social welfare (Green-Pedersen and Haverland, 2002). Furthermore, choosing optimal social policies and institutions has become more challenging still in the wake of economic and social changes that have occurred since the late 1970s. Using Pierson's (2002) terminology, this period is characterised by permanent austerity, resulting from low growth, high unemployment, growing deficits, and demographic pressures (Zhang, 2013). The polarisation of the labour market and widening income inequality have continued to increase thanks to economic growth and technological development (Maloney and Molina, 2016). It goes without saying that this state of austerity has influenced policy-making and the implementation of the welfare state. But despite the prevailing financial, economic, and social issues, the welfare state has not disappeared, and nations across the world have shown remarkable resilience as welfare states by implementing social policies and establishing institutions that are suited to each countries needs and circumstances (Pierson, 1994).

There are practical reasons why society and/or the state has no choice but to choose the next best option, and these are explored by Pierson (2000). A useful example in this regard is the QWERTY keyboard, which was effective in preventing jams on typewriters when they were

invented in the 19th century. But the QWERTY keyboard layout was carried over to computer keyboards in the 20th century, despite being inefficient and despite computer keyboards not being susceptible to the same problems as typewriters. Although the QWERTY keyboard is far from optimal, it has continued to be used for computer keyboards in the late 20th and 21st centuries precisely because society as a whole is used to the existing QWERTY layout. People are locked into an outdated system, and it would take a lot of time and money to switch to a new one. The issues with social policies are very similar to this situation. When policies are created, people are locked in and adapt to them. Rather than making the best choice by changing and renewing policies and institutions, they opt for the suboptimal choice.

#### **2.3.3.2.1 Independent and Dependent Variables**

In his study, 'When Effect Becomes Cause' (1993), Pierson argues that a policy is an independent variable and an input that creates political processes and outcomes. This opposes the rational choice institutionalist premise that institutions are dependent variables. According to Pierson, in the 20th century, the role of governments expanded as they implemented social policies. In particular, governments became actively involved in resolving social and economic issues. To this end, policy-makers made new rules and provided financial and material resources and incentives in improving education, stimulating technological development, providing support for people on lower incomes, and tackling labour polarisation. This role of government influences the actions and claims of political stakeholders, civic groups, and the public. In other words, as independent variables, policies and institutions have political consequences. A government's decisions regarding the allocation of its economic and social resources and providing incentives to each sector significantly impact the lives of individuals, from determining educational levels to affecting the affordability of housing and the choice of

a career. In all, therefore, institutions are by no means the outcome of politics; rather, policies and institutions influence politics and the public as independent variables.

### **2.3.4 The Development of Historical Institutionalism**

Hall (2016) argues that, as national institutions develop in different directions through specific trajectories, scholars constantly need to develop theories and frameworks when seeking to understand policy changes. Moreover, given the complexity of policies and institutions in their various national, social, and cultural contexts, a range of perspectives and methods are required to make sense of them (Ostrom, 2010). As a result, a number of positions and methodologies have arisen from Historical Institutionalism, and in the following I shall focus on three aspects of these in particular: i) the scope of the topics explored by Historical Institutionalism has expanded; ii) historical institutionalists make use of tools such as ‘critical junctures’ and ‘path dependence’; and iii) a number of detailed comparative research methods have developed (Steinmo, 2016).

#### **2.3.4.1 Expansion of Research Topics**

With regard to the first of these, Hall (2016) and Steinmo (2016) stress that the scope of Historical Institutionalism has expanded. As noted in the previous section, historical institutionalists see institutions as relatively independent variables. In other words, the institutions of a country are not only dependent variables in terms of the outcome of political activities, but also independent variables in terms of how institutions influence the preferences and political activities of the public at large (Pierson, 1993). Early historical institutionalist scholars mainly limited their research to studying the origins of the social welfare state, the consequences of revolutions and wars, the causes of persistent social inequality, and the redistribution of global powers and did so, according to Fioretos et al. (2016), within the field of political science. Early representative studies focused, for instance, on

*why social democratic parties experienced divergent trajectories in interwar Europe, why liberalism took different paths for much of the twentieth century in the United States and Europe, why economic openness persisted despite demands for closure, and why states extended significant governing authority to international organisations. (Fioretos et al., 2016, p. 5)*

Over the past 25 years, however, both the scope and range of Historical Institutionalism have grown to encompass investigations of various political and institutional issues. In recent years, the theory has been applied to all kinds of institutional research, including studies of employment, tax, pension, and education policies.

#### **2.3.4.2 New Tools: ‘Critical Junctures’ and ‘Path Dependence’**

According to Mahoney (2000) and Hall (2016), historical institutionalists have developed two useful tools for their research. One is the concept of the ‘critical juncture,’ which explains the mechanism of institutional change, while the other is ‘path dependence,’ which illustrates the mechanism of institutional stability. These two tools help to explain how policies and institutions change slowly while remaining stable and are regarded as keys to solving the paradox of change and stability at the same time (Zhang, 2013). A critical juncture represents a situation of uncertainty, in which critical moments influence policy-makers. These events generally occur when major extrinsic shocks, such as wars, epidemics, revolutions, and economic crises (Collier and Collier, 1991) cause significant changes for a country and/or a society. Path dependence describes the mechanism by which a policy or institution remains stable along a specific path over time (Pierson, 2000). According to a historical institutionalists perspective, policy decisions that have been reached earlier on determine the direction of future policies. Indeed, even if an institution had initially been established by little more than coincidence, it will have significant consequences further down the line. Owing to the stability of that policy, no significant changes occur to the initially created institution and only minor changes can occur slowly in response to internal and external events (Thelen, 2004). Thus,

existing institutions react to or counteract the critical juncture causing some changes to occur, or a critical juncture can determine a new path.

#### **2.3.4.3 Detailed Research Methods**

Scholars have further developed Historical Institutionalism by using experimental research methods (Steinmo, 2016) in order to ascertain the factors influencing policy shifts. Among these research methods is a comparative approach that proves invaluable in making sense of and pinpointing the reasons behind variations in social policies and institutions across nations. Indeed, comparative methods are effective means to delineate the triggers of policy alterations and examine policies (Thelan and Conrad, 2016).

Moreover, a more detailed, comparative approach enables historical institutionalists to observe institutional changes from various perspectives, including studying people's understanding, cognitive perspectives, and historical changes in institutions (Conte and Castelfranchi, 2006). According to Steinmo (2016), understanding and cognition are important in policy research because they shed light on the various and complex situations beyond institutions alone that determine human rational decisions and behaviours. For example, if a country increases its taxes to reform its pension system, that policy will gain support from some sections of the population while meeting resistance in others (Svallfors, 1997). Thus, historical institutionalists have developed research methods that move beyond the study of institutions alone and take account of cultural contexts, policy choices, and more, enabling researchers to conduct detailed studies of complex systems (Steinmo, 2016).

#### **2.3.4.4 Relevance of Historical Institutionalism to Studying Minimum Wage Policy**

Above, I have outlined and briefly examined three institutional theories that study the causes of policy and institutional change. Functionalism, Rational Choice Institutionalism, and



Historical Institutionalism all emerged in the decades following the Second World War, and each of the three frameworks has its own advantages and disadvantages. Researchers can, of course, select a framework that is best suited to their specific research objectives. I believe, however, that Historical Institutionalism represents the most useful framework within which to study how minimum wage policy has responded to technological development.

Functionalism and Rational Choice Institutionalism appear to be of limited use in exploring the questions at the heart of this thesis. For a start, Functionalism cannot help us to determine the causes of institutional change in any detail. This is because Functionalism views policies and institutions as a part of the organism of society, which change positively in order to maintain societal order. But these premises have not been clearly proved either (Duignan, 2020). Furthermore, Rational Choice Institutionalism cannot explain why minimum wage policies have developed differently from country to country (ILO, 2014). Rational choice institutionalists argue that national institutions converge, but this is not the case with minimum wage policy. Rational Choice Institutionalism maintains that a country or society rationally judges and selects the optimal institution for minimising uncertainty. This cannot, however, apply to minimum wage policy, where countries are often saddled with policies that they can neither drop nor amend (ILO, 2016). Moreover, it is difficult to maintain the premise that institutions and policies are dependent variables that result from political activities, because institutions are both dependent and independent variables (Pierson, 1993). As governments provide incentives and resources through minimum wage policies, workers and management groups respond by changing their behaviour. Institutions cannot, therefore, be seen merely as a by-product of politics.

While Functionalism and Rational Choice Institutionalism clearly have their limitations, Historical Institutionalism is well placed to frame the research for this thesis. Given the expanded scope of Historical Institutionalism, we can investigate technological development

and minimum wage policy together. Recent historical institutionalist scholars have explored how specific events have affected policies in certain countries (Falleti and Lynch, 2009). My analysis of how the minimum wage in Korea has changed in response to technological progress since the 1980s is therefore in line with current trends in historical institutionalist research. And Historical Institutionalism provides the best framework within which to address the questions I ask in this thesis (see Chapter 3).

## **2.4 Minimum Wage Policy in Korea**

### **2.4.1 Changes in Korea's Minimum Wage Policy**

According to Bennett and Elmen (2007), Historical Institutionalism is suitable for single-case studies in which policies or institutions have changed in ways that appear to be complex and/or unstructured. Compared to similar policies in other high-income OECD countries, Korea's minimum wage policy has undergone unique developments and reforms in both the short and longer terms (Lee, 2019).

#### **2.4.1.1 Short-term change of the policy**

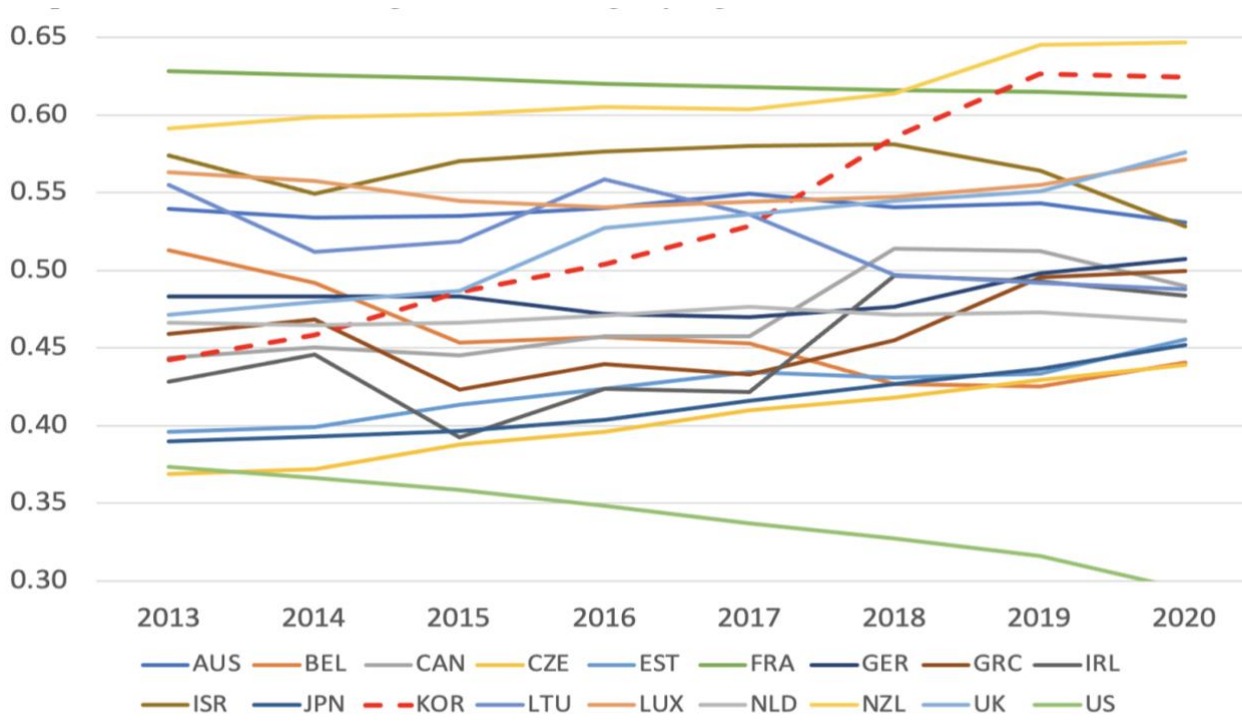
Minimum wage policies in Korea have undergone a number of changes in recent years. Lee (2019) argues that the minimum wage in Korea has risen rapidly over the five years preceding his study. At present, 28 OECD countries have minimum wage laws. When we compare high-income countries with a GDP per capita of \$30,000 or more, the ratio of the minimum to median wage (henceforth, denoted as level of the minimum wage) has risen sharply. This is represented in < Figure 2.1 >, where the red dotted line represents Korea. While the level of the minimum wage in other countries has remained stable, Korea's minimum wage level has increased noticeably and the curve shows no signs of flattening.

Korea's minimum wage was below the OECD average when the policy was implemented in 2013. In 2018, however, Korea achieved a growth rate of 0.59, exceeding the OECD average of 0.53. And in 2020, the level increased to 0.62, making Korea's minimum wage the second highest among high-income countries in the OECD. This rapid transition has occurred in just five years. This unusual change over such a short period clearly warrants further investigation.

#### 2.4.1.1.1 Concerns of International Organisations

The rapid growth of Korea's minimum wage level over the last five years has attracted much attention from international organisations such as the OECD and the International Monetary Fund (IMF), who have expressed their concerns about what they see as a surge in the minimum wage since 2018.

**Figure 2.1 The ratio of the minimum to median wage by high-income countries**



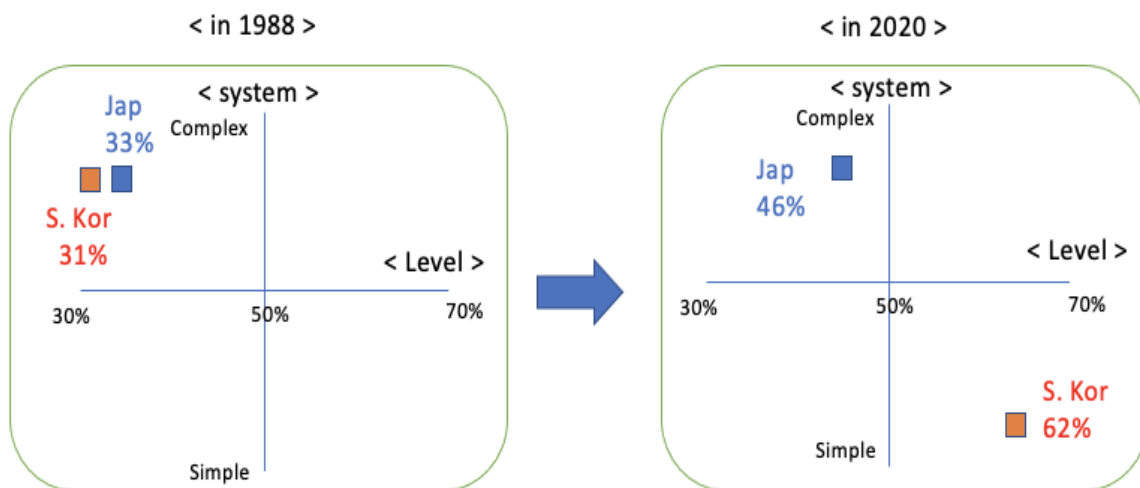
Source: OECD statistics (2022)

The OECD's '2020 Korea Economic Report' (2020) reveals that low-skilled workers may have been pushed out of the labour market owing to the steep rise in the minimum wage. It also warns that the sharp increment in the minimum wage could lead to a rapid rise in prices. In addition, the IMF's 2019 annual report recommends that the rising rate of the minimum wage should be linked with the rate by which labour productivity has increased. The IMF fears that the policy could cause economic difficulties, such as job loss and inflation. That these two international organisations share their opinions on the social and economic aspects of the rapid change in Korea's minimum wage policy further emphasises that minimum wage policy is not just a social policy; it is also related to the employment rate of low-wage workers, the labour costs of companies, and inflation (ILO, 2014). Indeed, given the importance and wide-reaching effects of minimum wage policy, this thesis treats it as a significant institution in and of itself.

#### **2.4.1.2 Long-term Policy Change**

As noted above, the Korean government adopted Japan's minimum wage policy from the 1980s as its role model and initially based its implementation on these same Japanese policies (Joo, 1999). Over the past 35 years, however, Korea's policy has taken a very different shape from Japan's and contrasts it in two significant respects. Japan's system is complex and consists of its own internal differences depending on regions and industrial sectors, and Korea initially took this approach in 1988. Since 1989, however, it has developed towards simplicity. Furthermore, while Japan's minimum wage has remained at a level lower than the OECD average (about 0.53) for the past 35 years, Korea's rate of 0.62 in 2020 was the second highest. < Figure 2.2 > illustrates some of the differences between Korea's and Japan's policies.

**Figure 2.2 Comparison of changes in minimum wage policy in Korea and Japan.**



Source: OECD Statistics (2021), ILO (2014)

### 2.4.1.3 Three Critical Changes Over the Past 35 Years

There have been three main transformations in Korea's minimum wage policy over the last 35 years, which can be summarised as follows. The first of these, as mentioned above, occurred in 1989, when the Korean government transformed the minimum wage system from a complex to a simple system (Kim, 2007; ILO, 2016). According to Kim (2007), a single minimum wage was initially applied across the board without taking into account any differences between industries, regions, or age groups. At that time, the policy's purposes were to eradicate labour exploitation in the manufacturing industry, maintain an appropriate wage level, and avoid discriminating against workers in any one industry. The second transformation occurred in 2000, when the state extended the reach of minimum wage law from only covering manufacturing sectors with ten or more employees to being accessible to all workplaces, regardless of industry and number of employees, to protect all low-wage workers (see Chapter 4). The third of these transformations has occurred since 2003. As Lee (2019) demonstrates, there has been a sharp and continuous rise in the minimum wage level in the 21st century. Indeed, according to OECD statistics (2021), Korea's minimum wage level was 0.34 in 2003,

making it the lowest among OECD countries; in 2019, however, it was 0.62 and, at that, one of the highest among OECD countries (Chapter 4).

In short, Korea's minimum wage policy is notable in a number of regards and its warrants further investigation. Diverging from the trend observed in high-income OECD countries, Korea's minimum wage demonstrates a unique pattern marked by rapid short-term increases. Over the long term, it has evolved distinctively from Japan's minimum wage policy. Korea's minimum wage policy is, therefore, unique and is surely ripe for thorough analysis from a policy perspective (Thelen and Conran, 2016).

## **2.4.2 Literature Review on Korea's Minimum Wage Policy**

### **2.4.2.1 Current Status of Research on the Minimum Wage in Korea**

The divergence of Korea's minimum wage policy from Japan's is worthy of research in and of itself. And given the close connection between the minimum wage policy and national employment, a comparative analysis of the two might be rewarding (Tamada, 2011). Countries employ minimum wage policies to ensure a certain income for low-wage workers and to mitigate income inequality (Belser, 2011; Schulten, 2012; ILO, 2014), meaning that minimum wage policy is regarded as both a social and economic policy (ILO, 2014; Lee, 2019). Korea's minimum wage policy therefore continues to receive scholarly attention (Kim, 2007).

What, then, does research to date have to say about minimum wage policies in Korea? There are largely two strands of scholarship on the subject (Nitta and Woo, 2019). On the one hand are those scholars who are interested in examining the causes of change and the problems posed by Korea's minimum wage policy. Noteworthy contributions to this field include studies conducted by Jeong (2003), Kim (2007), Hwang and Lee (2012), Chae and Woo (2013), and Yoon (2017). These researchers largely seek to uncover the rationale behind minimum wage

policies and investigate those factors that prompt changes. In particular, they scrutinise the historical trajectory of minimum wage policies within the socio-economic context, paying close attention to examining the background of policy changes. Such factors include the political and policy reasons that led to the decision to introduce the minimum wage in the 1980s, the direct and indirect causes that led to its development as a universal policy in 2000, and the background to the continuous increase in the minimum wage since 2003. Additionally, scholars who focus on policy and institutional change provide valuable insights into the challenges associated with current policies and offer policy-makers suggestions on how these policies should evolve.

On the other hand are scholars who focus primarily on the economic effects of the minimum wage, particularly on employment and poverty reduction. Indeed, a number of studies evaluate whether the minimum wage has had a positive or negative on employment. Neuman and Wescher (2008), Addison and Ozturk (2012), and Neumark et al. (2014), for example, argue that increases in the minimum wage negatively impact employment; while Card and Krueger (1993), Leonard, Stanley, and Douculiagos (2014), Park (2016), and Lee (2019) argue that any such adverse effects are likely to be negligible. To date, research that has focused on this effect in the Korean context includes works by Kim and Lee (2019), Choi (2018), Nam (2017), and Kim, Y. (2019).

#### **2.4.2.2 Research on Minimum Wage Policy in Korea**

Through reviewing research on minimum wage policies in Korea, a number of common features become clear. First, many researchers conduct their research using a normative approach that evaluates or criticises the current minimum wage policy, clarifying the problems within institutions and policy-making processes. In addition, these studies assess the successes and failures of the policy, offering solutions and suggesting new policies. Kim (2007), for example, notes that the definition of the minimum wage is unclear, leading to a lack of clarity

about whether the term refers to an individual's salary or to a household's income. Moreover, this lack of definition opens up the minimum wage to being changed every time a new government is elected. Jung (2003), Kim (2007), Chae and Woo (2013), Yun (2017) and Cho (2018) present suggestions for improving minimum wage policy. The government's annual determination and announcement of the minimum wage are inherently inefficient. Jung (2003) and Kim (2007) argue, for example, that Korea's Minimum Wage Commission, which consists of 27 members, is far too large. Added to the difficulties involved in achieving consensus amongst such a large number of people, the commission experiences persistent disagreements between the nine union members and the nine business representatives that sit on it. In light of these challenges, Jung and Kim argue that a more efficient the commission would comprise nine members rather than 27.

The second characteristic is that researchers use descriptive methods. The advantage of a descriptive method is that it can provide a detailed explain of the main content and history of minimum wage policies in Korea. It can provide readers with large quantities of information on the origin of the minimum wage policy, the method of calculating the minimum wage, and the application of different rates according based on industries. The ILO (2016), for example, gives a detailed, overall description of the minimum wage system in Korea, while Kim (2007) and Noh (2009) present historical accounts of the background to the introduction of the minimum wage and how the policy and institution of the minimum wage has changed to date. Moreover, Kim (2019) discusses how Korean minimum wage policy interacts with other social policies in order to achieve its goal.

#### **2.4.2.3 Studies Analysing the Causes of Changes in the Minimum Wage Policy**

In the late 1990s and 2000s, a number of studies began to appear, which examined why and how the minimum wage policy had changed. Each study sought to locate the causes of changes to the policy using institutional research frameworks, as opposed to partaking in normative or



descriptive research. But only a few studies applied institutional frameworks to researching minimum wage policy in Korea.

#### **2.4.2.3.1 Functionalism**

Initially, those scholars who analysed the introduction of the minimum wage in Korea took a functionalist approach to explaining why it had happened, founding their perspectives on the basis that policies and institutions interact positively in the overall social structure and that social policies have developed as a result of economic growth, capital accumulation, and industrialisation. For instance, Kim (2007) takes a functionalist perspective on the background to the introduction of the 1988 Minimum Wage Act in Korea. According to this perspective, as Korea achieved rapid economic growth in the 1980s, businesses accumulated capital and the government's tax revenues increased; the Korean government could therefore improve the living standards of low-wage workers and introduced various social policies such as the minimum wage policy and unemployment benefits.

#### **2.4.2.3.2 Rational Choice Institutionalism**

A number of studies compare minimum wage policies between countries and emphasise that policies and institutions can converge. These studies are underwritten by a belief that economic and social issues are relatively similar from one advanced country to another (Dobbin, 1994). The first countries to introduce a minimum wage experienced a number of difficulties that they have since had to overcome, meaning that their policies can now be optimistic. Chan and Woo (2013) explore the mechanisms used to determine the minimum wage in Korea and the UK, showing that Korean institutions have converged on those of countries such as the UK. They also claim that the Korean government would do well to learn from the UK's Low Pay Commission if it wants to solve issues in how minimum wage levels are determined.

Similarly, Lee et al. (2012) compare research on the practical implementation of minimum wage policy, comparing Korea with the US, UK, and Australia. They study how minimum wage policies can be traced and analyse how governments direct and supervise the market. They also present a comparison of the advantages and disadvantages of each country's system and suggest certain institutional characteristics that Korea would be advised to adopt. Central to Lee et al.'s study is the recognition that the US, the UK, and Australia are advanced countries that introduced the minimum wage policy before Korea and, therefore, that the Korean government should learn from these states how to increase compliance with the minimum wage.

#### **2.4.2.3.3 Historical Institutionalism**

To date, no studies of minimum wage policy in Korea make use of Historical Institutionalism's tools of path-dependence or critical junctures. There are, however, two studies that adopt aspects of a historical institutionalist framework. Joo (1999) studies why the South Korean government introduced the minimum wage policy from a historical institutionalist perspective. His research consists of a comparative analysis of the causes for the introduction of both Korea's minimum wage policy and its health insurance policy, based on an examination of historical documents. He focuses on three aspects of these in particular: changes in the interests of government officials; shifts in perceptions and recommendations from social policy experts; and the increase in economic growth and labour disputes. The significance of this study is that it does not simply put the introduction of the minimum wage in Korea down to a natural result of economic development or as an import from other advanced nations. Instead, he tries to investigate changes in government policies from political, social, and economic perspectives, taking advantage of historical analytical and comparative methods in doing so.

The work of Nitta and Woo (2019) provides another example of a historical institutionalist perspective on minimum wage policy in Korea. They focus on the mechanism

for determining the minimum wage, comparing that used in Korea with that used in Japan. Although their work does not entirely adhere to a historical institutionalist framework, they research why the mechanisms for determining the minimum wage in the two countries are different. They analyse the attitudes and expectations of experts participating in the determination of the minimum wage and the institutional differences between Korea and Japan. Although it is not a historical study, the significance of Nitta and Woo's work lies in their analysis and comparison of the norms and expectations of commission members as well as institutional differences between Korea and Japan.

### **2.4.3 Relationship Between Technological Progress and the Minimum Wage**

Up to this point, I have presented a review of the current status of research on Korea's minimum wage policy. In the following, however, I shall explore current research on the relationship between technological development and minimum wage policies. I shall divide the following section into two main parts. First, we encounter research arguing that minimum wages cannot protect low-skilled workers in the age of automation. And after that, I shall outline the findings of research arguing that minimum wage policies need to be modified in line with technological advances.

#### **2.4.3.1 Problems with Minimum Wage Policies in the Era of Technological Advancement**

Wolla and Burton (2021) point to several problems faced by minimum wage policies in the age of automation. As technology develops, an income gap begins to appear, and the government raises the minimum wage to bridge that gap. But raising the minimum wage gives rise to another issue, as companies compare the cost of unmanned machines with labour costs and decide to build automated facilities rather than hiring low-skilled workers (Larson, 2018). In

an era marked by advancements in artificial intelligence and robotics, therefore, elevating the minimum wage would likely cause a decline in employment for low-skilled workers and an increase in income disparity. Governments have increasingly acknowledged this concern, prompting a more prudent approach towards raising minimum wage.

We find similar results reported in an empirical study conducted by Lordan and Neumark (2018). Based on their research of data from both developing and developed countries, Lordan and Neumark demonstrate that an increase in the minimum wage tends to be followed by workers being redeployed. In other words, when low-skilled workers are replaced by robots, those workers need to move to find new jobs. In countries and societies where technological development progresses rapidly, raising the minimum wage reduces employment opportunities for labour-intensive and repetitive jobs. The intricate interconnection between technological advancement and the minimum wage, therefore, has both social and economic adverse effects on society. And given this relationship, scholars anticipate that raising the minimum wage during a period of technological innovation will likely lead to the replacement of low-skilled workers and a subsequent widening of the income gap (Kharlamova et al., 2018).

The relationship between technological advancement and the labour market is not an issue unique to South Korea. It is a situation manifesting in various developed nations. In particular, numerous similar studies have been conducted in the United States and Europe, where technology has progressed significantly across diverse fields.

Autor (2003) and Aaronson (2017) conduct empirical research indicating that as the United States advances towards increased computerisation, workers are being replaced. IT technology could readily substitute routine manual tasks. Conversely, tasks necessitating problem-solving, creativity, and complex communication are more challenging to automate. The research demonstrates that as digitalisation escalates, occupations entailing routine tasks are particularly susceptible to automation, resulting in diminished demand for these roles. On

the other hand, there is an escalating demand for positions involving non-routine cognitive tasks, which generally require higher education and advanced skills. These shifts have contributed to greater wage inequality, as individuals possessing the skills to perform non-routine cognitive tasks have experienced wage growth, whilst those engaged in routine tasks have seen their wages stagnate or decline.

Moreover, Goos and Manning (2007) point out similar situations in the UK. Recent developments in the labour market have revealed significant trends. There has been considerable growth in high-skill, high-wage occupations, such as managerial, professional, and technical roles. Simultaneously, there is a notable increase in low-skill, low-wage occupations within the service sector, encompassing personal care, cleaning, and customer service roles. In contrast, there has been a pronounced decline in middle-skill, middle-wage occupations, particularly in manufacturing and clerical jobs. A key factor driving these changes is the heightened susceptibility of routine tasks to automation with ICT. Routine tasks, commonly found in middle-skill jobs, are more easily automated. However, non-routine tasks that require creativity and personal interaction are less vulnerable to these forces, resulting in growth in both high-skill and certain low-skill job categories.

Richmond and Triplett (2018) examine the relationship between ICT development and income inequality using data from 107 countries. They conclude that the proliferation of ICT has significantly transformed economies and societies worldwide. Whilst ICT holds considerable promise for economic growth and improved living standards, its impact on income inequality presents a more complex and multifaceted picture. Their cross-national analysis reveals a positive correlation between ICT diffusion and income inequality, with higher levels of ICT penetration often associated with greater income disparities. A primary driver behind this trend is the phenomenon of skill-biased technological change. ICT tends to disproportionately benefit individuals with higher skills and education, leading to a wage

premium for these high-skilled workers. Consequently, the income gap between high- and low-skilled workers widens, exacerbating overall income inequality. This effect is particularly pronounced in countries where ICT adoption is concentrated amongst a small segment of the population, typically those already in advantageous economic positions.

#### **2.4.3.2 The Need to Reform Minimum Wage Policy**

Scholars argue that minimum wage policy should change as a result of technological development. McAfee and Brynjolfsson (2016) argue that, as the use of AI increases, minimum wage policy, which is directly related to the wages of low-skilled workers, has to change in order to account for the ways in which ICT-enhanced systems take on work and could cause unemployment. Eckardt (2022) maintains that the right minimum wage policy would be able to address labour problems in the era of technological development. But, Eckardt argues, if no such minimum wage policy is introduced, income inequality will increase. There is some debate regarding how minimum wage policy can be adapted to respond to technological advances and protect low-skilled workers. Schwab (2017) and a report by the OECD (2019) suggest ways to improve the minimum wage policy, but emphasise that this cannot be achieved by national governments alone. Indeed, the private sector will need to involve itself if there is to be any hope of addressing the intricate and interrelated policy issues linked to technological progress, income inequality, and the increase in unemployment. As Schwab and the OECD report stress, successful policy transformation requires thorough consideration of the ramifications of technological advancements and social policies. Governments and the private sector therefore need to come together, armed with a comprehensive understanding of policy, technological progress, and societal changes.

## **2.5 Limitations of Existing Studies and Closing Gaps**

### **2.5.1 Limitations**

Above, I have presented a review of institutional research that seeks to identify the causes and processes of institutional change involved in Korea's minimum wage policy. While the studies discussed above provide a number of insights, they encounter three significant limitations.

First, studies of minimum wage policy in Korea to date have only analysed small aspects of minimum wage policy, focusing, for example, on the minimum wage determination mechanism, the application method, and the operational plan of the Minimum Wage Commission. But given that the minimum wage is both a social policy that protects low-skilled workers and an economic policy closely related to companies' employment and labour costs, we need to take a more holistic perspective on minimum wage policy, even if doing so is full of complexity and presents challenges.

Second, systematic theoretical application based on empirical evidence does not go far enough. A number of researchers have tried to analyse the causes for the introduction of the minimum wage policy by adopting the established concepts and framework of institutionalisms. But not all have deployed crucial aspects of Historical Institutionalism, such as looking at critical junctures and studying path dependence. Doing so, however, would bring significant new findings to our understanding of this central part of Korean economic and social life.

Lastly, in all of the scholarship discussed above, none studies the relationship between technological advances and changes in minimum wage policies. Yet it is clear that recent developments in ICT, AI, and robot technology have precipitated policy changes and that developed countries amend or modify their social policies, including those affecting education, medical care, transportation, and crime, not to mention their economic and technological policies, in the light of technological progress. Although a number of related studies have been conducted, no research to date has focused on whether there is a causal relationship between technological advances and changes in minimum wage policy, even though the replacement of

low-skilled workers by AI and the possibility of employment reduction owing to the hike of the minimum wage are clear, observable phenomena. Research, that is, has not used technological development as an independent variable and recognised changes to minimum wage policy as dependent variables.

### **2.5.2 Closing the Gap in Knowledge**

To overcome the limitations noted above and to close the gap in scholarship, this thesis focuses on three points. Perhaps most significantly, my research examines how minimum wage policies and institutions in Korea have changed over the past 35 years, thus moving beyond the focus on smaller parts that we found in previous research on the topic. My approach is also significant because it examines longer period of time than most previous studies, that is, from 1988 to the present. I seek to identify the causes of changes in minimum wage policy from the perspective using a historical institutionalist lens, deploying its tools of path dependence and critical junctures. I provide a detailed analysis of how Korea's minimum wage policy has transformed and how it responded to external shocks as and when they occurred. Finally, I aim to contribute to knowledge by discover the causal connection between technological progress and changes in the minimum wage policy.



## **Chapter 3: Research Design and Method**

### **3.1. Introduction**

The literature review in the previous chapter identified a number of gaps in current knowledge. In particular, while there have been rapid socio-economic changes in the face of the digital revolution and the advancement of AI, research on Korea's minimum wage policy has not examined any connection between it and the country's technological development. Moreover, the policy has not yet been subjected to an analysis founded on historical institutionalist principles. This thesis therefore seeks to plug these gaps by studying how technological progress has influenced changes in Korea's minimum wage policy.

In achieving this goal, this study bases itself in a philosophical approach that combines ontological Constructionism with epistemological Interpretivism to undertake qualitative analysis of a single explanatory case study. I adopt the theoretical framework of Historical Institutionalism in order to analyse historical shifts in Korean minimum wage policy. In addition, my research aims to illustrate the causal link between technological development and changes to the minimum wage policy shifts by analysing documents and tracing process involved in key policy decisions.

This chapter is divided into six parts, which, taken as a whole, set out my research design and methodology. In the first section, I state my research objectives and questions before I outline my philosophical approach in the second section. Following this, the third part provides an explanatory case study and the fourth and fifth parts detail my method for collecting data and my analysis strategies, respectively. In the final section of this chapter, I consider the validity and reliability of my research.

## **3.2. Research Objectives and Questions**

### **3.2.1 Research Objectives**

This study seeks to understand why and how technological development has affected minimum wage policy in Korea. As described in Chapter 1, Korea has focused on technological innovation since the 1970s and, according to endogenous growth theory (Romer, 1986; Lucas, 1988; Krugman, 1994), has achieved rapid economic growth within that relatively short period. The Korean government's policy of focusing on technological advancement has coincided with the transformation of its minimum wage policy, a social policy. In other words, the policy for technological development could be deeply connected with social behaviour, social context, and social policies (North, 1990; Arthur, 1994; Pierson, 2000). Given the interrelations and interconnections between national policies (Pierson, 2000), this may come as no surprise.

In the light of Korea's unique policy background, my research has three objectives. The first of these is to study how Korea's minimum wage policy has changed over 35 years. To this end, I examine empirical evidence documenting decision-making processes of actors and policy-makers right up to policy outputs and implementation. I use these empirical sources to investigate, on the one hand, what has changed in crucial policy outcomes from 1988, when Korea's minimum wage law was introduced, to 2023; I also explore, on the other hand, the extent to which the policy has changed since Korea introduced the minimum wage. Indeed, as described above, although Korea adopted Japan's minimum wage policy in the 1980s, it has developed its own policy entirely differently. To achieve this research objective, I conduct my policy analysis through the lens of Historical Institutionalism. I employ path dependency and critical juncture as tools with which to examine Korean minimum wage in the context of institutions, ideas, interests, and external effects such as global economic crises.

The second objective of the study is to identify the causes of changes in Korea's minimum wage policy. In order to explain why the minimum wage policy in Korea has changed over the past 35 years, I apply and test propositions and hypotheses about general institutional evolution. Following the policy analysis (research objective 1) conducted using the framework and tools of Historical Institutionalism, I apply propositions to find the independent and dependent variables in the evolution of the minimum wage policy. I then reject unsuitable propositions and accept the appropriate hypothesis thanks to the analysis of empirical evidence and data. In short, the second objective of this research is to find the causal relationship between independent variables, that is income gaps, and the changes in the minimum wage policy.

The third research objective is the most challenging. My key goal is to find the link between the income gap, that is the cause of the change in the minimum wage policy, and technological development. My basic premise is that changes in the minimum wage policy were caused by social problems such as the income gap. This study therefore aims to understand the causal mechanism between technological development and income disparity in society. After all, technological development is considered an independent variable, and the cause found in research objective two becomes a dependent variable. Therefore, the third purpose of this study is to elucidate the causal mechanism between technological development and the cause of changes in the minimum wage policy. The unit of study analysis in this part is at the micro-level, as it focuses on how policy evolution was determined by decision-makers; political and societal actors are therefore at the heart of my study, as stakeholder groups consisting of politicians, policy-makers, trade unions, and managers impact shifts in the minimum wage policy.

## **3.2.2 Research Questions**

### **3.2.2.1 Considerations for Eliciting Research Questions**

The core of this thesis is to understand two processes. One is to find the causal relationship between technology development and social issues, such as income inequality. The other process is understanding the causal link between social issues, such as the income gap, and changes in minimum wage policy. A particularly crucial issue here is to discover how technological progress has affected income inequality. To what extent did the evolution of technology affect, drive, and touch on the perceptions and actions of politicians and policy-makers? The very nature of this question means that it cannot be easily expressed quantitatively, because politicians and policy-makers need to consider all ramifications for political, economic, and social issues and technological progress when they make changes to minimum wage policy (Creswell and Creswell, 2017). But current research by both academics and international organisations such as the UN and the OECD know that technological development is accepted as one of the most significant driving forces for social change. Since the 1990s, advanced countries have adopted technology policy as an independent rather than a dependent variable. Furthermore, since the early 2000s, developed countries have acknowledged that technological improvements and policies directly or indirectly affect social institutions (Castells, 2000; Castells and Himanen, 2004). Korea is no exception to this. In the 1990s, the Korean government recognised that IT could transform the shape of culture, work, and lifestyle. Moreover, we know that low-wage workers' jobs have altered since the 2000s as a result of technological evolution. A number of jobs, for example, stand on the borderline between self-employment and employee status (e.g., Uber drivers) and there has been an increase in the numbers of various part-time and non-regular workers, both as a result of technological development (OECD, 2019). Many countries have not been able to escape the fact that

technology, as one of the most vital driving forces, is replacing low-skilled workers (Schwab, 2016). Thus, we need to think carefully about these changes in the perception of technological development and derive research questions that will achieve the purpose of this thesis.

### **3.2.2.2 Three Research Questions**

When considering social policies, it is essential to understand policy changes and the conditions that facilitate or limit those changes. For this reason, this study's objectives and general questions are designed to comprehend changes in the minimum wage system, deal with dynamic and complex phenomena, and inquire about the causal relationship between technological development and changes in the minimum wage policy.

In particular, this study seeks to answer three questions. The first of these asks: 'How has Korea's minimum wage policy changed from 1988 to 2023?' In order to explain the meaning of third research question, I need to clarify the definitions of certain words. 'Policy change' refers to changes in laws, orders, and rules related to the minimum wage institution, as well as changes in the contents of policy agendas, plans, and implementations, and the level of the minimum wage. To answer this research question, we need to investigate evidence at the meso-level. Moreover, 'how' in the question refers to what has changed, the degree to which this has changed, and in what direction. In other words, answering this research question requires an analysis of what has changed from the initial version of the minimum wage policy. Next, we study the extent to which the policy has changed from the original policy introduced in 1988. For instance, I evaluate whether only a small part has changed from the initial version or developed entirely differently from the original institution and I measure the specific trajectory that these policy changes have followed.

The second research question is: 'What factors have led to the change in the policy?' After identifying the policy change, that is, I want to study the question of causality in this

context. This research question requires independent, dependent, and causal mechanisms. Therefore, the independent variables and causal mechanisms that cause changes in the minimum wage policy are derived from propositions in prior research. In particular, the case of Korea can be understood by examining whether similar causal relationships and independent variables exist and whether or not those causal determining factors produce similar results. All possible causal determinants and interaction effects can be addressed in explanatory frameworks and policy analyses. We know, however, that the various socio-economic structures, developmental levels, and different explanatory factors used in the case of other countries may not be reflected identically in the case of Korea. For these reasons, explanatory variables, frameworks, and hypothetical elements should be modified to suit the Korean context (see Chapter 5).

The third question is: ‘Have technological developments been related to the income inequality that caused the changes in the policy?’ This question hopes to find the causal relationship between the independent variable of technological development and the dependent variable that changed the minimum wage policy. When answering that question, however, I clarify its meaning by defining how I understand technological development.

This study, therefore, sets out the following questions:

1. How has Korea’s minimum wage policy changed from 1988 to 2023?
2. What factors have led to the change in the minimum wage policy?
3. Have technological developments been related to the income inequality that caused the changes in the policy?

In summary, as we can see from the research questions of this study, my overarching goal in this thesis is to understand how Korea’s technological development policy has influenced its minimum wage policy.

## **3.3 Philosophical Approach**

### **3.3.1 Constructionism: A Philosophy for the Nature of Reality and Existence**

In academic research that explores social policies, it is imperative that the research design and methodology are grounded in a philosophical framework that addresses the specified research objectives and questions. In general, investigating social policies extends beyond the analysis of legislative texts and institutional structures. Indeed, my study aims to elucidate the complex processes involved in changes in the minimum wage policy, seeing social policies not as fixed entities, but as dynamic constructs moulded by societal beliefs, interactions, and evolving meanings (Bryman, 2008). It therefore takes a constructionist viewpoint on ontology.

According to Mason (2002) and Bryman (2008), social policies are frequently approached as rigid structures with predetermined consequences. A constructionist perspective, however, challenges this conventional stance: instead of understanding policies as unchangeable entities, it studies them as socially constructed phenomena influenced by the interpretive dynamics of a diverse range of societal actors. As we navigate the intricate terrain of minimum wage policy in Korea, therefore, we need to examine not only what this policy prescribes but also, and of greater significance, how this policy has been perceived, interpreted, and reshaped by the individuals and policy-makers.

In short, this philosophical approach sets the stage for an exploration of social policy that will do justice to its dynamic and fluid nature, paying close attention to the multifaceted interactions that contribute to how policies and institutions are constructed. By adopting a constructionist perspective, I seek to uncover the layers of meanings, values, and societal negotiations underpinning the developments and evolutions of Korea's minimum wage policy, thereby contributing to a richer understanding of the complexities inherent in the social policy landscape.

### **3.3.2 Connecting Interpretivism and Constructionism**

Interpretivism, in epistemological terms, refers to a way of approaching social phenomena that is fundamentally rooted in the interpretations and meanings ascribed to them by individuals within a specific social context (Green, 2014). It accentuates the subjective nature of knowledge, asserting that reality is shaped through the perspectives of those who experience it (Mason, 2002). In other words, Constructionism contends that reality, encompassing social phenomena, is not an objective entity awaiting discovery; instead, it is actively constructed through shared meanings and interactions among individuals. Interpretivism therefore seamlessly aligns with the ontological foundation of Constructionism (Blaikie, 2007). When Interpretivism is integrated into this ontological framework, it becomes evident that the very act of interpretation, central to Interpretivism, is a process of constructing reality (Mason, 2002; Blaikie, 2007). The two philosophical perspectives meet in a reciprocal relationship between how individuals interpret their social world (Interpretivism) and how these interpretations collectively contribute to the ongoing construction of social reality (Constructionism) (Blaikie, 2007). The synergy between Interpretivism and Constructionism arises from acknowledging that knowledge is not a passive reflection of an external reality, but an active construction influenced by individual perspectives. This dual perspective places us ideally for exploring the complex interplay between minimum wage policy in Korea and social actors' interpretations of that policy.

### **3.3.3 Research Method Based on this Philosophical Background**

These philosophical schools of thought are particularly significant to my research for two primary reasons. First, in an examination of a Korean policy, these philosophical bases remind us to immerse ourselves in the social environment in which that wage policy arose and has since been interpreted and perceived. Specifically, Constructionism and Interpretivism function



as guiding principles in understanding how policy-makers, unions, management groups, and researchers interpret and comprehend social policies. Second, this approach facilitates the use of specific research methods in collecting, using, and interpreting various data. At its core, the philosophical stance underwriting this thesis helps us to recognise how and why distinct changes in minimum wage policy occur.

As this thesis aims to scrutinise the transformations in Korea's minimum wage policy and examine how technological advancements have influenced these policy changes over the past 35 years, in basic terms, the philosophical underpinning of this thesis insists on a meticulous and detailed analysis of various forms of data that are specific to the Korean situations. This includes analysis of data encompassing the perceptions, interpretations, and assertions of social actors, where data fundamentally manifests as expressions—whether verbal or written—conveying the thoughts of these social actors (Ravallion and Lokshin, 1999).

### **3.4 Within-case Study**

#### **3.4.1 Based on Research Objectives and a Philosophical Approach**

This study conducts an extensive analysis of Korean minimum wage policy. Interpretivism and Constructionism are well-suited to a case study research design, because both are philosophical approaches that focusing on qualitatively understanding and interpreting social phenomena in depth. And while case studies consist of in-depth explorations of particular instances, Interpretivism is concerned with understanding the context, perspectives, and meanings specific to each case (Ponelis, 2015). Case studies are therefore not only well suited to achieving my research objectives; they also sit comfortably with the philosophical foundations of this thesis.

As Gerring (2007) and Yin (2009) illustrate, researchers can use case studies in various fields. For example, case studies are employed in medicine research to gain a deeper

understanding of health conditions, diseases, and possible treatments. In the field of business research, a case study might be used to provide in-depth analysis of a specific company's strategy. In politics or policy studies, the case study is used for gaining a detailed understanding of events, from smaller events to significant events such as revolutions or wars. Case studies are so far-reaching and frequently used in research, because a case study's evidence tends to be more reliable than evidence derived from other research methods. This is because data and evidence are obtained from the public and private domains, making it able to provide detailed analysis of the nature, consequences, and causes of, for instance, policies.

By and large, case study designs fall into one of two categories: single- and multiple-case designs (Yin, 2003). This study adopts a single-case design, seeing it as having two advantages over its competitor. First, as Gerring (2007) argues, a single-case study is highly descriptive of policy outcomes, especially when an exact theoretical framework is lacking that might otherwise explain policy phenomena. A single-case analysis is therefore suitable for investigating specific and puzzling policy phenomena, such as, for instance, developments and changes in minimum wage policy in Korea. Single-case studies allow researchers to investigate cases from multiple perspectives and to examine social and political outputs historically. They also enable us to draw causal inferences about a specific phenomenon based on a close description of the event. This method is useful for establishing various probable hypotheses to explain causal mechanisms and test established hypotheses. That said, there are some disadvantages to single-case studies when compared with multiple-case studies. When a researcher studies several cases, for example, it is often possible to derive generalisations from a set of phenomena, while a single-case study makes landing on such generalisations challenging. Multiple-case analyses also place researchers to draw comparisons between different policies and institutions and their outcomes, while a single-case study does not.

### **3.4.2 A Korean Single-case Study**

Even while keeping the relative merits of multiple-case studies in mind, the strengths and features of the single-case study are of particular significance to the aims and objectives of this thesis. More specifically, conducting a within-case study places us well to understand and explain the changes in and development of Korea's minimum wage policy. As stated above, over the past 35 years, Korea's minimum wage policy has developed in a very different way to Japan's, on which it was initially based. Indeed, Korea's policy has evolved to have a single, national minimum wage that is now at one of the highest levels amongst OECD countries (Lee, 2019). As mentioned in Chapter 2, the short-term and long-term changes in Korea's minimum wage policy are unique among OECD countries and are sufficient to be helpful in policy research.

In particular, in 1989 the government transformed the minimum wage system from a complex to a simple system (Kim, 2007; ILO, 2016). According to Kim (2007), the single minimum wage was applied without discrimination by industry, region, or age. At that time, the policy's purpose was to eradicate labour exploitation in the manufacturing industry, maintain an appropriate wage level, and avoid discrimination by industry. Also, the change in 2000 was that the state applied the minimum wage law to all workplaces. The authority gradually expanded the minimum wage target; in 1988, it was applied to manufacturing sectors with ten or more employees, and in 2000, it was applied to all manufacturing and services sectors. The government applied the same minimum wage regardless of industry and number of employees to protect all low-wage workers. Lastly, Lee (2019) points out that the keyword for change in 2018 is a sharp rise in the minimum wage level. It increased by 16.4% in 2018 and 10.9% in 2019. From 2000 to 2017, the average increase in the minimum wage was about 7%. Compared with the average of 17 years, it can be seen that the increase is very high in 2018 and 2019. Also, as of 2019, the median wage to the minimum wage exceeded 0.62,

making it a country with a high minimum wage among OECD countries. There was a political goal behind this sharp rise. The purpose of the policy was to reduce income inequality.

Therefore, the developments and changes in the minimum wage policy in Korea are worth studying. Unlike the high-income countries of the OECD, it has the characteristic of soaring in the short term. And in the long run, it developed in a completely different form from Japan's minimum wage policy, which was a role model. For these reasons, changes in Korea's minimum wage policy could be unique. And the phenomenon that develops with a specific trajectory of a specific change in the policy is worth analysing from policy perspectives (Thelen and Conran, 2016).

Another reason why the case of Korea is significant is due to its technological advancement. Namely, technological development has been established as the country's key policy for a long time. Specifically, the policy for technology progress can be one of a country's top priority policies, and it must be a country that can prove that this policy has been successful for a long time. This is because the technological advance policy should be able to influence social policies and play an essential role as an independent variable. In these respects, Korea, which has concentrated on technological progress since 1970, can be cited as the case for the study. There are two reasons. The ratio of R&D investment to GDP ranks second in the world. Kim (2021) comparatively studies the ratio of R&D investment to GDP in developed countries. Korea's R&D by the private and public sectors is 4.81% of GDP. This is the second-highest figure after Israel (4.93%). Sweden (3.31%), Japan (3.20%), Germany (3.19%) and Switzerland (3.18%) are in order. Korea has invested in technological development in various service fields such as ICT, software, AI, and biotechnology. The country also has invested in manufacturing sectors such as electronics, automobiles, steel, shipbuilding, and chemicals since 1970s.

In a nutshell, Korea is recognised as a role model for endogenous growth theory. As described in detail in the literature review, Romer (1986), who won the Nobel Prize in Economics in 2018, introduces the R&D part into the existing economic growth model. In classical growth theory, labour and capital have been known as the key factors of economic growth, and technology has been regarded as only an exogenous variable. Still, he argues that technological development is an endogenous factor supporting continued economic growth. Also, Romer (1986) and Krugman (1994) analyse that Korea is a country that achieved rapid economic growth based on the endogenous growth theory. They prove that countries lacking labour and capital could achieve economic growth due to focusing on technological progress. Korea is the case model of the theory.

In conclusion, the rationale for selecting the Korean case in this paper is clear. Korea's minimum wage policy has undergone unique changes both in the short and long term, making it a subject worthy of study. Additionally, Korea has achieved remarkable technological development within a short period, aligning with endogenous growth theory. The Korean government has long prioritised technological progress, which has likely influenced various social phenomena and policies (Pierson, 1993). This context provides sufficient conditions for conducting policy studies. It means that a within-case analysis of Korea enables us to discover how technological development has brought about changes in Korea's minimum wage policy. My research involves historical analysis of changes in minimum wage policy that have occurred over time, using a within-case approach to focus on critical junctures while longitudinally analysing policy shifts at the same time. Furthermore, with its interest in how and why technological progress could affect actors' perceptions, this research seeks to understand how their causal mechanism works overtime (Yin, 2009).

### **3.5 Data From Documents**

### **3.5.1 Reasons for Choosing the Documentary Method**

When considering methodologies for data collection, it is essential to be rooted in a philosophical framework. Interpretivism posits that language acts as a means of interaction between social actors and scientists. As a result, research that adopts an interpretivist perspective predominantly employs tools such as interviews, focus groups, and documentary methods, since social actors express themselves through speech and writing (Mason, 2002).

In the wake of the COVID-19 pandemic, however, social distancing measures and restricted mobility have posed challenges to conducting research using face-to-face methods. In the realm of policy research specifically, the use of conventional methods like interviews and focus groups has been constrained. As a response, since 2020, researchers have explored ways to conduct research by actively incorporating non-face-to-face methods. The research conducted for this thesis reflects the presence of these social constraints and, therefore, I have collected data using a documentary method as opposed to through interviews or focus group sessions. The documentary method does, of course, have both advantages and disadvantages, but it is one of the best choices that was available to researchers during the pandemic.

According to Crowe (2011) and Creswell and Creswell (2017), institutions rely so heavily on paperwork that documents cannot be ignored when researchers are seeking to understand an organisation or a policy. Documentary analysis is well suited to interpreting how minimum wage policies have changed historically in Korea. In addition, the document can specify the relationship between the minimum wage policy and technological development. Documents are therefore studied as the primary form of data researched in this thesis, rather than seen as playing a secondary role (Yin, 2009; Creswell and Creswell, 2017). The data gleaned from documents are expected to describe the legal and regulatory frameworks at play in Korea's minimum wage policy, map the changes that have occurred, and help us to infer the causal link between technological development and changes in the minimum wage policy.

### **3.5.2 Data Collection Strategy**

According to Yin (2003), Bowen (2009), and Creswell and Creswell (2017), analysing documents from multiple sources allows us to increase the accuracy and reliability of data sources by minimising the risk of bias. Yet documentary analysis has two limitations. First, public documentary evidence is not indicative of the institutional meaning that lies behind a specific policy. Indeed, policy-makers cannot account for all perspectives, backgrounds, and results in a single official report. Moreover, as a report is prepared in the light of a political situation and the prevailing socio-economic issues of that situation, one government report cannot consider all issues. Second, documents are by their nature not transparent, but a specific version of reality. Documents prepared by a government agency could, therefore, present an overly optimistic account of a specific policy or policy programme rather than give an accurate picture or face up to gloomy prospects. While the documentary method meets these potential hurdles, however, we can utilise multiple sources of evidence to clarify an overall picture and overcome the biases of both previous researchers and the authors of the documents examined, thus minimising possible errors in document analysis.

By and large, it is not hard to obtain a range of documents. Indeed, thanks to developments in ICT, governmental and parliamentary documents in Korea are accessible online. These include legal documents, which are available on the National Assembly's official website. In addition, materials from 20 to 30 years ago can be viewed offline and online at the National Assembly Library of the Republic of Korea. Administrative documents and reports published by international organisations are also available online.

Efficient use of the document analysis method requires the collection of appropriate documents from various sectors (Yin, 2003; Bowen, 2009). This study collects and analyses four types of documents while also distinguishing between primary data and secondary data in

collecting and classifying data. I use primary data preferentially unless there is a particular reason not to do so. According to Hox and Boeije (2005), researchers should consider designing, collecting, and analysing research focusing on primary data because such data are highly reliable and accurate. Secondary data, however, which are defined as the results of existing research conducted by other people or institutions, can be relatively reliable and inaccurate. Where using secondary data is unavoidable, therefore, I clarify why I have chosen to analyse it.

As for data collection, this study gathers data from four areas based on the above data acquisition strategy. First, I collect conventional legal sources, including legislative amendments and agendas, agreements, and final amendments to legislation in the parliament. The critical point of my research is to establish how and why Korean minimum wage law has changed, and parliamentary discussions between Korea's progressive and conservative parties regarding the law (Yin, 2009; Creswell and Creswell, 2017) will provide crucial data regarding the background to any revisions of the Minimum Wage Act.

Second, the study makes use of official government documents, such as administrative documents, including proposals, government projects, and reports as well as enforcement ordinances and rules prepared by the government for policy implementation. I also study official statistics relating to the minimum wage policy, such as those pertaining to rate increases and to the ratio of the minimum to the median wage. Documents from central government and the Minimum Wage Commission are especially useful in this regard, providing insight into the opinions and perceptions of stakeholders, such as labour unions and management associations, through the Minimum Wage Commission data (Creswell and Creswell, 2017). Moreover, various government reports present analysis of socio-economic changes and the reasoning behind shifts in social policies. Documents from the Ministry of Strategy and Finance, the Ministry of Health and Welfare, and the Ministry of Employment and Labor, for example,



provide insights into and evidence of a causal connection between social change and the development of minimum wage policy. And documents from the Ministry of Science and ICT provide evidence of the influence of technological developments on social policies and socio-economic changes. Through analysing official government documents, that is, this study can grasp specific and historical changes in Korea's minimum wage policy.

Third, this study examines reports from international organisations that evaluate Korea's minimum wage policy, including reports by the OECD, the ILO, the World Bank, and the UN. As stated in the literature review, a report by the ILO (2014) in particular focuses on the causes of the development of the minimum wage in a selection of countries. International organisations provide specific directions for critical issues and present information on the backgrounds of changes in minimum wage policy. Moreover, they present thorough examinations of the adverse effects of the income gap stemming from technological development. These reports therefore provide important clues to answering my research questions.

Lastly, given the significance of views presented by academics, non-governmental organisations, and the media (Zhang, 2013; Creswell and Creswell, 2017), my research examines the work of scholars, organisations, and journalists who have studied and evaluated government policies. This is especially important in two respects. On the one hand, such sources are significant for their analysis of the social impact of changes in the policy, whether these changes have good or bad consequences. On the other hand, such sources make it possible to identify the perspectives of specific stakeholders, such as workers, managers' groups, and policy-makers, which, in turn, enable us to directly or indirectly understand the causes of changes in minimum wage policy (Thelen and Conran, 2016). The Korean Enterprises Federation and the Korean Federation of Trade Unions in particular, for example, continuously evaluate changes in Korea's minimum wage policy because they are the groups most affected

by policy alterations. Wanting to understand how experts and stakeholders have responded to and shaped policies and policy changes therefore informs which documents are selected (Gauvin, 2014).

### **3.5.3 Criteria for Data Chains**

Having collected documents and data from a number of fields according to the strategy outlined above, I then categorised these data according using a coding system that best enabled me to answer my research questions.

My coding system (Appendix 01) divides the collected documents and data into three categories. i) The first of these comprises documents related to the policy changes, such as laws, ordinances, rules, policy reports, and annual minimum wage increase rates. The documents in this first category are directly connected to my first research question and are best suited to answering how minimum wage policy has evolved over the past 35 years. ii) The second category, in answer to my second research question, is concerned with the causes of changes in minimum wage policy. It therefore consists of documents that investigate the reasons for changes in Korea's minimum wage policy and includes documents that point to possible social, political, and economic causal links. iii) The third category seeks to answer my third research question and, therefore, also comprises documents that relate to the issue of causality. This category includes documents and data that examine and illustrate how technological development has influenced social change by widening the income gap.

Further to this categorisation, my method needs to take historical transitions into account when systematically creating a data chain. I have therefore included chronological changes in my coding system, using three levels of historical classification. i) The first classification covers the period from 1988 to 1989, when the policy transitioned from being a complex system to something much simpler, almost immediately after the Korean government had first

introduced the minimum wage in 1988. ii) The second classification covers 1990 to 2002, when the Korean government expanded the coverage of the minimum wage. In 2000, the Minimum Wage Act was revised and, in 2002, the new law went into effect, applying the minimum wage to all workers and bringing about significant reforms, making this a distinct period in the policy's history. iii) The third and last period spans from 2003 to the present, during which time the minimum wage has continuously increased. The minimum-to-median wage ratio has, for instance, steadily grown in this period from 0.34 to 0.62. Over 20 years, that is, the ratio rose from the lowest level among OECD countries to being among the highest (Lee, 2019).

### **3.6 Analysis Strategy**

When performing case studies, researchers should have a precise analysis strategy that defines the purpose and priorities of what is to be analysed, and how (Yin, 2003). After collecting empirical evidence, there must be a solid blueprint for how case studies will be approached. This, in turn, can assist the researcher to accurately and systematically investigate the evidence and draw logical conclusions (Yin, 2009). Moreover, a precise analysis strategy helps researchers use research tools and take advantage of the collected data more efficiently. Given the importance of having a clear and defined analysis strategy, in the following, I shall outline how this thesis approaches its analysis with a view to answering its research questions.

As stated above, this study examines the specific case of changes in Korea's minimum wage policy. It seeks, moreover, to study how technological development has influenced that policy. This thesis is an explanatory case study rather than one that seeks to test or build theories. Following Yin's (2003) lead, therefore, adopt three analysis strategies: i) analysing the policy based on the institutional theories; ii) establishing explanations (hypotheses) that can illustrate the policy outcomes; and iii) accepting the correct hypothesis and finding the causal relationship between technological advancement and changes in minimum wage policy.

### **3.6.1 Policy Analysis Based on Historical Institutionalism**

The core of my analysis strategy when answering my first research question is based on Historical Institutionalism. As Mahoney (2000) and Hall (2016) illustrate, historical institutionalists have developed and applied two valuable tools for investigating institutions. The first of these, path dependence, explains the mechanism by which a policy or an institution remains stable along a specific path over time (Pierson, 2000). The second is the concept of the critical juncture, which clarifies the mechanism by which institutional change comes about. In brief, a critical juncture represents a situation of uncertainty which, in turn, affects actors' choices and decisions (Collier and Collier, 1991).

#### **3.6.1.1 Path Dependence**

Generally, historical institutionalist scholars analyse institutions, ideas, and interests in order to gain a multi-perspectival lens on policy changes (Béland, 2007; Thelen and Conran, 2016). Following this lead, my research adopts the so-called '3 Is' framework (institutions, interests, ideas). The '3 Is' framework is useful in understanding how past institutions have changed (Gauvin, 2014) precisely because it recognises the roles played by institutions, actors' interests, and ideas in affecting policy outcomes and, in the context of my research, influencing the trajectory of Korea's minimum wage policy.

##### **3.6.1.1.1 Institution**

In order to analyse institutions, we need to investigate them at the meso-level of analysis. This is because institutions refer to the formal and informal rules that constitute political behaviours (Pomey et al., 2010).

##### **3.6.1.1.1.1 Incrementalism**

Historical Institutionalism focuses on the long-term institutional legacy of policies (Beland, 2009). This function, incrementalism, reflects how institutions persist over time and shape

policy developments with specific path dependencies (Thelen, 2003; Mahoney and Thelen, 2010). By attending to the incrementalism of institutions, we can evaluate how Korea's minimum wage policy has remained on a specific trajectory while it has also changed.

Streeck and Thelen (2005) point to four criteria of institutional incrementalism, in the form of displacement, layering, drift, and conversion. These four criteria help us to investigate both the degree to which Korea's minimum wage policy did indeed change and, in turn, which of these four criteria fit those policy changes. As stated above, this step in my analysis will provide an answer to my first research question.

One of the criteria for institutional incrementalism is 'displacement.' This model of change explains both sudden and gradual changes. It accounts, for example, for the replacement of institutions by revolutions and the slow-moving displacement that can occur when old and new systems compete to solve socio-economic issues. When the supporters of an old rule cannot prevent the introduction of the new rule, a displacement can occur (Thelen, 2004; Mahoney and Thelen, 2009).

'Layering' provides modifications or additions to an existing institution (Mahoney and Thelen, 2010). In other words, policy-makers and political actors do not remove existing institutions but add layers to them. This process occurs when challengers try to replace existing policies but cannot change the old rule. Instead, the policy or institutions is changed by the addition of new content or modification of what presently exists. The concept of 'layering' therefore explains changes in social and public policy, especially when these are undertaken by policy-makers in order to reflect the needs of various stakeholders surrounding the policy that place demands on the existing system (Mahoney and Thelen, 2010).

'Drifting' occurs when a change in socio-economic circumstances cause the old rules to fail in the face of a new environment. Since political actors and policy-makers have a number of reasons for maintain the form of an initial policy model, it is not easy for political legacy or

veto players to change institutions. As a result, policies and institutions that do not adequately respond to environmental changes become less appropriate in the new socio-economic landscape. Ironically, the absence of institutional change in the new socio-economic environment can itself lead to a form of institutional change (Hacker, 2004; Mahoney and Thelen, 2010).

‘Conversion’ redirects existing rules to be reinterpreted and applied for a policy’s new purpose. It occurs when rules are formally identical to the initial rules but are interpreted and enacted in new ways (Thelen, 2004).

These processes that describe the incrementalism of institutions will be central in examining how Korea’s minimum wage policy has changed, and, using these, we will be able to determine which one best represents the degree of change in Korea’s minimum wage policy. The next chapter, in which we analyse policy changes from 1988 to 2023, for instance, argues that these changes have followed one path of incrementalism.

#### **3.6.1.1.1.2 *Veto Players and Veto Points***

The political scientist Tsebelis (1995) theorises what he calls a veto player. The heart of his argument is simple but significant. The more veto players there are who oppose changes to laws and policies, the more stable the policies and institutions are. And, conversely, if there are few opponents to a specific institution or policy developments, the institution can change rapidly in response to socio-economic changes. Moreover, the number of veto players is related to the political situation at any given time. For example, if the number of members of the ruling party in a parliament is greater than that of the opposition party, there may be fewer veto players. And if the number of opposition party members in a country’s legislature is greater than that of members of the ruling party, the higher proportion of veto players make it difficult for policies and institutions to improve. Studying veto players is therefore essential in policy analysis, such as that undertaken in this thesis.

The veto point, related to veto players, is also vital in studying institutional change. A veto point is an opportunity to oppose policy-making and legislation. In policy-making and change processes, veto points arise formally or informally (Immergut, 1990). When researchers examine veto points, therefore, they can identify when formal and informal groups have exercised their veto point and affected policy decisions. We can also recognise how the concepts of veto players and veto points account for the diverse patterns and dynamics of path dependence in social policy studies.

#### **3.6.1.1.2 Interest**

Another critical factor in policy analysis is the interest of the stakeholders surrounding the institution. Such stakeholders include the specific groups who stand to benefit from changes to policies, through, for example, the redirection of government resources to them (Pierson, 1993). Stakeholders surrounding an institution seek to actively reflect their agenda and demands in policies by making these critical to policy-making processes (Gauvin, 2014; Pomey et al., 2010). Pomey (2010) defines interest as the agenda of social groups, members of parliament, central and local government officials, and policy entrepreneurs related to institutions. In other words, interest refers to the perception and understanding of stakeholders in policy development and choice. In addition, interest includes the desire to influence decision-making processes to achieve their goals (Peters, 2005).

According to the ILO (2014), company owners and workers have conflicting interests with regard to minimum wage policy. In general, business managers are opposed to raising the minimum wage because doing so increases labour costs. They argue that labour cost increases can lead directly to inflation, reducing the effectiveness of minimum wage increases. We know that it is possible for the government to accept the Entrepreneurs Association's argument. But there are different arguments concerning the relationships between big companies and the development of social policies. Holden (2009), for instance, claims that large corporations and

global companies have structural and agency powers that influence changes and developments in social policy. The structural influence of companies directly and indirectly impacts government policy changes. For example, when an enterprise has grown into a global company and/or has a significant impact on the national economy with its capital and technology, that company's influence on policies and institutions grows too. This in turn has an impact on social policies, such as the minimum wage, because large corporations contribute extensively to investment and employment. While large companies exercise structural influence, their agency power cannot be overlooked. In countries such as Korea, which focus on technological development, for example, corporations invest extensively in the sector and related R&D. As a result, companies become engaged in the political agenda and thus participate in making institutions and policies. For instance, since 1970, industry representatives have participated in establishing and improving Korea's five-year economic development plans (Economic Planning Board, 1986), and their opinions are reflected in policies in various ways. Given the potential for companies to affect minimum wage policy through their structural and agency power, my research takes interest into account when considering how the private sector's interests have affected minimum wage policy.

In general, businesses are not the only stakeholders in policy. Trade unions are key stakeholders whose opinions on the minimum wage tend to differ from those of employers. Trade unions argue that the government should increase the minimum wage to reduce income inequality and poverty. A number of part-time workers have, however, recently opposed minimum wage increases in advanced countries, seeing them as a catalyst for the replacement of low-skilled workers through mechanised alternatives (McAfee and Brynjolfsson, 2016). For example, as the number of automated checkouts and vending machines has increased in restaurants, bars, and shops, the employment rate has decreased. And as using machines helps to reduce costs and as the price of software and ICT devices decreases, companies and retailers



see automated alternatives as key to their growth and success (Lordan and Neumark, 2017). Interest, that is, varies widely depending on the group, country, or period in question. It therefore requires careful analysis when researching policies and institutions.

### **3.6.1.1.3 Ideas**

Within Historical Institutionalism, ideas are defined as ‘knowledge or beliefs about what is (e.g., research knowledge), views about what ought to be (e.g., values), or combinations of the two’ (Pomey et al., 2010, p. 709). Ideas include knowledge or evidence-based empirical research (Gauvin, 2014). Historical institutionalist scholars explore how ideas influence developments and changes in policy. Policy-related ideas tend to emanate from stakeholders or experts, who often use evidence and data to argue how changes in the socio-economic environment have created difficulties for current policies. Such stakeholders and experts also tend to provide institutional options aimed at solving these problems (Gauvin, 2014).

Policy research distinguishes between interests and ideas. As stated above, by interests, researchers understand stakeholders’ agendas, benefits, and losses. Analysing ideas policy change, however, requires investigation of whether social actors’ arguments are based on evidence and research. Lukiyanova and Vishnevskaya (2016), for example, argue that the minimum wage should be applied differentially in developed cities and rural areas. They make this claim by presenting the difference in labour productivity between technology-oriented cities and rural areas.

Ideas can also include the empirical knowledge and values of a country or social group that are not backed up with evidence or data (Hall, 1997). National and cultural differences, for example, lead to Korean people reaching different decisions on certain issues from their Japanese counterparts; and European and Asian countries tend to reach different conclusions regarding the same policy issue. Various policy options may exist owing to differences in dominant values or perceptions within a country or society, and when these dominant values

and perceptions are shared by a country's general public and experts, they exercise a significant influence on policy reforms (Hall, 1997). My study therefore includes analysis of ideas in understanding changes in Korea's minimum wage policy.

### **3.6.1.2 Critical Juncture**

Once we have examined minimum wage policy using the concept of path dependence, it will be essential to employ the concept of the critical juncture. According to Mahoney (2000) and Thelen and Conran (2016), institutions can diverge and, in some cases, irreversibly follow possible alternative routes when a critical juncture occurs. Policy-makers review policy options when addressing socio-economic shocks and when single events significantly alter the socio-economic environment. At such critical moments, they may need to change policies and institutions accordingly. Critical junctures are therefore central to my analysis in this thesis.

Critical junctures have two strategic functions in social policy research. As Pierson (2004) emphasises, external shocks cause variations in the social and economic fabric of a society and give rise to new institutions or changes in existing ones. The critical juncture can come about in any number of ways. From the perspective of Historical Institutionalism, economic crises, wars, revolutions, and epidemics are unavoidable events in history, and focusing on them presents policy scholars with new opportunities for understanding changes in institutions.

In short, researchers studying policy change benefit from studying critical junctures. Such moments provide clues about how policies have changed and what such changes have been in response to. The concept of the critical juncture is especially significant when researching policy changes in Korea, a country that has undergone many global changes and revolutionary events over the past 35 years, and therefore adopting this concept will be central to my analysis in the following.

## 3.6.2 Establishing Explanations That Can Illustrate Policy Outcomes

### 3.6.2.1 A Sequence of Variables

The second part of my analysis strategy is to derive possible propositions. To understand how technological development has influenced changes in the minimum wage, we need to connect the independent, intervening, and dependent variables with one another. The connections are shown in < Figure 3.3 >. This study sets the independent variable as technological development. As mentioned above, an assessment of technological development uses the factors enumerated in endogenous growth theory, ICT statistics, and indicators used in the research of the International Telecommunication Union (ITU). The dependent variable refers to the specific changes of factors in the minimum wage policy. Dependent variables are specifically derived through policy analysis. The most meaningful, researchable, and available dependent variables must be derived by analysing the three and a half decades of evolution that that institution has undergone. Intervening variables are also acquired through policy analysis. Specifically, when we undertake a detailed analysis of interests, ideas, and critical junctures, we can identify the socio-economic variables that directly impact the minimum wage. These include the growth rate of poverty, income inequality, labour market polarisation, increases in the proportion of non-regular workers, and decreases in employment (ILO, 2016).

**Figure 3.3 The sequence of variables**



MWP: minimum wage policy

### **3.6.2.2 Possible Propositions Based on Prior Knowledge**

Once we have defined the variables and identified the relationships between them, we can establish the propositions that explain the causal relationship sketched in < Figure 3.3 > in two steps. I first derive propositions to explain the dependent and intervening variables, based on the order of my research questions and this study's objectives. I adopt propositions that can illustrate the causal mechanism between independent and intervening variables. These propositions are based on prior knowledge, such as reviewing literature and conducting a policy analysis of institutions, interests, ideas, and critical junctures.

### **3.6.3 Causal Mechanism Through Process-tracing**

The final step in my analysis strategy is to discover the most appropriate propositions that explain the relations between the variables outlined above. I therefore adopt a process-tracing methodology to analyse the causal link between technological development and changes in Korea's minimum wage policy. In George and Bennett's words, process-tracing consists of 'attempts to identify causal processes, i.e., causal relationships and causal mechanisms that intervene between the outcome of the independent variable (or variables) and the dependent variable' (2005, p. 206). This tool is particularly well suited to answering the second and third of my research questions. As Collier (2011) emphasises, process-tracing illustrates social and political phenomena and assesses causal claims. In the social sciences, it is commonly used to examine causal mechanisms in single-case studies (George and Bennett, 2005; Bennett, 2008). Here, I understand causal mechanisms as complex systems that interact with many parts to produce outcomes or to refer to interactions between two or more independent and dependent variables (Glennan, 1996).

Beach and Pedersen (2018) and Collier (2011) highlight three key advantages of the process-tracing method. Firstly, this method allows researchers to conduct detailed causal

analysis. Specifically, it facilitates an in-depth investigation of causal mechanisms. Process-tracing enables a thorough examination of the causal link between independent and dependent variables. So, we can apply this method through which technological advancements influence minimum wage policy. This approach allows researchers to untangle complex causal chains and identify specific pathways and interactions. Additionally, it helps identify intermediate steps, such as income inequality. By tracing the process, researchers can pinpoint the intermediate steps between technological changes and minimum wage policy outcomes, providing a nuanced understanding of how these changes translate into adjustments in minimum wage policy. Secondly, process-tracing offers historical contextualisation. This method provides insights into the contexts of technological development, social change, and shifts in policymakers' perceptions. Process-tracing involves thorough historical analysis, which can contextualise how past technological developments have shaped minimum wage policy over time. Such detailed historical analyses and perspectives can reveal patterns and long-term trends essential for understanding current policy dynamics. By mapping policy changes and events chronologically, process-tracing demonstrates how the policy responses to technological developments have evolved, highlighting the temporal dimension of policy change.

#### **3.6.3.1 Conditions for Using Process-tracing**

In order to take advantage of process-tracing as a methodology in this study, we need to know what process-tracing is and how to use it in qualitative research. Collier (2011) traces the background to the systematisation and development of this method to the late 1990s and early 2000s, when innovations in quantitative research methods for causal inference drew interest from qualitative researchers. In turn, these scholars systematically developed process-tracing, a scientific qualitative research method for understanding causal inference.

According to Collier (2011), three elements are required if we want to apply process-tracing to a single-case analysis. The first of these is that we must be studying specific political or policy phenomena and there should be propositions or hypotheses, based on prior knowledge in the relevant field, that can explain them. The second element is that independent variables, black boxes, and dependent variables can explain the policy phenomenon. And the third and last is that researchers must obtain diagnostic evidence supporting political and policy phenomena. Data can be obtained through interviews, documents, observations, and focus group meetings. Researchers can use both quantitative statistics and qualitative data when using process-tracing research methods.

### **3.6.3.2 Three Types of Process-tracing**

Beach and Pedersen (2018) argue that process-tracing has three variant models. First, process-tracing can be used to test theories. Theory-testing process-tracing allows for within-case inferences about whether a causal mechanism representing a particular social phenomenon exists on a step-by-step basis or whether a mechanism exists as a whole. In other words, it is used when there is already a theoretical causal mechanism that explains a policy phenomenon, but the relationship between the independent and dependent variables is unknown.

The second form, theory-building process-tracing, attempts to build generalisable theoretical explanations from empirical evidence, inferring that more general causal mechanisms exist from the facts of a particular case. That is, the researcher knows the input and output and already knows the causal relationship between the two variables but has no theoretical causal mechanism to explain the relationship between the two variables.

Lastly, explaining-outcome process-tracing is used to explain specific policy phenomena, and this is the model that I shall adopt in this thesis. Explaining-outcome process-tracing tends to be used to explain the consequences of a specific policy or political phenomenon when it

occurs. The goal of explaining-outcome process-tracing is not to build or test a general theory but to provide a sufficient explanation from the unexpected and specific results of case-driven findings (Collier, 2011). A large number of qualitative researchers using this method place case descriptions at the centre of their studies and adopt an eclectic combination of various mechanisms to explain specific policy outcomes (Collier, 2011). This model also serves as a systematic method for comparing several possible propositions and determining which one is the best fit for explaining the causal mechanism in question.

### **3.6.3.3 How to Employ Explaining-outcome Process-tracing**

Scholars who use process-tracing need to evaluate the weight of evidence based on several possible hypotheses (Bennett, 2008). Explaining-outcome process-tracing makes this possible by enabling us to draw robust, causal inferences from small pieces of data (Mahoney, 2016). The method and sequence involved in using process-tracing are as follows.

As Mahoney (2010) writes, the explaining-outcome process-tracing method starts with a detailed, chronological description of the policy phenomenon in questions. Doing so helps to identify the paths taken by that policy and causes behind those developments. Detailed explanations, that is, enable the researcher to capture various factors that form a causal relationship, such as the historical background, causes, and stakeholder positions of a specific event. If researchers fail to perform a detailed descriptive analysis of policy phenomena or outcomes, it becomes difficult for them to adopt explaining-outcome process-tracing. As a result, an accurate analysis and description of the policy under investigation is fundamental to the process-tracing methodology.

A detailed analysis of policies then allows researchers to focus on sequences of independent, intervening, and dependent variables. Explaining the causal mechanism between these variables is one of the central roles of process-tracing methods (Collier, 2011). When researchers recognise each variable in the policy, the process-tracing method can operate by

presenting observable hypotheses of the causal relationship and alternative explanations based on prior knowledge. Once these observable hypotheses and explanations are presented, researchers can test whether hypotheses are justified. Ultimately, researchers apply and compare hypotheses while observing the diagnostic evidence using the causal process. Through repeatedly testing hypotheses, we can rule out inadequate hypotheses and accept the last surviving proposition.

In short, by taking advantage of the scientific and systematic analytic steps involved in process-tracing, this study can find an explanation that is, at least, sufficient and rule out any hypotheses that are inadequate in accounting for the mechanism by which Korea's minimum wage policy has changed.

### **3.7 Validity and Reliability**

Yin (2009) argues that data acquisition through documents is a robust strategy for explaining specific policy outcomes and identifying causal relationships. Public and private documents are useful data for in-depth analysis of specific policy outcomes, and researchers can obtain information from a wealth of diverse documents and have access to a range of sources of information at any time. Moreover, when written data are used, qualitative researchers do not need to transcribe them, but can interpret them immediately. According to Creswell and Creswell (2017), however, the documentary method has its limitations. In particular, biases based on a researcher's experience and knowledge can present barriers to understanding data objectively, thus making documentary analysis inauthentic. Where such biases occur, researchers must be careful when interpreting evidence and data.

In the following, therefore, I shall outline how this study responds to these limitations and, therefore, seeks to optimise the validity and reliability of its qualitative methods. Validity and reliability generally mean different things, depending on the research method in question.



In qualitative research, however, validity refers to the use of specific procedures by the researcher to verify the accuracy of the results. Qualitative reliability indicates that a researcher's approach is consistent with certain measures, such that other researchers with the same data would produce identical results (Gibbs, 2007). Yin (2003) therefore argues that, in order to enhance the validity and reliability of their research, scholars using qualitative methods should use various evidence sources, create case study databases, and maintain evidence chains.

### **3.7.1 Validity Strategy**

Yin (2009) and Creswell and Creswell (2017) illustrate that validity is considered one of the strengths of qualitative research. This is because validity is the standard for judging whether findings are accurate from the perspectives of researchers, participants, and readers. In this thesis, therefore, I take advantage of the following three strategies in order to increase the accuracy of my findings and convince my readers of their validity. First, the study triangulates data and evidence, acquiring a large range of different data and establishing consistent evidence chains to meet my research objectives (Yin, 2009). In concrete terms, I collect and analyse a vast array of documents relating to Korea's minimum wage policy including public and private documents, government policy materials, international reports, research papers from the private sector, and mass media reports.

Second, according to Creswell and Creswell (2017), inconsistent or adverse information and hypotheses about the topic must be presented for qualitative validity. When conducting qualitative research, there is not always an answer that infers causality from a particular policy. Therefore, as mentioned above, I explore various propositions and hypotheses regarding causes of changes in Korea's minimum wage policy, such as ones that highlight the role of economic and political circumstances. The study reveals the contradictions within a number of possible

propositions and adopts a proposition that appears to be sufficient. Presenting contradictory evidence allows us to enhance the validity and accuracy of the documentary.

### **3.7.2 Reliability**

This thesis also requires a strategy to ensure that the qualitative research is reliable. As noted above, I collect, categorise, and analyse documents according to my specific research questions and objectives (Gibbs, 2007). I have devised a coding system that categorises the collected documents according to two themes: i) documents relating to laws, government, international organisations, and the private sector that are relevant to changes in Korea's minimum wage policy; and ii) documents related to the causes of changes in the minimum wage policy. Owing to the nature of my qualitative method, I go back and forth between documents to analyse data and derive meanings, adding further sub-categorisations as research progresses (Creswell and Creswell, 2017). In addition to classifying my documents according to themes, as stated above, I have classified them by three periods: from 1988 to 1989; from 1990 to 2002; and from 2003 to 2023. This categorisation by both theme and period creates a database that is well suited to my particular case study and ensures that my research can maintain a chain of evidence.

In conclusion, validation is essential in qualitative research. It is necessary to address the possible problems faced by the documentary research method in advance. This study therefore adopts triangulation and presents all possible inconsistent information and propositions as means to validate its data and approach. The coding process further increases qualitative reliability by building a database of case studies and keeping a series of evidence (Yin, 2009; Creswell and Creswell, 2017).

### **3.8 Concluding Remarks**

As this chapter has outline, this study bases itself in Constructionism and Interpretivism and applies the historical institutional approach to answering its research questions, because this approach can deal with how policies and institutions have developed. When social, political, and economic phenomena are observed from various perspectives over a long period of time, hidden causal mechanisms are revealed that can otherwise be missed in snapshot studies. Using a single-case study, that is, my research is well placed to examine and gain a comprehensive understanding of the developments in Korea's minimum wage policy. Moreover, process-tracing provides this study with a practical methodology for revealing causal connections, enabling me to find an at least sufficient explanation for the cause of changes in Korea's minimum wage policy. The next chapter adopts the philosophical approach and institutional framework outlined above to explore how minimum wage policy in Korea has changed over the past 35 years.

## Chapter 4: Policy Analysis

### 4.1 Introduction

The purpose of this chapter is to present a detailed analysis of Korean minimum wage policy and to point to possible connections or clues that link this policy with technological development. In particular, it studies what has changed in the minimum wage policy over the past three and a half decades. In this context, I explore the structure of the Korean government, investigate each institution's role, and examine laws related to the minimum wage in Korea. In all, I deploy a historical institutionalist perspective to examine how and why minimum wage policy in Korea has changed.

In the following, I divide changes in Korea's minimum wage policy into three periods. The first of these covers when the minimum wage changed from a complex to a simple system (1988 to 1989); the second covers the period during which the policy was upgraded to a universal minimum wage (1990 to 2002); the third covers the last twenty years, during which the minimum wage level has soared (2003 to 2023). According to reports by the Minimum Wage Commission (1988, 1999, and 2018), each of these periods has a very different background. During the transition to a single minimum wage in the late 1980s, for example, there was an increase in labour disputes caused by dissatisfaction amongst low-wage workers. When the minimum wage became a universal policy in 2000, it did so in the aftermath of the 1997 Asian economic crisis, and the dire social and economic conditions it precipitated. Since 2003, as Korea has witnessed rapid technological development and an increase in non-regular workers, the policy has developed in turn.

Choi (2018) and the Korean Minimum Wage Commission (2018) argue technological progress has been the driving force of Korea's economic growth. As one of the core policies of successive Korean governments, technological advancement has influenced all other

policies and economic and social changes (Pierson, 1993). In particular, technological progress in the 1980s divided Korea's industrial sector into technology-intensive and labour-intensive industries. The difference in labour productivity between these two groups brought about an income gap. In the 1990s, large tech companies grew into global companies and, in the process, the wage gap between large companies and small and medium-sized enterprises (SMEs) widened. Moreover, since 2000, Korea has become an IT powerhouse. This has resulted in new labour issues, increased the number of non-regular workers in the Korean workforce, and widened the income gap between regular and non-regular workers. Technological advancement is a double-edged sword (OECD, 2021): while it has its benefits, every time technology has advanced, Korean society has suffered from greater income disparity. The Korean government has modified its minimum wage policy as a representative social policy tool aimed at solving these social issues.

To understand how and why technological evolution has influenced Korean minimum wage policy, this chapter consists of four parts. In the first, I set out to understand what has changed through studying policy trajectories, before, in the second, analysing government structures and laws in the policy-making space. The third and final part focuses on how and why the minimum wage has been reformed.

## **4.2. Policy Trajectories**

According to the Korean Minimum Wage Commission (2021), while the Minimum Wage Act was enacted in 1986, the authority started to determine the minimum wage in 1987. Over the past 35 years, the government has attempted to ensure that the minimum wage remains at a decent level. In the words of Choi, the former chairman of the Minimum Wage Commission: 'The minimum wage system has silently contributed to resolving social conflicts and improving national competitiveness through various beneficial functions such as stabilising the

livelihood of low-wage workers' (Minimum Wage Commission, 2018, p. 9). The policy has gradually evolved with these features in mind. In this section, I examine what changes have occurred. In order to do so, I divide the past 35 years, amounting roughly to the late 1980s, the late 1990s, and 2000s, and I focus on significant historical events and ask how the policy changed when these events occurred.

Prior to conducting a thorough historical analysis of South Korea's minimum wage policy, which constitutes the crux of this chapter, it is necessary to briefly examine the salient characteristics of this policy.

The minimum wage policy in Korea exhibits three principal characteristics. Firstly, it is universally applied to all workers. The Minimum Wage Commission (2024) elucidates its scope: "It encompasses all workers under the Labour Standards Act, including regular and non-regular employees, part-time and youth workers, and foreign workers." (Minimum Wage Commission, 2024, p. 2). However, "individuals with significantly reduced work capabilities due to mental or physical disabilities, who have obtained an exemption from the Minister of Employment and Labour, are excluded." (Minimum Wage Commission, 2024, p. 2). Moreover, the Ministry of Employment and Labour (2008) states that the minimum wage is applicable to all businesses or workplaces employing one or more workers, irrespective of industry. The majority of workplaces subject to the minimum wage include accommodation, food service, supermarkets, and agriculture.

Secondly, the minimum wage policy aims to safeguard the livelihood of low-wage workers and enhance the quality of the labour force. Article 1 of the Minimum Wage Act explicitly states its purpose: "The minimum wage system seeks to contribute to the robust development of the national economy by ensuring a minimum wage level for workers, thereby stabilising the lives of low-wage workers and improving the quality of the labour force." The Minimum Wage Commission (2018) further elaborates on the anticipated effects of the

minimum wage system. The policy mitigates low wages, reduces wage disparities, and improves income distribution. By guaranteeing a certain standard of living for workers, it stabilises their lives and boosts their morale, thus enhancing labour productivity. Furthermore, it discourages competition based on low wages and promotes fair wage payment, thereby fostering equitable competition and positively influencing business rationalisation.

Lastly, the appropriateness of Korea's minimum wage for both workers and employers can be assessed from quantitative and qualitative perspectives. According to OECD statistics (2022), Korea's minimum wage level compared to the median wage is 0.61, indicating that it surpasses 60% of the median wage for workers. Among OECD countries with a GDP exceeding \$30,000, Korea ranks second. Numerically, Korea's minimum wage level is considered high. Moreover, survey results on satisfaction with the minimum wage reveal divergent opinions between part-time workers and employers. "Of the 2,384 respondents who identified as part-time workers, 69.4% expressed satisfaction with the minimum wage for the upcoming year, whereas 75.9% of employers were dissatisfied. Notably, nearly half (47.1%) of the employers reported being 'very dissatisfied.'" (Lee, 2022, p. 1). However, a survey conducted by the Ministry of Employment and Labour in 2008 yielded different results: "Regarding the minimum wage level for 2008, the largest proportions of both employers and workers, 52% and 59% respectively, indicated that it was 'average.'" (Ministry of Employment and Labour, 2008, p. 19).

## **4.2.1 Introduction of the Policy and Development of a Simple System in the 1980s**

### **4.2.1.1 Introduction of the Minimum Wage Policy with Economic Growth**

In the late 1980s, Korea's economy experienced the most significant economic boom in the country's history (Korean Modern and Contemporary Dictionary, 2005). According to

statistics from the National Statistical Office (2022), Korea's economic growth rate was 11.3% in 1986, 12.7% in 1987, and 12.0% in 1988. As a report by the Finance Ministry puts it: 'The government-led development policies showed results based on technological development in the the1980s' (Ministry of Strategy and Finance, 2015, p. 9). As Joo's (1999) examination of labour problems demonstrates, however, Korea's export-oriented strategy was securing price competitiveness in the global market by keeping wages low. In the 1980s, labour exploitation in labour-intensive industries was severe. In particular, Joo reports that 'labour disputes increased by 50% in 5 years, from 187 cases in 1981 to 276 cases in 1986' (1999, p. 403). President Roh (1988 to 2002) acknowledged these achievements and their associated problems at the time: 'the growth of technology and economy have changed our society from an agricultural to an industrial society. However, it has caused problems such as wage gaps' (Office of the President, 1988, p. 4). Under these socio-economic circumstances and in the light of these perceptions, the government established the minimum wage policy to protect low-wage workers (Jeong, 1987).

#### **4.2.1.2 At First, the Minimum Wage was Applied Differently According to Business Types**

The Minimum Wage Commission explained the implementation of the policy as follows: 'Korea enacted the Minimum Wage Act in December 1986, and implemented the Minimum Wage System on January 1, 1988' (1999, p. 5). According to Joo's study (1999), the Korean government decided to learn from Japan's model, looking to the only developed country among East Asian countries in the 1980s.

The Minimum Wage Commission (1989) describes the Japanese institution as a complex system with differences across regions and sectors. In following Japan's lead, however, the only differential introduced by the Korean government was based on the type of business in



which recipients of the minimum wage worked. The Minimum Wage Commission's reasoning for this was as follows: 'It was desirable to have a wage differential by industry because there was a wide wage gap by industry' (Minimum Wage Commission, 2018, pp. 87–88). Moreover, according to National Statistical Office (2022), the average monthly wage for all industries in 1986 was £219, while the average wage for the manufacturing industry was only about 84% of this, at £184. The government therefore applied the policy only to manufacturers that employed ten or more employees. Small businesses with fewer than ten workers were excluded from the application of the law. A public official of the Ministry of Labor explained why: 'If small companies are unable to cope with the burden of high labour costs due to the impact of the minimum wage, they would reduce workers or close their businesses' (Kim, 1988, p. 53).

The Minimum Wage Commission (2018) reports that 'the minimum wage was calculated by dividing 28 manufacturing types into two groups' (Minimum Wage Commission, 2018, p. 89). There were 12 low-wage manufacturing industries, including textiles, clothing, leather, shoes, and paper. The minimum wage of £69 per month was applied to these industries, all of which were labour-intensive. At the same time, the commission identified 16 high-wage technology-intensive industries, including steel, petrochemicals, machinery, glass, and furniture. A minimum wage of £73 per month was applied to these businesses (Minimum Wage Commission, 1989; 2018).

#### **4.2.1.3 From Complex System to Simple Policy**

In November 1988, the Minimum Wage Commission proclaimed that 'It was decided not to set different minimum wages for each industry, but to set the same minimum wage' (Minimum Wage Commission, 1988, p. 5). The reasons account for this change from a differential application according to different types of business to a single minimum wage. The Minimum Wage Commission proposed to the Ministry of Labor that 'the minimum wage should be

uniformly implemented rather than differentiated by industry. As a result, the Ministry of Labor accepted it' (Minimum Wage Commission, 2018, p. 95). The Minimum Wage Commission provided the reasons as follows:

*It is desirable to set the minimum wage at the same level rather than separately assessing it by industry. The single minimum wage can reduce the wage gap between industries. In addition, the unification of the minimum wage for all industries is consistent with the development direction of the minimum wage system in the long run. (Minimum Wage Commission, 2018, p. 95)*

## **4.2.2 Expansion of the Scope of Application of the Minimum Wage in the 1990s**

### **4.2.2.1 Social Conditions in the 1990s**

During the 1990s the gap in incomes widened significantly. The National Statistical Office (2022) shows that Korea's Gini coefficient increased from 0.259 in 1991 to 0.298 in 1999. Moreover, the 1997 Asian financial crisis worsened income inequality (Choi, 2018). The labour research institute announced 'a sharp rise in the unemployment rate. The number of unemployed in 1998 was 1,463,000. The unemployment rate was to 7% in 1998 from 2% in 1997, a 2.6-fold increase compared to 1997, right before the economic crisis' (Kang, 1999, p. 2). The government tried to promote various policies in response to these social problems. But owing to a lack of tax revenue following the economic crisis of 1997, the state was in no position to comfortably provide financial support to the vulnerable. The authorities considered the policy to be a vital tool in responding to current circumstances, regardless of government budgets. The Korean government therefore expanded the scope of the minimum wage policy to protect low-wage workers (Minimum Wage Commission, 2018).

### **4.2.2.2 Minimum Wage Applied to all Industries**

A good sense of the background to the expansion of the policy can be obtained from examining

government documents. The Minimum Wage Commission reports that ‘the commission recommended the Minister of Labor to promptly expand the minimum wage institution to all industries’ (Minimum Wage Commission, 1988, p. 6). The commission also stated that ‘the expansion to all industries can solve the problem of low wages, narrow the wage gap and improve income distribution’ (Minimum Wage Commission, 1999, p. 5). The Minimum Wage Commission (2018) explains that by 1989, the minimum wage policy included mining and construction, and in 1990, the service industry came under the policy’s umbrella. The minimum wage therefore applied to all industries, but only workplaces that employed ten or more workers came under minimum wage law, and small businesses were excluded.

In 1999, the government once again sought to improve minimum wage policy (Lee, 2019). During campaigning in the 1997 presidential election, President Kim of the progressive party promised: ‘I will expand the application of the policy when I take the office in 1998’ (Minimum Wage Commission, 2018, p. 97). The Minimum Wage Commission explained the plans as follows:

*The gradual expansion of the minimum wage is President Dae-Jung Kim’s promise. Accordingly, the Ministry of Labor reported to the President on March 19, 1998, and planned to apply the minimum wage to workplaces with five or more employees. As of 1997, it was applied to workplaces with ten or more employees. (Minimum Wage Commission, 2018, p. 97)*

### **4.2.3 Expansion of Coverage and Minimum Wage Increases in the 2000s**

#### **4.2.3.1 Social Issues in the 2000s**

In economic terms, the end of the 1990s and the start of the 2000s were all about pulling through the 1997 Asian financial crisis (Ministry of Strategy and Finance, 2002). By 2001, all IMF bailout loans had been paid off, and the economy resumed a pattern of growth, maintaining its 10-year average growth rate of 4.9% (National Statistical Office, 2022). In the 2000s,

however, new issues emerged in the labour market. OECD statistics (2022) show that part-time workers in Korea increased by 92% over ten years, from 1.4 million in 2000 to 2.3 million in 2009, while the number of full-time workers increased by only 7.1% over the same period, from 19.5 million to 21 million. This trend in the labour market only deepened income inequality. The Bank of Korea analysed the labour market problems of the 2000s as follows: ‘Non-regular workers were mostly low-skilled workers, and the wage gap between them and regular workers was widening’ (Choi and Lee, 2008, p. 33). In early 2000, therefore, the Ministry of Labor published a policy plan aimed at addressing these issues: ‘The government will expand the minimum wage as an employment safety net to prevent the impoverishment of non-regular workers, ... and improve the quality of life for workers’ (Ministry of Labor, 2000, pp. 5–7).

#### **4.2.3.2 Minimum Wage Policy Developed into a Universal Institution**

The National Assembly (2000) approved amendments to the Minimum Wage Act that had been proposed by the government. They recorded the rationale behind these amendments as follows: ‘The Act is revised to reduce the income gap and protect low-income workers in small businesses. The scope of application will be expanded to all workplaces that employ workers’ (National Assembly, 2000, pp. 2–5). The government and the ruling party had agreed since 1998 that it was necessary to expand the minimum wage coverage in order to prevent poverty and guarantee a minimum income for non-regular workers. The revised Act was approved by parliament in 2000 and came into effect in 2002 (Minimum Wage Commission, 2018).

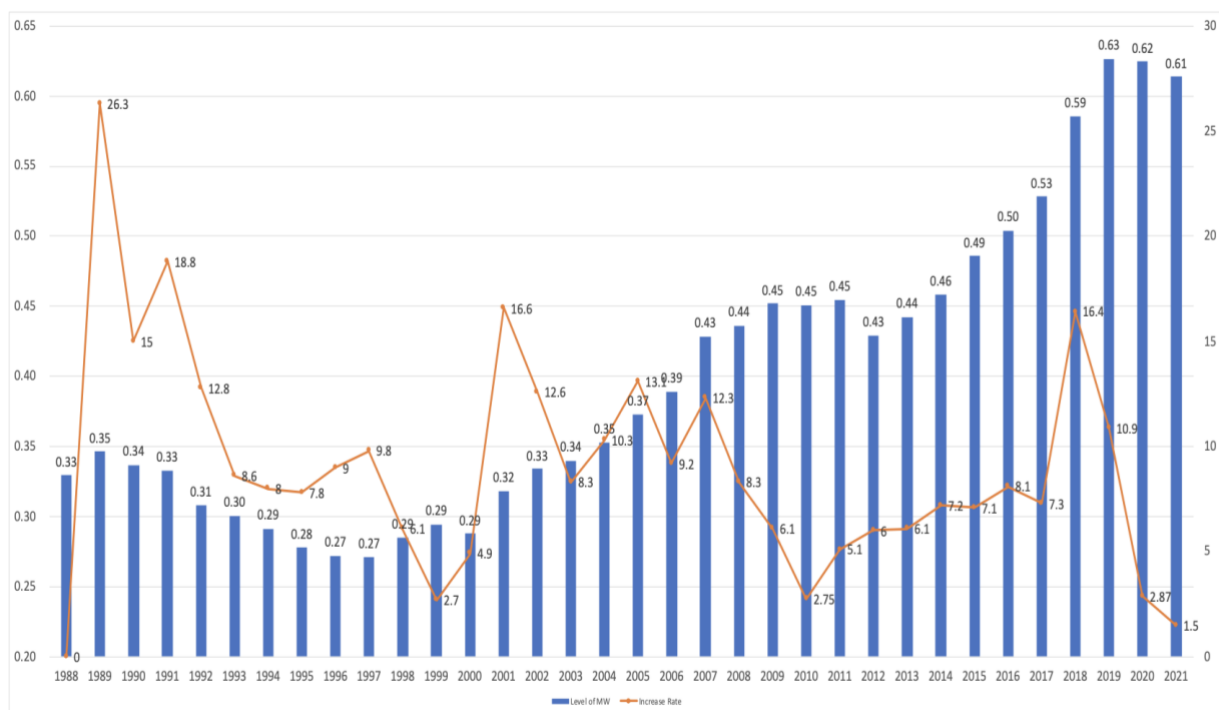
Kim (2007) describes the revised policy as an institution that allows all workers to receive minimum wage benefits regardless of their type of job or the size of their workplace. As a result of these amendments, the number of people who benefited from the minimum wage almost doubled, rising from 7 million in 2000 to 13 million in 2002 (Statistics Korea website, 2022). This staggering increase points to a statistically meaningful policy development.

### 4.2.3.3 Increase in the Minimum Wage Level

According to statistics from the National Statistical Office (2022) and the Minimum Wage Commission (2021), the minimum wage in Korea has risen continuously; indeed, it has increased in line with the growth of the national economy (Jung, 2003; Kim, 2007; Yun, 2014; Minimum Wage Commission, 2018). While in 1988, for example, the nominal minimum wage was £0.3 per hour, by 2022, it had risen to £5.7. In other words, it has risen by a factor of 19 over the last 35 years.

Before examining changes in the minimum wage in the 2000s, however, we must explore how it developed between 1988 and 1999. This is because the ratio of the minimum to the median wage (from now on referred to as the minimum wage level) has repeatedly risen and fallen since 1988. The blue bar in < Figure 4.1 > represents the minimum wage level while the orange line represents the nominal rate of increase in the minimum wage. As we can see

**Figure 4.1 The ratio of the minimum to median wage**



Source: OCED statistics (2022), Minimum Wage Commission (2022)

bars, the minimum wage level declined throughout the 1990s, from 0.34 in 1990 to 0.29 in 1999. The 2000s, however, paint quite a different picture, with the level increasing from 0.29 in 2000 to 0.45 in 2009.

#### **4.2.4 Minimum Wage Level Increases in the 2010s**

OECD statistics (2022) report that the minimum wage level rose from 0.45 in 2010 to 0.61 in 2021, constituting an increase of 35.6%. And while Korea's minimum wage was lower than the OECD average before 2017 (Kim, 2016), in 2018 it sat at 0.59, exceeding the OECD average of 0.54.

In 2019, the minimum wage level increased even further to 0.63, the second highest among OECD countries with a GDP per capita of over \$30,000 (Lee, 2019). The Democratic Party of Korea (2017) explains why the minimum wage rose sharply over those two years, with President Moon Jae-In announcing his intention during the 2017 presidential election, 'to raise the minimum wage by 15% per year from £4.08 to £6.50 by 2020' (Kim, 2017, pp. 1–2).

Despite this pattern of continuous growth for most of the 2010s, however, the minimum wage level decreased from 0.63 in 2019 to 0.61 in 2021. In the background, international organisations and finance ministers had been voicing their apprehensions about a sharp increase in the minimum wage. The OECD was concerned that 'the rapid increase in the minimum wage may be particularly detrimental to weak firms and reduce employment for low-skilled workers' (OECD, 2018, p. 40). In addition, in 2018, the Minister of Strategy and Finance argued that 'the increase in the minimum wage has adversely affected employment' (Lee, 2018, p. 3). The Minimum Wage Commission (2021) therefore set the rate by which the nominal minimum wage would increase at 2.9% in 2020 and 1.5% in 2021. When we take into consideration that the rate of inflation was 2.5% in 2021 (National Statistical Office, 2022), in

real terms, the minimum wage has decreased.

#### **4.2.5 Summary of Minimum Wage Trajectories**

In the light of the foregoing discussion, we can conclude that there have been three distinct changes in Korea's minimum wage policy over the past three and a half decades. First, when the policy was initially implemented, the government applied a single minimum wage instead of introducing differences between industrial sectors. Second, the scope of the minimum wage in Korea was continuously expanded after 1989, resulting in effectively a universal system in 2002. Third, the minimum wage continued to rise. After 30 years of steady increase, the minimum-to-median wage ratio in Korea rose from 0.33 in 1988 to 0.53 in 2017, bringing it very close to the OECD average of 0.54. And since 2019, the minimum wage level has exceeded 0.6 and is therefore considered to be high among OECD countries.

### **4.3 Policy-making Space in South Korea**

#### **4.3.1 The Korean Government**

Korea tends to be characterised as a country that has undergone rapid economic growth, as one of the most innovative nations, and as a liberal democratic state with a short history (Krugman, 1994; Kim, 2012; Kerr, 2015; Haggard, 2019). Since 1960, the government has focused on encouraging economic growth through technological development (Krugman, 1994). As a result, Korea has grown from being a low-income country to a high-income country in just a few decades, a phenomenon that economists call the 'Miracle on the Han River' (Acemoglu, 2012; Kerr, 2015). Korea's minimum wage policy has developed since the late 1980s in an effort to reduce the wage gap as the economy has grown (Joo, 1999). It is therefore crucial to

examine the structure of the Korean government and its roles in implementing and modifying minimum wage policy. Although all government departments can be involved in minimum wage policy, in the following I shall highlight the work of four organisations: the Ministry of Employment and Labor; the Minimum Wage Commission; the Ministry of Strategy and Finance; and the Ministry of Science and ICT.

#### **4.3.1.1 The Ministry of Employment and Labor**

The Ministry of Employment and Labor is the government department that takes the lead on implementing policies related to the minimum wage (Minimum Wage Commission, 2018). According to the Government Organization Act (2022), the ministry is responsible for employment policies and establishes plans related to standards of working conditions. In particular, it devises policies for workers' welfare, the coordination of labour-management relations, and the promotion of labour-management cooperation. The ministry has three roles when it comes to the minimum wage. First, it implements the policies stipulated in the Minimum Wage Act and has the authority to amend the enforcement decree of the law; its role here is to expand or reduce the scope of the minimum wage by revising the minimum wage enforcement decree. Second, it requests that the Minimum Wage Commission set the minimum wage. Lastly, its regional employment and labour offices supervise companies in following minimum wage policy.

#### **4.3.1.2 The Minimum Wage Commission**

The Minimum Wage Commission, which falls under the Ministry of Employment and Labor, sets the minimum wage each year (Lee, 2019). It consists of 27 members, comprising nine experts recommended by the government, nine trade union representatives, and nine leaders of industry. The commission sits from April to June, during which time it considers proposals



submitted by representatives of both employers and employees, before casting a final vote on the rate to be set (Minimum Wage Commission, 2018).

#### **4.3.1.3 The Ministry of Strategy and Finance**

According to the Government Organization Act (2022), the Ministry of Strategy and Finance establishes a comprehensive plan related to tax relief and financial support measures, such as subsidies for the private sector. To prevent side effects arising from the rising minimum wage in 2018, for example, small business owners were provided with financial support and tax cuts to counteract the ramifications of rising labour costs (Ministry of Strategy and Finance, 2018; 2019). In addition, the ministry publishes an annual report on economic conditions and social changes with essential indicators of socio-economic conditions, such as the economic growth rate, the unemployment rate, the job growth rate, statistics on household incomes, and the status of income inequality (Ministry of Strategy and Finance, 2019). These data are central to the work of the Minimum Wage Commission (Minimum Wage Commission, 2018).

#### **4.3.1.4 The Ministry of Science and ICT**

The Ministry of Science and ICT (2019) recognises itself as having direct and indirect impact on social policies. There are three reasons for this. First, science, technology, and ICT are among Korea's most critical policies associated with economic growth and employment (Schwab, 2017). Indeed, the ratio of R&D investment to GDP is the second highest in the world and impacts the growth of companies (United Nations, 2021). Moreover, ICT products account for more than 30% of Korea's total exports (Ministry of Science and ICT, 2018). Second, the ministry has operated a National Science and Technology Strategy Committee since 2013, as well as the 4th Industrial Revolution Committee, which is under the President's direct control, both of which have invited participation from ministers across the Korean government

(Ministry of Science and ICT, 2019). The Ministry of Science and ICT, that is, works closely with ministries related to social policy, such as the Ministry of Labor, Ministry of Welfare, and Ministry of Justice. Lastly, it produces social policy data and policies that could help establish and develop minimum wage policy. For example, the National Artificial Intelligence Strategy report (2019) presented data on technological development and likely changes in the makeup of employment, such as predicting how the jobs of low-skilled workers might be replaced by robots. Such information and forecasts therefore influence the perceptions of Ministry of Employment and Labor officials and the members of the Minimum Wage Commission (Schwab, 2017; Ministry of Science and ICT, 2020).

### **4.3.2 Legal Framework of the Minimum Wage**

#### **4.3.2.1 Labor Standards Act (1953)**

While the contents of the minimum wage were first specified in the 1986 Minimum Wage Act and the 1987 Constitutional Amendment, the first law regulating the minimum wage was the Labor Standards Act, enacted in 1953 (Lee, 2019). The Labor Standards Act regulates individual labour relations between employers and workers and sets working conditions for various occupations. Its purpose is to guarantee and improve the primary livelihood of workers by setting standards for basic working conditions and workers' rights (Minimum Wage Commission, 2018). Indeed, Article 34 of the Labor Standards Act specifies a minimum wage:

*Labor Standards Act (1953) Article 34 (Minimum Wage) The Ministry of Social Affairs, if necessary, can set the minimum wage for workers engaged in certain businesses or occupations.*

This was, however, still only a recommendation, rather than a legal requirement.

#### **4.3.2.2 Constitutional Amendment (1987)**

Thirty-four years after the enactment of the Labor Standards Act, the Constitution was

amended in October 1987 to include the minimum wage. The 9th Amendment explicitly defines the minimum wage institution, which should be established in law, thus placing partial restrictions on wage contracts that could be reached between employers and workers (Minimum Wage Commission, 2018). Kim (2021) argues that the minimum wage amendment was constitutionally significant because it enshrined the government's duty to protect workers and ensure social distribution in law.

#### **4.3.2.3 The Minimum Wage Act (Enacted 1986, Implemented 1988)**

When the Minimum Wage Act was approved in December 1986, provisions relating to the minimum wage in the 1953 Labor Standards Act were deleted. According to Choi (2018) and Lee (2019), the contents of the Minimum Wage Act are largely divided into policy objectives, decision methods, and penalties in cases of violation. In basic terms, the policy aims to guarantee a minimum wage level for workers. But, more than that, as Article 1 of the current Minimum Wage Act states, its goal is to contribute to the development of the national economy by guaranteeing the minimum level of wages for low-wage workers, stabilising the livelihood of workers and improving the quality of the labour force.

In summary, while the 1953 Labor Standards Act set the possibility of a minimum wage in law (Jeong, 1987; Minimum Wage Commission, 2018), it was not until 33 years later that measures to improve working conditions and act against labour exploitation became enshrined in the Minimum Wage Act (Joo, 1999). The amendment to the Constitution in 1987 stipulated that the minimum wage plays a critical role in protecting workers and social distribution. And since it came into effect in 1988, the Minimum Wage Act has played a crucial role in protecting low-wage workers.

## 4.4 Policy Analysis

Analysing policy trajectories provides an account of the significant changes that have occurred historically. Through the above discussion, for example, we understand that the minimum wage has changed over the past 35 years as it has sought to reduce income inequality.

The remainder of this chapter lays the groundwork for exploring ‘why’ and ‘how’ these changes occurred, using institutional analysis to answer these questions. That is, I aim to discover how and why minimum wage policy has changed and what role technological progress has had in driving these changes. And I seek to do so by, on the one hand, exploring how technological advances have affected the wage gap and, on the other hand, examining how the government has changed and developed the minimum wage policy to address wage discrimination.

This section comprises three larger parts, each one taking a detailed look at each of the historical periods already outlined above. In the first, we explore how Korea’s complex minimum wage policy was transformed into a simple policy in 1989. At that time, the Korean economy transformed as its labour-intensive industry gave way to technology-intensive industry, resulting in income disparity. The second section considers the expansion of the policy from 1989 to 2002, as it developed into a universal policy. The critical background to this era is the emergence of tech giants and the widening wage gap between tech giants and SMEs. In addition, the 1997 Asian economic crisis acted as a critical moment, resulting in widespread unemployment in Korea and causing more than 3,000 companies to declare themselves bankrupt (Korea Development Institute, 1998). The last and period, from 2003 to the present, is characterised by a steady increase in the minimum wage level. During this time, Korea became an IT powerhouse, and the resulting increase in non-regular workers and widening income gap emerged as new social issues. Over a period of about 20 years, each

president recognised that minimum wage policy was one of an essential tools in solving these problems in the labour market.

#### **4.4.1 The Transformation from a Complex to a Simple System (1988–1989)**

##### **4.4.1.1 The Emergence of Technology-intensive Industries and the Wage Gap**

###### **4.4.1.1.1 Transformation into a Technology-intensive Industry**

When he assumed office in 1988, President Roh Tae-woo emphasised the importance of technological development for Korea's future. He stated: 'The Government will further encourage creativity and innovation in businesses so that technological development and rapid growth can be achieved' (Office of the President, 1988, p. 4). During this period, therefore, technological development and economic growth were top of the Korean government's policy agenda (Lee, 2019). In the 6th Five-Year Economic Development Plan (1987–1992), the government showcased its confidence in technological progress and economic growth, setting the plan's aim as 'to transform the structure of the industry from labour-intensive to technology-intensive by fostering a large number of technology-intensive companies' (Economic Planning Board, 1986, p. 10).

The level of technology duly improved. According to the Science and Technology Policy Institute's analysis, 'Korean technology in the late 1980s entered into the intermediate technological level' (Choi, 2018, p. 9), otherwise known, in other words, as 'the stage is creative imitation' (Kim, 1999, p. 114). Korean technology had albeit advanced beyond the stage of creative imitation in the 1960s and 1970s, but from the 1980s, the Korean government increased its investment in R&D, an essential indicator of technological progress (Romer, 1994). As a result, the ratio of R&D to GND increased from 0.77 in 1980 to 1.58 in 1985 and to 1.95 in 1990, more than doubling, that is, in only a decade (Ministry of Science and ICT,

2020).

#### **4.4.1.1.2 Technological Progress and the Income Gap**

As a report from the UN states, ‘technological change can widen income inequalities. ... Inequality is also affected by more dramatic technological changes’ (United Nations, 2021, p. 11). And Korea was no exception to these problems. The expansion of investment in R&D in the late 1980s and the Korean government’s policy of promoting technology-intensive industries led to the formation of a wage gap between industries (Jeong, 1987). The new technology-intensive industries required high-skilled workers who would receive higher wages than their low-skilled counterparts in labour-intensive industries (Weon, 2007). President Roh admitted that the wage gap had resulted from technological development: ‘High economic growth through various industrial developments has transformed our society into an industrial society.’ But, he noted, now there were new ‘conflicts between classes and ... problems of the wage gap’ for Korean society to contend with (Office of the President, 1988, p. 4). A relationship between the development of technology and the wage gap was also highlighted in studies conducted by research institutes at the time. Korea’s Institute of Public Finance, for example, noted that ‘The wage gap between technology-intensive and labour-intensive companies increased from 9.4% in 1980 to 26% in the late 1980s’ (Park, 2018, p. 337).

#### **4.4.1.2 Changes in the Minimum Wage Policy**

##### **4.4.1.2.1 Why Did It Change?**

The initial minimum wage policy applied differentials according to the sectors in which workers were employed. The first chairman of the Minimum Wage Commission commented on the initial implementation of the minimum wage: ‘The minimum wage took into account

the situation of labour-intensive industries and technology-intensive industries. As a result, two wages were set according to reality' (Jeong, 1987, p. 41). The complex minimum wage did not, however, meet the expectations of either those implementing the policy or those set to benefit from it. Workers, for example, expected the minimum wage to bridge the wage gap. But, as unions saw it, the differential minimum wage policy had ended up creating yet another wage gap. The policy also failed to meet the expectations of the Ministry of Labor and the Minimum Wage Commission, as the implementation of different wages according to business types led to a number of difficulties.

Workers had high expectations of the policy, even before the minimum wage was introduced. As a researcher from Seoul National University explained, 'Workers had elevated expectations that low wages could disappear and the wage gap could improve dramatically' (Bae, 1985, p. 17). In the first year of the minimum wage, however, those workers who received the lower minimum wage were dissatisfied. The head of the research bureau of the Federation of Korean Trade Unions announced: 'In the first year of minimum wage implementation, the minimum wage in labour-intensive industries is only 70% of the minimum cost of living, which is very low. Moreover, the government is widening the income gap through differential minimum wages' (Kim, 1988, p. 40). The Minimum Wage Commission agreed that these findings were correct and described the situation in the following terms: 'Among workers, the prevailing perception was that the differential minimum wage policy was realistically wrong... There were many labour disputes because of this' (Minimum Wage Commission, 2018, p. 94). Besides, the union argued that the differential minimum wage policy could go against the policy's purpose and, instead, widen the income gap further: 'If discrimination by industry is applied, it is the same as the government promoting income inequality for low-wage workers. Therefore, it goes against the purpose of the policy and institution' (Minimum Wage Commission, 2018, p. 92). The minimum wage was therefore not equipped to meet the needs

of workers.

While the minimum wage policy was a disappointment to workers, it also failed to meet the government's expectations. Before implementing the policy, the government regarded differences in minimum wage based on industry types as the most suitable model, given Korea's differences in business productivity. The Minimum Wage Commission stated that, 'After much discussion and review, we decided to apply the difference by industry recognising Korea's economic level and the dissimilar productivity by industry' (Minimum Wage Commission, 2018, p. 88). In the first year of implementation, however, these expectations were shattered. The government found the implementation of such a complex system to be challenging. In the words of the Minimum Wage Commission, 'Administrative authorities found it could be impossible to supervise small businesses because most of them did not prepare and keep payroll documents' (Minimum Wage Commission, 2018, p. 93). Added to this, 'there were cases in which the business owners and authorities did not know which minimum wage the company should follow' (Minimum Wage Commission, 2018, p. 93). Clearly, it was tough not only implementing the policy but also determining the minimum wage. The members of the Minimum Wage Commission identified that deciding the two minimum wages at once could cause more issues and conflicts between trade unions and user groups (Kim, 1988; Minimum Wage Commission, 2018) and illustrated the situation of the commission meeting at the time as follows: 'In the first year when determining the application of the minimum wage differential, we could not reach an agreement until the end of December ... Unions objected to the final vote and left the meeting' (Minimum Wage Commission, 2013, p. 35). The minimum wage could not meet the expectations of the government or the trade unions. In the light of workers' dissatisfaction, the difficulties involved in implementing the policy, and the challenges involved in reaching an agreement on determining the minimum wage, steps were taken to simplify the minimum wage policy.



#### **4.4.1.2.2 How Did It Work?**

From the first iteration of the Minimum Wage Act to the present, the law stipulates that the minimum wage can be applied differently for different types of business. This provision has not changed, meaning that workers can in theory receive a different minimum wage depending on the industry in which they work. The provisions of the Minimum Wage Act are stated as follows:

*The Minimum Wage Act Article 4 (Criteria and Classification of the Minimum Wage) The minimum wage is determined considering workers' cost of living, the wages of similar workers, labour productivity, and income distribution. In this case, the minimum wage can be determined separately by the type of business.*

At the same time, however, the Minimum Wage Commission can decide whether there should be multiple minimum wages or just one. Thus, while differential application is institutionally possible, the commission has opted for a single minimum wage.

#### **4.4.1.3 Interests**

##### **4.4.1.3.1 Employers' Interests**

The Minimum Wage Commission (1988 and 2018) and Cho (2018) claim that employer representatives opposed the change to a single minimum wage on two bases. The first of these is that a differential application by businesses is guaranteed by the Minimum Wage Act. Since the National Assembly determines this law, the government and commission must follow it. Specifically, representatives of private businesses argued that 'the minimum wage should be decided based on the labour productivity of the industry. And the minimum wage should be set differentially' (Kim, 2007, pp. 4–5). Second, employers' organisations were concerned that, 'If the single minimum wage is set high, in reality, there is a possibility that companies could

go bankrupt and the unemployment rate rise due to the burden of labour costs' (Kim, 1988, p. 53).

#### **4.4.1.3.2 Trade Unions' Interests**

Kim (1988) and Lee and Park (2009) maintain that workers supported the change to a single national minimum wage system. Indeed, workers and trade unions found two faults with a differential application of the minimum wage. First, the Korean Workers' Federation argued that 'There were serious problems due to the differential application of policies. The self-esteem of employees in labour-intensive industries declined. They were stigmatised as working in low-wage industries' (Minimum Wage Commission, 2018, p. 87). Second, the Federation gave practical reasons related to the livelihood of low-wage workers: 'workers who belong to the group with the lower minimum wage complained that it was difficult to lead a decent life' (Kim, 1988, pp. 40–41). The workers' representatives therefore insisted that a single minimum wage be applied and that the differential application of the minimum wage be abolished.

#### **4.4.2 Evolution into a Universal Institution (1989–2002)**

As described above, the expansion of the minimum wage's coverage occurred in two stages. It first expanded from manufacturing to encompass all industries, before it developed into policy that was applied across the board. Moreover, while it had previously only covered employees of workplaces with ten or more employees, it now applied to all, regardless of how many or how few workers were employed. But these changes had different causes. While the extension of the policy to all industries was initiated by the government under recommendation from the Minimum Wage Commission, the transformation into a universal policy was a result of social changes, such as increased unemployment and income disparity.

#### **4.4.2.1 How and Why was the Entirety of Industry Included?**

##### **4.4.2.1.1 Extension of the Policy to Include Mining, Construction, and Manufacturing (1989)**

A number of government documents and research publications shed light on the leading role that the Korean government played in expanding the minimum wage to all industries. In 1987, prior to the implementation of the policy, an official from the Ministry of Labor reported: ‘The government plans to apply the policy to all industries with ten or more full-time workers and then expand it gradually while observing the effect’ (Jeong, 1987, p. 39). After implementing the minimum wage in the first year, the government was convinced it could expand its policy. The Commission explained the policy results of the first year in 1988 as follows: ‘Contrary to the concerns of employers’ organisations and the government, no corporate bankruptcy or employment decline cases were reported’ (Minimum Wage Commission, 2018, p. 94). The state, that is, confirmed that there had been no significant social or economic side effects in the first year of the minimum wage. Therefore, ‘The Labor Ministry formed the Minimum Wage Promotion Working Group with 11 members, including related ministries and academia, and the expansion of the application of the minimum wage was discussed’ (Minimum Wage Commission, 2018, p. 95). The Working Group reviewed the application of the minimum wage to workers in the mining, construction, and service industries. As a result, it was agreed that the minimum wage be extended to include the mining and construction industries.

The service industry was, however, excluded from the final consultation process, because ‘most service industries such as hotels and restaurants did not have accounting data such as payroll’ (Minimum Wage Commission, 2018, p. 92). In addition, ‘Administrative supervision is complex as the service industry is frequently closed or relocated’ (Minimum Wage Commission, 2018, p. 92). For these reasons, mining and construction were included in the minimum wage policy.

#### **4.4.2.1.2 Expansion to All Industries (1990)**

The policy was extended to include the service sector only following consistent efforts on the part of the Minimum Wage Commission. As the commission itself points out, ‘the commission has repeatedly suggested to the Ministry of Labor and the National Assembly that the wage gap by industry should be reduced through the expansion of the minimum wage policy’ (Minimum Wage Commission, 2018, p. 95). And the Minimum Wage Commission’s active demand for policy expansion was underwritten by requests made by low-wage workers in the service industry: ‘A collective civil complaint was filed with the government, including a complaint from 1,300 low-wage workers in the restaurant and hotel service industries. ... They argued that applying the policy only to some industries violates the principle of the law (Minimum Wage Commission, 2018, p. 95). Owing to these demands, the minimum wage policy was extended to the service industry.

#### **4.4.2.1.3 Expanded Application to Workplaces with Five or More Employees (1998)**

President Kim Dae-jung’s presidential campaign had been fought on a platform that also promised the gradual expansion of the minimum wage to include all workers. At the time, workers had been repeatedly pointing to the problems in the application of the minimum wage: ‘The minimum wage is not applied to workplaces with less than ten employees, so the purpose of the system is not being properly served’ (Minimum Wage Commission, 2018, p. 97). The Minimum Wage Commission stated: ‘The Ministry of Labor expanded and applied the policy to workplaces with five or more employees in a policy plan on March 19, 1998’ (Minimum Wage Commission, 2018, p. 97). The reason for doing so appears to have been to expand the scope of minimum wage coverage to protect workers in small businesses.

## **4.4.2.2 How and Why Did the Policy Become a Universal Institution in 2000?**

### **4.4.2.2.1 Technological and Social Background in the 1990s**

#### ***4.4.2.2.1.1 Innovation Stage and the Appearance of Tech Giants***

In order to understand the transition to a universal policy, we need to look at the context of technological progress and income disparities against which this transition occurred. Two presidents in the 1990s emphasised the importance of technological progress. In 1993, President Kim Young-sam announced: ‘The world has entered an era of technological competition. If we do not cope with global changes and competitions, we will be left behind’ (Office of the President, 1993, p. 1). President Kim Dae-Jung’s pronouncements in 1998 are a touch bolder still: ‘We will boldly pursue policies that Korea should be a technological powerhouse in the 21<sup>st</sup> century’s high-tech industrial era’ (Office of the President, 1998, p. 5).

Thanks to the measures taken by both the Korean government and the private sector, global technology companies grew. Moreover, in the terms of the Science and Technology Policy Institute, ‘the level of technological development surpassed the creative imitation stage and got into the innovative stage in the 1990s’ (Choi, 2018, p. 9). The tech giant Samsung Electronics, for example, developed the world’s first one gigabyte random access memory (DRAM) semiconductor (Kim, 1999; Choi, 2018). According to statistics from the OECD (2022), while the R&D to GDP ratio had been 1.7% in 1991, making it the tenth highest among OECD countries, by 2001, this ratio had increased to 2.3%, the eighth highest.

#### ***4.4.2.2.1.2 Growing Income Inequality Attributable to Technological Progress in the 1990s***

Since the mid-1990s, technological advances had been driving an accelerated widening of the income gap. The director of the Korea Institute of Public Finance commented: ‘Since the mid-1990s, globalisation and technological progress have led to the widening of income disparity

and rapid deterioration in income distribution' (Park, 2018, p. 14). As Korea's technology level entered the innovation stage and technology companies secured a competitive place in the global market, the wage gap between companies widened. This led to a particularly striking income gap with regard to the difference between tech giants and SMEs. According to the Bank of Korea's analysis, 'the wage gap due to the progress of technology became more severe than in the 1980s. ... In the late 1990s, the wage difference between companies with 500 or more employees and those with less than 30 employees was about 30%' (Choi and Lee, 2008, pp. 7–9). The Gini coefficient also increased from 0.244 in 1995 to 0.310 in 2000, owing to the wage gap between those large companies that were able to harness technological development to increase their productivity and SMEs that were not in a position to do so (Woen, 2007; Ji, 2011).

In summary, in the 1990s, Korea's technology sector was innovating, and the emergence of large technology firms facilitated the country's economic development. But as this took place, it created an income gap between tech giants and SMEs, which had social ramifications.

#### ***4.4.2.2.1.3 1997 Asian Economic Crisis and Social Changes***

The Asian financial crisis of 1997 exacerbated problems in the labour market and severely affected the Korean economy. The president's remarks own remarks from the time can help us to understand the severity of the situation. At the time, President Kim announced: 'Unfortunately, we are facing the biggest national crisis since the Korean War in 1950. The country is on the verge of bankruptcy' (Office of the President, 1998, p. 2). And research institutes supported the president's remarks. The Korea Development Institute, for instance, reports that 'more than 3,000 companies that failed to overcome the economic crisis in 1997 went bankrupt. The unemployment rate rose from 2.2% to 6.7% in one year' (Korea Development Institute, 1998, p. 10). Alongside an increasing unemployment rate, the quality of employment also deteriorated, resulting in a dramatic rise in short-term and casual labour. The Korea Labor Institute's statistics record that 'The ratio of temporary and daily workers to

total workers was 29% in 1996, but increased to 42% in 1998. It means that the number of low-wage workers has increased' (Keum and Cho, 2001, p. 15). The Minimum Wage Commission explained the social ramifications of these changes: 'The increase in the number of temporary workers has further worsened the living conditions of low-wage workers exposed to poverty in 1998' (Minimum Wage Commission, 2018, p. 98). The 1997 economic crisis quickly put Korea at risk, both economically and socially.

#### ***4.4.2.2.1.4 Overcome Through Unemployment Measures and ICT-fostering Policies***

The government pursued two key strategies to address the social and economic problems caused by the 1997 financial crisis. These policies were designed to reduce the unemployment rate and to secure new economic growth engines through ICT. A special committee was created in the National Assembly to measure unemployment (National Assembly, 2001). The first project promoted by this Unemployment Countermeasures Committee, in partnership with the government, was for jobs to be created through the budget. The senior official for the Ministry of Labor announced: '120,000 public jobs have been created with an investment of £106m for the long-term unemployed' (National Assembly, 2001, p. 2). In addition, the Ministry of Labor rapidly expanded the social safety net in an attempt to give some relief to the unemployed: it 'expanded unemployment benefits, strengthened financial support for the livelihood of the unemployed, and further reinforced vocational training for the unemployed' (National Assembly, 2001, p. 2).

President Kim Dae-Jung recognised the need for more fundamental measures to stem the rising rate of unemployment and turned to the ICT sector for solutions. ICT, he hoped, would drive economic growth and, in turn, promote job creation. The plan, according to the 1998 work plan of the Ministry of Information and Communication, was to 'invest all our resources to foster ICT as a strategic industry ... to nurture the software industry as a key industry in the 21st century, and invest more than £2 billion in funds to foster ICT ventures and create jobs'

(Ministry of Information and Communication, 1998, p. 17). As a direct result of these efforts, Korean society quickly regained stability for two years. The Ministry of Labor evaluated what had happened as follows: ‘Due to unemployment measures and ICT-fostering policies, the economic growth rate recovered to 6% in 1999, and the unemployment rate fell from 8.6% at the beginning of 1999 to 4.8% at the end of 1999’ (Ministry of Labor, 2000, p. 1). ICT, that is, provided the foundations for measures to tackle unemployment and foster growth that, ultimately, helped Korea to overcome the damage caused by the economic crisis.

#### **4.4.2.2.2 Why Did the Policy Change?**

##### ***4.4.2.2.2.1 Changes in the Labour Market: Decrease in Regular Workers***

Having overcome the worst effects of the Asian financial crisis within two years, Korean society began to experience new issues in its labour market. During the crisis, workers had shown a clear preference for high-wage jobs over low-wage jobs. Businesses, however, had experienced the benefits of taking on contract and temporary workers as opposed to full-time permanent employees. Such changes in perceptions in the labour market eventually became the driving force behind the improvement of the minimum wage policy.

The Ministry of Labor puts the changing perceptions of workers in the late 1990s down to the following: ‘Despite the high unemployment rate, workers do not like to work in SMEs because of low wages and job insecurity’ (Ministry of Labor, 2000, p. 8). Indeed, there is likely some truth in this: as mentioned above, the wage gap between big tech companies and SMEs had increased from 20% in the 1980s to 30% in the 1990s (Choi and Lee, 2008).

The economic crisis also brought about changes in how companies employed their workforce. A report by the Ministry of Labor states: ‘To reduce labour costs and overcome the business crisis, companies increased the employment of contract and temporary workers. As a



result, the percentage of full-time workers decreased from 52.3% in 1997 to 47.1% in 1999' (Ministry of Labor, 2000, p. 1). The Korean government has published statistics on non-regular workers since 2001, which comes after the year under discussion. But although the exact statistics of non-regular workers are unknown for the late 1990s, the decrease in regular workers can sufficiently predict the increase in non-regular workers in the labour market.

#### ***4.4.2.2.1 Minimum Wage Policy as an Employment Safety Net***

Once Korea had pulled through the economic crisis, the changed outlook of the labour market led to a shift in the government's labour policy. Indeed, this shift at this particular moment in time directly triggered the development of a universal minimum wage policy. The Ministry of Labor announced an essential policy framework that it referred to as the employment safety net. The employment safety net was a comprehensive measure for low-wage and non-regular workers: 'If the reduction of the unemployment rate were operated as a core policy in the past, from 2000, labour administration would be implemented to improve the quality of life and guarantee basic rights for low-wage workers and non-regular workers' (Ministry of Labor, 2000, p. 22). As unemployment fell to 4% and the economic growth rate returned to 6%, the Ministry of Labor emphasised the need for policies designed to prevent low-wage workers from falling into poverty. The government promoted a number of policies to this end, including: 'Strengthening ICT-related vocational education for non-regular workers, converting vocational education centred on the unemployed in the past into the education centred on low-skilled and low-wage workers' (Ministry of Labor, 2000, p. 28). Moreover, the government stressed the need 'to improve the quality of life of low-wage workers through a gradual reduction of working hours' (Ministry of Labor, 2000, p. 28). One of the most significant aspects of this policy package was, however, improving the minimum wage policy so that it could function as an integral part of the employment safety net. The Ministry of Labor announced: 'We plan to amend the law to apply the minimum wage to all workplaces. The

revised law ensures low-wage workers' income increase and prevents poverty' (Ministry of Labor, 2000, p. 32). Accordingly, in April 2000, the Ministry of Labor declared that 'The Minimum Wage Act will be revised to prevent the impoverishment of low-wage workers as soon as possible' (Ministry of Labor, 2000, p. 32).

In short, in the period during which minimum wage policy developed into having universal coverage, both people's and companies' perceptions of jobs and the minimum wage changed. Korea entered a stage characterised by technological innovation. At the same time, however, as Korea recovered from the Asian economic crisis, the wage gap between large corporations and SMEs widened. While, on the one hand, this resulted in workers becoming reluctant to work in SMEs, on the other hand, it reduced larger companies' willingness to hire full-time employees. In response to these social changes, the government established an employment safety net designed to prevent low-income workers from falling into poverty. And, at the heart of this employment safety net, the minimum wage policy was modified, giving it universal coverage.

#### **4.4.2.3 Veto Players**

Against the backdrop of these social and economic changes, a number of veto players appeared on the scene in 2000, set on preventing any changes to the current minimum wage policy. It is advantageous for veto players to occupy a large number of seats in a parliament if they want to be effective in blocking changes to legislation. And, as it happens, the situation in Korea's National Assembly at the time was favourable to veto players: in 2000, the ruling Democratic Party won 42% of seats in the National Assembly, while the opposition Grand National Party (i.e., the conservative party) won 48% (National Assembly website, 2022).

The first veto point occurred when the government submitted its amendment to the Minimum Wage Act to the National Assembly in July 2000. During discussion of the revision

of the act in the National Assembly, the Minister for Labor stated the government's aims as follows: 'The government intends to apply the Minimum Wage Act to all workplaces as a universal policy. The state wants lawmakers to review and pass the amendment bill as it was originally proposed' (National Assembly, 2000, p. 10). A member of parliament from the conservative Grand National Party argued, however, that while he agreed with the amendment to the law, 'it would be better to have a more deliberative discussion in a small committee considering various issues' (National Assembly, 2000, pp. 19–20). As a result, the bill attracted three full months of debate.

Veto players' second veto issue was that it was premature in 2000 to push for revisions to the minimum wage law. The opposition party maintained that it would be better to proceed with discussions about revising the minimum wage only once the effects of the Asian economic crisis had been fully overcome. Indeed, these were the very words of a member of parliament for the Grand National Party, who said: 'I judge that [revising the law] is a bit premature' (National Assembly, 2000, p. 13). After lengthy debate, however, the law was amended in November of the same year.

According to Kwak (2017), South Korean conservative parties emphasise economic growth. The conservative party's political agenda seeks to promote free economic activity and growth through investment. When the minimum wage law was revised in 2000, the conservative opposition party supported the idea that companies should be able to act freely. Some aspects of their argument in the National Assembly were consistent with what the employers' organisation had argued. Both conservative politicians and business leaders had, for example, maintained that the enforcement of any such changes to minimum wage law should be postponed until after the economic crisis had been well and truly overcome. This is perhaps an example of the growing political influence of big corporations at the time: their global growth enabled them to exert a significant influence on economic growth at home

(Holden and Lee, 2009) and to exercise substantial lobbying power on both the government and the National Assembly (Hong, 2008; Holden and Lee, 2009). The conservative party, therefore, shared the views of big business and exercised its right to veto any changes in the minimum wage policy that would see it develop into a universal system.

#### **4.4.2.4 Interests**

While we might expect that trade unions and representatives from industry expressed contrasting views about the expansion of minimum wage coverage, both appear to have recognised the significance of the social and economic changes that had been caused by the Asian economic crisis (Minimum Wage Commission, 1999; Noh, 2009). The Minimum Wage Commission noted that ‘The result of a survey was that 86% of workers support a reduction or maintenance of wages to overcome the economic crisis and avoid layoffs as much as possible’ (Minimum Wage Commission, 1999, p. 74). It went on to document the position of employer: ‘Some employers’ groups agree on the need to expand the scope of application of the minimum wage to prevent the impoverishment of low-wage workers’ (Minimum Wage Commission, 2018, p. 98). Nevertheless, while the two groups’ views aligned in certain respects, as we shall see below, their essential positions were fundamentally different.

##### **4.4.2.4.1 Trade Unions’ Interests**

The Minimum Wage Commission’s deliberation and resolution reports (1997 and 1999) lay out the position of the unions. They present statistical values gleaned from surveying the workforce. For example, one report documents: ‘In response to the question of expanding the scope of application of the current minimum wage policy, more than 50% of workers answered that the policy should be expanded’ (Minimum Wage Commission, 1999, p. 77). They also document workers’ opinions regarding why minimum wage coverage should be expanded: ‘Since this policy aims to ensure workers’ minimum living cost, the policy should be applied

to all workers. In addition, workers in small businesses should be under the policy to maintain a minimum livelihood' (Minimum Wage Commission, 1999, p. 77). Unions also gave clear views on when it was appropriate to implement a policy of expanding the minimum wage, stating that 'universal policy should be implemented from January 1999' (Minimum Wage Commission, 1999, p. 77). In short, workers favoured extending the policy to all workplaces and wanted to implement the policy expansion in 1999, which was earlier than the government's timeline had in mind.

#### **4.4.2.4.2 Employers' Interests**

As noted above, employers' organisations supported the expansion of the minimum wage but presented a very different position from that of the workers (Minimum Wage Commission, 1999; 2003; 2018). With regard to the timing of the proposed changes, employer representatives held that 'The timing of expansion should be postponed until the situation of the Asian financial crisis is completely resolved' (Minimum Wage Commission, 2018, p. 98). They also expressed their concerns about the possible ramifications of expanding the minimum wage: 'Companies are experiencing difficulties in management after the 1997 economic crisis. This policy is expected to increase the burden on those companies' (Minimum Wage Commission, 1999, p. 73). The industry representatives alluded to a further issue: 'If the wages of low-wage workers rise, workers who do not lose their jobs will receive higher wages, but, unfortunately, the unemployment rate rises. ... That is, new workers' job opportunities will be reduced' (Minimum Wage Commission, 2003, pp. 29–30).

#### **4.4.3 From a Low to a High Level (2003–2020)**

At the start of the 21<sup>st</sup> century, the ratio of the minimum wage to the median wage began to rise, as shown in < Figure 4.1 >. In 1988, the minimum wage level was 0.33, but in the ensuing

years, it repeatedly rose and fell. By 2003, it was restored to 0.34 and, ever since, it has followed an upward trajectory, reaching 0.63 in 2019.

#### **4.4.3.1 Technological and Social Background to the 2000s**

##### **4.4.3.1.1 Korea, a 21<sup>st</sup>-century IT Powerhouse**

Korea's present technological level has made the country an IT powerhouse. And countless international organisations have recognised this, reporting that Korea's output and input factors, which are measures of technological development, have reached the highest level of technology in the world. Both progressive and conservative governments have successively emphasised the development of technology as central to Korea's economic growth. Where Korea worked towards industrialisation until the end of the 20<sup>th</sup> century, therefore, in the 21<sup>st</sup> century it has focused squarely on ICT (OECD, 2003). As a result, so the Ministry of Information and Communication reports, 'The International Telecommunication Union (ITU) has officially recognised Korea as the world's no. one in the Digital Opportunity Index' (Ministry of Information and Communication, 2005, p. 1).

Korea's output factors of technological development attest to its rapid technological progress. According to the Ministry of Science and ICT (2019), the smartphone penetration rate from 2013 to 2019 ranked first globally. Korea's information and communication service technology maintains the world's highest level, with the country being the first to commercialise 5G mobile services when it did so in 2019. The Minister for Science and ICT recognised the importance of this development, declaring: 'We commercialised 5G mobile service for the first time in the world, and through this, we proved that Korea is one of the most powerful countries in ICT' (Ministry of Science and ICT, 2019, p. 1).

But it is not just the output factors of technological development that have improved—the input indicators have too. Rates of investment in human capital and R&D have reached

world-leading levels. According to the Ministry of Education (2022), the university entrance rate was 67% in 2000, 79% in 2010, and 72% in 2020. At present, it is higher than the OECD average of 45% (OECD statistics, 2022). In addition, the value of R&D, which was also considered essential in endogenous economic growth theory (Romer, 1986; Lucas, 1988), has increased significantly. Statistics provided by the OECD (2022) illustrate the extent of Korea's investment in R&D through the ratio of R&D to GDP: in 2000, this was 2.1%; and while this had increased to 3.9% in 2011, by 2021 it was 4.8%, giving Korea the second highest level among OECD countries. In short, the output and input factors of technological progress are better than before, and it continues to grow through innovation in ICT.

#### **4.4.3.1.2 Increase in Non-regular Workers and the Wage Gap**

Against the backdrop of such thoroughgoing technological progress, Korea in the 21<sup>st</sup> century now faces a rapid increase in the number of non-regular workers and in the size of the wage gap. According to Statistics Korea (2022), since 2000, non-regular workers have accounted for more than 30% of all workers, and this number has barely decreased over the past 20 years. Moreover, the wage gap has taken on a new shape since it was felt in Korea until the 1990s. While the wage gap previously separated large tech companies and SMEs, the 21<sup>st</sup> century has witnessed a wage gap between non-regular and regular workers. And this gap has not diminished since 2000.

The chair of the OECD's Development Assistance Committee, Moorehead (2021), argues that ICT is a double-edged sword. Digitalisation, that is, has both positive and negative impacts on a country, and where the latter is concerned, it can give rise to income gaps and inequality. In the words of a UN report, 'technological change can widen income inequalities. ... Inequality is also affected by more dramatic technological changes' (United Nations, 2021, p. 11). In advanced countries, income disparities resulting from technological development occur in two stages. First, the number of non-regular workers rises because of technological

advancement. Second, since the wage level of non-regular workers is lower than that of regular workers, an increase in non-regular workers leads to an income gap (Ministry of Strategy and Finance, 2001; 2006; 2018; Mamiya, 2007; Schwab, 2017; Ministry of Science and ICT, 2019; 2020; United Nations, 2021).

The increase in non-regular workers and income disparity have both given rise to concern amongst international organisations; and both have affected Korean society. In 2008, the Bank of Korea published findings on technological development and the increase in non-regular workers: ‘Technological development has led to an increase in the number of non-regular workers. ... Since 2000, the proportion of non-regular workers has risen rapidly, from 26.8% in 2001 to 35.9% in 2007’ (Choi and Lee, 2008, pp. 24–32). In addition, according to Statistics Korea (2022), the proportion of non-regular workers increased from 33.2% in 2010 to 38.4% in 2021. The Bank of Korea provides the following analysis of why this has happened: ‘Technological development caused the demand for highly skilled workers and irregular workers for simple jobs ... resulting in a polarisation of the labour market’ (Ahn and Han, 2015, p. 37).

The Bank of Korea refers to non-regular and low-wage workers who have not adapted to technological progress as the ‘working poor’ (Choi and Lee, 2008, p. 24), pointing to the disparity in wages between regular and non-regular workers. The Institute for Labor and Society describe this disparity in the following terms: ‘The wage ratio of non-regular workers to regular workers was 52.6% in 2006, 46.9% in 2010, and 53.7% in 2022. The wage gap between regular and non-regular workers exists’ (Kim, 2022, pp. 12–15). As the Korea Development Institution, a national research institute, indicates: ‘The reduction of income inequality has become a key issue in the Korean government in the 21<sup>st</sup> century’ (Choi, 2018, p. 1).

In brief, as the UN (2021) reported, technological development is widely recognised as



a cause of income inequality in advanced countries. Since 2000, the proportion of non-regular workers has risen sharply in Korea, and the gap between their wages and those of regular workers has not decreased. In order to address these problems, since 2003, successive presidents have pushed for an increase in the minimum wage (Lee, 2019).

#### **4.4.3.2 Changing the Policy**

##### **4.4.3.2.1 How and Why Did the Minimum Wage Level Increase?**

The four presidents who governed Korea between 2003 and 2022 recognised that technological advancement is a double-edged sword. As technology progressed, therefore, social policies were simultaneously strengthened to prevent the side effects of increased non-regular employment and income inequality (Ahn, 2008; Lee and Shao, 2018). Minimum wage policy was actively used and developed to protect low-wage workers, such as non-regular workers. President Roh (2003–2007), for example, implemented an increase in the minimum wage level, and President Lee (2008–2012) emphasised compliance with the minimum wage. In addition, President Park (2013–2017) promoted the policy as a social safety net. President Moon (2017–2022) then increased the minimum wage to raise the income of low-income households. Over the past 20 years, that is, four presidents have strengthened the minimum wage policy. In the following, I shall outline how this has impacted the minimum wage level.

##### **4.4.3.2.2 President Roh (2003–2007): Focus on Increasing the Minimum Wage**

###### **4.4.3.2.2.1 *By How Much Did It Increase?***

According to the Minimum Wage Commission's statistics (2022), during President Roh's time in office, the nominal minimum wage rose by an average of 10.6% per year for five years. In real terms, it was set at £1.43 in 2003 and had reached £2.19 in 2007. Statistics provided by the

OECD (2022) show that the ratio of the minimum to the median wage rose from 0.34 to 0.43 in this period.

#### **4.4.3.2.2 *Why Did It Rise?***

While successive governments and presidents over the past 15 years have focused on expanding the scope of the minimum wage policy, President Roh's policy goal was to increase the minimum wage so that it would improve the real incomes of non-regular workers. There are two significant factors to support this claim.

First, in the early 2000s, Korea's minimum wage level was the lowest in the OECD member countries (OECD, 2002), at 0.33, a level that Korea shared with Japan. As the Federation of Korean Trade Unions noted: 'Although 15 years have passed since the policy was implemented, the minimum wage level has not deviated from 0.33 and remains at a shallow level' (Kim, 2009, p. 15).

Second, the president and the government recognised that minimum wage policy could be an essential tool in narrowing the wage gap between non-regular and regular workers that had emerged in the 21<sup>st</sup> century. The president was aware in particular of the part that the development of ICT had played in widening this income gap: 'Due to technological development, the disappearance of jobs in existing companies is progressing rapidly. ... The number of working poor is rising' (Democratic Party, 2002, pp. 71–75). According to the Ministry of Labor's policy agenda for 2003, the first year of President Roh's tenure, 'The number one issue of the Ministry of Labor is the reduction of non-regular workers and the elimination of wage discrimination between non-regular and regular workers' (Ministry of Labor, 2003, p. 5). To resolve wage discrimination, the government decided to raise the minimum wage as opposed to providing government financial support to low-wage workers. As the Ministry of Labor announced: 'The state will improve the institution to strengthen the effect of raising the minimum wage' (Ministry of Labor, 2004, p. 47). And the Ministry of

Labor held firm on this policy in the years that immediately followed, declaring: ‘The government will strengthen the policy to ensure a continuous increase in the minimum wage for low-income workers’ (Ministry of Labor, 2006, p. 35).

In short, the minimum wage level was the lowest among OECD countries in 2002, and there was dissatisfaction among workers. Therefore, since 2003, the government has raised the minimum wage as a means to resolve wage discrimination.

#### **4.4.3.2.3 President Lee (2008–2012): Strengthening Supervision of Minimum Wage Compliance**

##### **4.4.3.2.3.1 *By How Much Did It Increase?***

Under the Lee Myung-bak administration, the nominal minimum wage increased at an average annual rate of 5.21% for five years. In real terms, it rose from ₩2.38 in 2008 to ₩2.89 in 2012 (Minimum Wage Commission, 2018). This figure is low compared to the average annual increase of 10.6% during the former progressive administration. The Institute for Democracy and Policies noted: ‘The increase rate under the Lee Myung-bak administration is half that of the previous administration’ (Koh, 2012, p. 2). Moreover, according to OECD statistics (2022), the minimum wage, compared to the median wage, decreased from 0.44 in 2008 to 0.43 in 2012.

##### **4.4.3.2.3.2 *Why Did It Change?***

Like his immediate predecessor, President Lee also sought to strengthen the minimum wage policy to reduce the number of non-regular workers and decrease the size of the income gap. His minimum wage policy, however, differed from President Roh’s. Rather than increasing the minimum wage level, he strengthened financial support for non-regular workers. On top of this, he bolstered the supervision of minimum wage policy implementation so that SMEs were better

equipped to comply with the minimum wage.

The policy plan documents of the Ministry of Labor illustrate the government's policy of intensifying financial support for non-regular workers. This support included a tax cut aimed to incentivise a transformation of the workforce: 'the government plans to provide a tax deduction for SMEs converting non-regular workers to regular workers by 2009' (Ministry of Labor, 2008, p. 24). Moreover, the government made provision for subsidising vocational training for non-regular workers: 'Most of the non-regular workers are included in SMEs, and if SMEs conduct job training to improve the capabilities of non-regular workers, the government will pay for equipment, labour, and operating costs' (Ministry of Labor, 2008, p. 13). President Lee set out his reasons providing financial support for vocational education for non-regular workers in his presidential pledge: 'Achieving economic growth of 7% per year and intensively fostering new growth industries will increase the number of "good regular jobs" by 3 million.' He goes on to state that 'the government plans to support non-regular workers to move to regular jobs' (Grand National Party, 2007, pp. 32–35). His big picture provided vocational training to non-regular workers so they could move to better jobs.

The yearly policy proposals of the Ministry of Labor from 2008 to 2012 provide no evidence that they planned to increase the minimum wage. Instead, their policy was to enhance supervision of minimum wage compliance, announcing in 2008: 'We will carry out labour supervision based on compliance with the minimum wage' (Ministry of Labor, 2008, p. 25). Again, three years later, their objectives had not changed: 'the government will establish and operate a report center for minimum wage violations' (Ministry of Employment and Labor, 2011, p. 25). In addition, in 2012, the last year of President Lee's term, the Ministry of Labor reported that 'the government will intensively inspect small businesses and service companies, etc., which have many violations of the minimum wage' (Ministry of Employment and Labor, 2012, p. 28).

In short, President Lee did not increase the minimum wage level during his presidency. Instead, he focused on ensuring that minimum wage policy was observed in small businesses and service industries. In addition, the state tried to reduce the income gap by providing financial aid to non-regular workers.

#### **4.4.3.2.4 President Park (2013–2017): Recognising the Minimum Wage as a Social Safety Net**

##### **4.4.3.2.4.1 *By How Much Did It Increase?***

Under President Park's leadership, the minimum wage level improved significantly in comparison to during her predecessor's tenure. Despite being a conservative president like her predecessor, she raised both the nominal minimum wage and the minimum wage level simultaneously. As a result, the nominal minimum wage increased at an average annual rate of 7.4%, while the nominal minimum wage increased from £3.06 in 2013 to £4.08 in 2017 (Minimum Wage Commission, 2018). According to the OECD (2022), the ratio of the minimum to the median wage rose from 0.44 in 2013 to 0.53 in 2017, bringing it to a level that is much closer to the average (0.54) of OECD countries.

##### **4.4.3.2.4.2 *Why Did It Rise?***

Under President Lee, the minimum wage level did not rise, while President Park's administration increased it substantially. But, given the similarities between President Lee's and President Park's administrations, particularly with respect to them both being conservative, what made these two conservative governments and their policies so different? The answer is to be found in President Park's policy agenda of creating a social safety net.

President Park made her thoughts on the minimum wage known during the presidential campaign, stating: 'The minimum wage policy is a significant institution for ensuring a decent livelihood for workers and improving the income distribution structure' (Saenuri Party, 2012,

p. 77). She therefore promised to ‘establish a principle for raising the minimum wage so that it becomes income-distributive in the labour market’ (Saenuri Party, 2012, p. 77).

In the first year of Park’s presidency, the Ministry of Labor initially focused on non-regular workers: ‘The ratio of non-regular workers is very high compared to developed countries (12%), and one out of three wage-earners is a non-regular worker. They could fall into the working poor’ (Ministry of Employment and Labor, 2013, p. 2). To solve this issue, President Park tried to expand and apply the minimum wage policy as a social safety net. Taking its lead from the President, the Ministry of Employment and Labor announced: ‘The government plans to expand the policy as a social safety net to prevent working poverty among non-regular workers’ (Ministry of Employment and Labor, 2013, p. 4). As part of the social safety net, therefore, the first purpose of the minimum wage was to guarantee a basic income to non-regular workers. This is stated explicitly by the Ministry of Labor: ‘The government will improve the minimum wage system to ensure workers’ basic income’ (Ministry of Employment and Labor, 2015, p. 12).

The policy itself needed to be improved to guarantee a basic income for low-wage workers through the minimum wage. The Ministry of Labor announced: ‘To raise the minimum wage to a reasonable level, when calculating the minimum wage, the government considers economic growth rate, inflation rate, workers’ cost of living, labor productivity, and income distribution indicators’ (Ministry of Employment and Labor, 2013, p. 29). The government’s announcement is noteworthy for its inclusion of an income distribution indicator aimed at ensuring a basic income when determining the minimum wage increase rate.

The minimum wage policy itself also needed to be followed if it was to function as part of a social safety net. The Ministry of Labor therefore strengthened compliance with the minimum wage, even declaring that ‘fines and criminal punishment can be imposed for minimum wage violations’ (Ministry of Employment and Labor, 2013, p. 30).

In short, President Park recognised the importance of the minimum wage within her concept of a social safety net and aimed to guarantee a basic income for non-regular workers. In addition, she strengthened minimum wage compliance, introducing sanctions on employers who violated this law. Taken as a whole, these policies raised Korea's minimum wage level to the OECD average.

#### **4.4.3.2.5 President Moon (2017–2022): Raising the Minimum Wage to Increase Household Income**

##### ***4.4.3.2.5.1 By How Much Did It Increase?***

During the Moon era, the minimum wage level rose steeply in a short period before tending downwards. Statistics from the Minimum Wage Commission (2022) show that the nominal minimum wage rose from £4.74 in 2018 to £5.77 in 2022, representing an increase by an average of 7.4% per year. But the annual increase rates present a different picture, whereby the nominal minimum wage increased from 2018 to 2022 by 16.4%, 10.9%, 2.9%, 1.5%, and 5.1%, respectively. 2018 and 2019, that is, witnessed sharp increases of more than 10%. By 2020 and 2021, however, these rates were under 5%.

Furthermore, the minimum wage level has fluctuated according to a similar pattern. According to OECD statistics (2022), it rose from 0.53 to 0.59 in 2018, increasing to 0.63 in 2019. In other words, it rose from 0.53 to 0.63 in a period of only two years. While the latter figure is the second highest among OECD high-income countries with a GDP per capita of over \$30,000 (Lee, 2019), following these two years of rapid growth, the minimum wage level began a steady pattern of decline: in 2020, it was down to 0.62, reaching 0.61 in 2021.

##### ***4.4.3.2.5.2 Why Did It Rise and Fall?***

Two questions therefore quite naturally arise regarding the minimum wage increase during

Moon's presidency. Why did the minimum wage increase so drastically? And why did it then fall?

First, the sharp rise in the minimum wage is a result of the broadening of the conceptual scope of the minimum wage. In legal terms, the minimum wage is the wage of an individual worker. President Moon, however, expanded the concept in order to be able to guarantee household income. Evidence of this can be found in his presidential address, where he states that 'The government will increase the minimum wage by adding a household cost of a living factor when determining the minimum wage' (Democratic Party of Korea, 2017, p. 80). Moreover, President Moon clarified the target of raising the minimum wage to improve household incomes as follows: 'The government will raise the minimum wage to £6.32 an hour by 2020, ... to increase non-regular workers' family incomes' (State Administration Planning Advisory Committee, 2017, pp. 144–148). As the minimum wage in 2017 was £4.08 per hour, Moon's policy entailed that the minimum wage would need to rise by 15% each year from 2017 (Lee, 2019). Presidential promises and government documents show us that changes to the minimum wage were meant to improve household incomes. And, as a result of these policy changes, the minimum wage level rose sharply for two years.

The second thing we need to investigate here is what went on in the background while the minimum wage level started to fall. Here, it is important to acknowledge that the rapid increase in the minimum wage has caused problems in the Korean labour market. Moreover, without financial support from the government, small businesses can no longer pay the minimum wage. And, in turn, small business owners began to replace their human workforce with machines.

The OECD feared that Korea's minimum wage increase would have unwanted consequences for the workforce: 'There is the concern that the rapid increase in the minimum wage may be particularly detrimental to weak firms and reduce employment for low-skilled



workers' (OECD, 2018, p. 40). In addition, the Korean Development Institution, a state-run research institute, found that, 'As the minimum wage rises to a higher level than in any other developed country, the rate of employment decline increases and the wage order is disturbed' (Choi, 2018, p. 1).

A number of government departments also took a negative view on increasing the minimum wage. The Minister of Strategy and Finance, for example, stated: 'It is necessary to slow down the rate of increase in the minimum wage as it could adversely affect employment' (Lee, 2018, p. 2). Alongside this, the Ministry of Science and ICT forecast that technological development would result in job losses for low-skilled workers: 'Automation of simple and repetitive tasks will proceed, and by 2030, about 7 million low-skill jobs in Korea will be replaced by AI, robots, and software' (Ministry of Science and ICT, 2019, p. 2).

To combat unemployment as a result of the increase in the minimum wage, 'the government has provided £1.8 billion every year to small business owners since 2018' (Ministry of Employment and Labor, 2020, p. 5). Jeon (2019) explains that increases in the minimum wage are likely to lead some small business owners to choose robots or ICT alternatives over low-wage workers. An automated teller at a restaurant, for example, costs only 30% of the monthly minimum wage while enable services to be delivered to customers more efficiently. Automated alternatives are also considered to be advantageous over humans because they are more accurate, less likely to make errors, and their owners do not have to worry about worker absenteeism or strikes. Indeed, the number of unmanned convenience stores in Korea increased from 208 in 2019 to 3,300 in 2022 (Min, 2023). Recognising the severity of these conditions in the labour market, the president announced that the government would be 'unable to achieve our minimum wage pledge' (Lee, 2019, 2p). And the minimum wage levels for 2020 and 2021 were, therefore, reduced.

In short, President Moon tried to increase incomes for the households of non-regular

workers by increasing Korea's minimum wage policy. While Korea's minimum wage level rose to a higher level than that of most other OECD countries as a result, this upwards trajectory could not be maintained.

#### **4.4.3.3 Veto Points and Players**

We can recognise the various veto points and veto players at play in these minimum wage increases from documents that record the Minimum Wage Commission's discussions. The Minimum Wage Commission (2008 and 2021) detail how nine experts opposed the minimum wage increase. The veto players of 2006 and 2020 opposed decision-making in slightly different ways. One method used by the veto players was to use experts' research to establish a range for minimum wage increases that went against the opinions of unions and employers. Another method was to establish a group of experts who decided the increase in the minimum wage rate while opposing the opinions of unions and employers.

In 2006, for example, left-wing President Roh sought to raise the minimum wage. When the union demanded a high increase rate of 35% or more, the expert group played their veto. As the Minimum Wage Commission (2008) reports: 'We held five meetings for two months, but unions and employers' organisations did not agree with each other' (Minimum Wage Commission, 2021, p. 61). In particular, the union insisted on 'a 35.5% increase in the minimum wage at the first meeting,' which was eventually brought down to a 'final demand' for a 15.8% increase (Minimum Wage Commission, 2009, p. 32). By contrast, the employer group representatives initially requested 'a 2.4% increase and finally demanded a 9.2% increase' (Minimum Wage Commission, 2021, p. 61). As these opposing sides were showing no signs of converging, 'nine experts prepared a guideline for the minimum wage increase rate through a separate meeting. And it ranged from 10.6% to 13.1%' (Minimum Wage Commission, 2019, p. 54). According to the Minimum Wage Commission (2008), the guideline

was set as the lower limit of 10.6%, considering the economic downturn and the business conditions of SMEs. The upper limit of 13.1% was determined as means to narrow the wage gap and improve the quality of life of low-wage workers. The Minimum Wage Commission explained the situation at its meeting in June 2006: ‘The employers’ association opposed the expert group’s guidelines, but the unions accepted. The vote decided on a 12.3% increase’ (Minimum Wage Commission, 2019, p. 54).

In 2020, when a progressive government came to power, the minimum wage level rose to 0.63. It was a time of declining employment and small businesses using inexpensive unmanned machines instead of low-skilled workers. Despite the deterioration of the labour market, the union demanded a 16.4% increase and expert groups opposed it (Minimum Wage Commission, 2021). The Minimum Wage Commission (2021) summarised the position as follows: ‘the unions insisted on a 16.4% increase, and the managers wanted a 2.1% decrease’ (Minimum Wage Commission, 2021, p. 43). Neither side was willing to take a step towards the other’s, so, as the commission report documents, ‘Unions and employers asked a group of experts to propose guidelines for the minimum wage increase rate’ (Minimum Wage Commission, 2021, p. 47). However, ‘The expert group presented a single proposal for an increased rate of 1.5%, not a range’ (Minimum Wage Commission, 2021, p. 47). In the end, at the commission’s final meeting, it described.

*worker representatives left the meeting room expressing their dissatisfaction, and two employer representatives also gave up voting, objecting to the experts’ suggestion’ Sixteen members participated in the vote, with nine in favour of the 1.5% increase proposed by experts and seven against it (Minimum Wage Commission, 2021, p. 47).*

Unlike in 2006, the experts functioned as veto players precisely by presented a single proposal without suggesting a range of increases.

#### **4.4.3.4 Interests**

One of the most significant conflicts of opinion between workers and employers regarding the minimum wage policy is related to the minimum wage increase (ILO, 2016). For instance, according to the Korea Minimum Wage Commission Review Report (2021), since 2003, decisions regarding the minimum wage have only been reached through an agreement between union and employer representatives twice, in 2007 and 2008. By contrast, workers' and employers' representatives have refused to vote and have walk out of the meeting a total of eight times over 14 years. These facts go some way to illustrating the extent to which unions and employers do not agree on increasing the minimum wage.

##### **4.4.3.4.1 Interests of Trade Unions**

The Minimum Wage Commission's deliberative reports (1999 and 2018) record that the unions' basic stance was that the minimum wage should be raised to alleviate wage inequality and protect low-wage workers. As the minimum wage level has improved since 2003, unions' claims and specific wage increase targets have also changed. Here, it is worth unpacking the arguments made by trade unions when the minimum wage level was below the OECD. In 2008, the head of the Federation of Korean Trade Unions stated: 'It has been 20 years since the minimum wage policy was implemented. But, for the past 20 years, the minimum wage has not deviated from the level of 33% of the average monthly wage of all workers' (Kim, 2009, p. 15). As the minimum wage level increased in the 2010s, however, unions set specific targets. The Korean Federation of Trade Unions, for example, demanded that 'The minimum wage should be raised to 50% of the average monthly wage of all workers' (Koh, 2012, p. 5). Once the minimum wage level had exceeded the OECD average in 2018, the Korean Confederation of Trade Unions argued that 'The minimum wage must be raised to a level where workers and their families can live with a decent living standard' (Minimum Wage Commission, 2018, pp. 39–41). In short, in line with the rising minimum wage level, the unions hoped that the

minimum wage would continue to rise to both reduce the income gap and improve living standards.

#### **4.4.3.4.2 Interests of Employers' Representatives**

In 2012, when the minimum wage level increased, the Korea Employers Federation expressed concern about the steep rise: 'A high rate of increase in the minimum wage, ignoring the economic situation, will seriously threaten the business activities of SMEs and the jobs of the vulnerable' (Koh, 2012, p. 2). The Korea Federation of Small and Medium Business stated a similar position in 2015: 'The current minimum wage level is a great burden on SMEs and small business owners, who are the main payers of the minimum wage' (Kim, 2015, p. 1). Furthermore, when Korea's minimum wage level rose to one of the highest levels among OECD countries in 2019, the Yeouido Research Institute claimed: 'Considering the employment situation in the market, the minimum wage must be kept at a level that does not exceed 60% of the median wage' (Kim, 2020, pp. 1–2). They therefore requested that any increase in the minimum wage rate be reasonable and not too high.

## **4.5 Concluding Remarks**

This chapter studies what has changed in Korea's minimum wage policy since it was first implemented. And I have examined how and why the policy developed from various angles. Since the enactment of the Minimum Wage Act in 1986, Korea's minimum wage policy has developed and changed in three significant phases. First, in 1989, it transitioned from a complex policy to one that gave provision for a single national minimum wage. Second, in 2000, it was changed so that all workers came under the coverage of minimum wage law. And, lastly, between 2003 and 2019, the minimum to median wage ratio rose from 0.34 to 0.63, putting it in second place among all OECD high-income countries.

Income inequality has been the key driver of changes to minimum wage policy over the

past 35 years. Successive governments have sought to bridge the income gap by modifying the minimum wage. Before the Asian economic crisis in 1997, conservative governments made efforts to reform the policy, and after 1998, this work was taken on by largely progressive governments. When the universal minimum wage policy was introduced, the opposition conservative party assumed the role of veto player, but since 2003, governments from both sides of the political spectrum have been active in raising the minimum wage level.

The income gap that successive Korean administrations have tried to address results from two factors. First, technological progress has had a lasting and long-term impact on the Korean workforce. Technological development is Korea's core growth strategy, and this top priority policy has brought about a range of socio-economic changes (Pierson, 1993). In the late 1980s, the Korean government tried to transform a largely labour-intensive economy into one that focused on technology while simultaneously bolstering investment in R&D. In this process, the wage gap between workers in labour-intensive and their counterparts in technology-intensive industries increased by about 20%. In the 1990s, semiconductor and automobile companies grew into global companies, and the gap in productivity and wages between large companies and SMEs widened further. Furthermore, in the 2000s, Korea's R&D and university enrolment rates became one of the highest levels in the world, and ICT utilisation and exports proliferated, making Korea an IT powerhouse. These technological advances have, however, posed a new problem for Korean, as they have widened the wage gap between regular and non-regular workers.

Second, as a critical juncture, the 1997 Asian economic crisis was also a cause of income inequality. It resulted in 3,300 companies going bankrupt and caused a steep rise in the unemployment rate, from 2.6% in 1997 to 7.0% in 1998 (Korea Development Institute, 1998, p. 10). By contrast, the 2008 global financial crisis had no equivalent level of impact on Korean society. Korea had repaid its loan from the IMF in two years and, by the end of 1999

unemployment had fallen to 4% and economic growth had recovered to 6% (Ministry of Labor, 2000).

In conclusion, the changes that Korea's minimum wage policy has undergone over the last 35 years can be seen as part of a continuous effort to resolve income inequality. In the long term, the social and economic changes caused by technological development resulted in wage inequality, which was worsened by the Asian economic crisis. The policy analysis presented above illustrates how and why the minimum wage has changed over the last decades. And, based on its findings, the following chapter will seek to define the dependent and independent variables and test the feasible hypotheses that will answer the questions posed by this thesis.

# Chapter 5: Causal Links between the Income Gap and the Policy Changes

## 5.1 Introduction

This chapter explores why changes and developments in minimum wage policy have occurred. In seeking to answer my second research question, in the following, I find a sufficient hypothesis that accounts for the causal relationship between the development of Korea's minimum wage policy and income inequality over the past 35 years. This chapter therefore identifies dependent variables, establishes possible hypotheses, and tests those hypotheses. It concentrates on how policy-determining entities recognise and react to socio-economic transformations. I also investigate the backgrounds to changes in the perceptions of policy-makers, including presidents and high-ranking public officials. In other words, this chapter analyses how Korean policy-makers, who had prioritised economic growth, began to perceive the importance of reducing the income gap.

The first section of this chapter aims to identify the dependent variables of Korea's minimum wage policy. I do so by drawing on the insights gained in Chapter 4.

The second section sets out possible hypotheses for that account for the relationship between the minimum wage and income equality. In so doing, I not only take the historical policy description provided in Chapter 4 as its starting point, but I also make use of prior knowledge, such as existing literature and theories related to the development of minimum wage policies (Collier, 2011).

Finally, in the third section, I test these hypotheses and eliminate those that only account for particular aspects and not the whole of the policy. When comparing the two hypotheses, I use the three dependent variables—i.e., the transition to a single minimum wage in 1989, the development into a universal policy in 2000, and the increase in the minimum wage level since



2003—as if they were small cases. These three changes occurred at various times and produced very different changes to the policy, thus giving us diverse perspectives from which to test the hypotheses.

This chapter’s findings are crucial in finding answers to my second and third research questions. Chapter 5 also serves as a stepping stone to proving that technological progress has affected minimum wage policy. It demonstrates that income inequality is a fundamental cause of changes to the minimum wage policy, before the following chapter studies how technological progress increases income inequality.

## **5.2 Identifying Dependent Variables**

This section aims to identify dependent variables, which need to be determined precisely. When identifying dependent variables, the study also needs to keep its research questions and objectives in mind and to set the dependent variables accordingly. As my second research question asks what factors have led to the change in the minimum wage policy, the dependent variable representing changes in the minimum wage policy needs to be measurable, and obtaining suitable data from documents for the variables should be possible. The policy analysis in the previous chapter revealed three essential changes to the Korean minimum wage, which will serve as my dependent variables: i) the transition from a complex to a simple system in 1989; ii) the expansion of policy coverage to include all workers in 2000; and iii) the steady increase in the ratio of the minimum to the median wage since 2003.

### **5.2.1 Dependent Variable 1: Transition from Complex to Single Minimum Wage**

The first dependent variable is the level of complexity of the minimum wage policy. The ILO (2016) defines complex minimum wage systems as ‘complex systems with multiple rates based on region, industry and/or occupation’ (ILO, 2016, p. 17). A simple policy, by contrast, is

defined as ‘Only one level to set, ignoring the heterogeneity of different sectors, regions, etc.’ (ILO, 2016, p. 18). As stated in Chapter 4, Korea’s minimum wage policy prior to 1989 was a complex system with two wage rates, each of which applied to a different sector. This system was difficult to implement and enforce, and even setting two minimum wages proved to be challenging. The policy was therefore simplified in 1989, establishing a single minimum wage.

To operationalise this variable, the complexity of the minimum wage policy can generally be measured by the number of minimum wage rates and the number of exceptions and exemptions (ILO, 2016). This study, however, only uses the number of minimum wage rates in force to measure policy complexity. This is because exceptions and exemptions from the minimum wage policy are closely related to the expansion of minimum wage policy coverage. In other words, as the policy’s scope expanded, the number of industries subject to exceptions and exemptions gradually decreased. For this reason, in the following I focus on the number of rates of the policy as the first dependent variable. And I measure this complexity before and after the transformation in 1989 using government documents.

### **5.2.2 Dependent Variable 2: Transformation to a Universal Policy**

The second dependent variable is the coverage of the policy. The ILO (2014; 2016) argues that a critical factor in establishing a minimum wage policy is the scope of application of the minimum wage; it also recommends (ILO, 2016) that countries establish a minimum wage system with as wide coverage as possible. Indeed, in 2000, the Korean government expanded the scope of application of the policy to all workers regardless of the occupations they held or the industries they worked in. This policy has evolved from an institution applied only to manufacturing workers to a universal policy. The transformation to the universal policy can therefore be considered a fundamental and practical dependent variable in analysing changes in Korea’s minimum wage policy.

I use the development of the minimum wage into a universal policy as a dependent variable because other coverage expansions on the way to universal application are the result of individual governments' policy objectives. According to Jeong (1987), for example, the government planned to gradually expand the minimum wage policy from manufacturing to service industries. The Korean government established plans to expand the regulations applied to workplaces with ten or more employees to those with five or more employees. In other words, the development of a universal policy is a result of socio-economic changes, while other changes in the policy's coverage are the outcome of government planning.

### **5.2.3 Dependent Variable 3: Minimum to Median Wage Ratio Increase**

The third dependent variable is the increased minimum wage level. The minimum-to-median wage ratio is based on OECD statistics. There are three reasons for using this as a dependent variable. First, according to the ILO (2016), setting the minimum wage level is one of the most challenging and significant tasks undertaken by most advanced countries, owing to the need to achieve a tricky balancing act. On the one hand, the level needs to be high enough to secure the minimum wage for low-wage workers. But, on the other hand, if it is too high, it could be difficult for companies to comply with the policy. Second, the ratio of the minimum to the median wage is used by the OECD to measure a country's income distribution (OECD, 2022). Third, when analysing Korea's minimum wage policy in the previous chapter, we observed that the minimum wage level has increased since 2003 despite a number of economic and political changes that potentially stood in its way. In the following, I shall use OECD statistics to operationalise this variable for measuring the minimum-to-median wage ratio.

In summary, if I want to analyse Korea's minimum wage policy, I need to first identify the dependent variables. These three variables— 'Transition from complex to single minimum wage', 'Transformation to a universal policy', and 'Minimum to median wage ratio increase'—

are essential to my research because they will be well placed to provide adequate answers to research questions about how and why South Korea's minimum wage policy has changed since 1988. Moreover, they will allow us to establish precise and accurate hypotheses in the next section.

### **5.3 Establishing Hypotheses**

This study is based on clear criteria for selecting hypotheses. According to Collier (2011), hypotheses must be established based on prior knowledge, meaning that research results, theories related to the policy, and empirical data all play a part in determining which hypotheses are chosen. In the following, I shall clarify how each hypothesis has been derived before I establishes a clear hypothesis that meets my objectives.

#### **5.3.1 Economic Growth**

As noted in the previous chapter, Korea pursued a policy of economic growth through technological evolution. According to historical institutionalists, economic development policies can affect social policies such as the minimum wage policy directly or indirectly (Pierson, 1993; 2004). Indeed, as the ILO explains, 'economic growth is one of the key factors in changing the minimum wage policy' (ILO, 2016, p. 42). Economic growth refers to an increase in both labour productivity and GDP per capita (Lucas, 1988). Economic growth or, in other words, increased labour productivity, provides various capabilities and benefits to society. For example, it enables companies to generate greater profits based on limited capital and technology, and, in turn, 'workers share these fruits of progress' (ILO, 2016, p. 46). As a result, the government can generate various resources and develop socio-economic policies by increasing economic power (ILO, 2014; 2016). As we have seen, economic growth is an essential factor in changes in the minimum wage.

### **5.3.1.1 The Economic Level and the Single Minimum Wage Rate**

According to the ILO (2016), countries tend to apply differentiated minimum wages by type of worker as the economy grows. Differential and complex minimum wage policies are calculated by measuring labour productivity and applying regional, industrial, and age differences. But developing countries may benefit more from simple systems that can be readily understood by all policy customers, such as employers and workers (Cunningham, 2007). Simpler systems are, after all, easier to operate and to enforce than complex policies (ILO, 2014). Moreover, the minimum wage is an effective tool for social protection and wage policies, but it can be undermined when the level of complexity at which it operates exceeds a country's capacity to administer it (ILO, 2016; Minimum Wage Commission, 2018). Indeed, a number of countries had introduced minimum wage policies before World War II (Starr, 1993), but they found it difficult to manage the differential wages and switched instead to national minimum wages (ILO, 2014). The ILO states that 'Many developing and emerging economies strengthened minimum wages' and 'adopted a national minimum wage' (ILO, 2016, p. 8). In the same report, it goes on to depict how Brazil abolished the regional differences in its minimum wage policy in 1994 and implemented a single nationwide rate; Malaysia and Mexico followed suit in 2013 and 2015, respectively (ILO, 2016; Minimum Wage Commission, 2018); and the ILO notes the growth of such policies in Africa, where 'the most recent country to introduce a national minimum wage was Cape Verde in 2014' (ILO, 2016, p. 8). From these examples and, of course, my analysis of Korea's minimum wage policy in Chapter 4, we can infer that the transition from a complex to a simple system results from a developing country's economic level.

### **5.3.1.2 Economic Growth Triggers the Expansion of Policy Coverage**

As GDP grows, governments expand the coverage of the minimum wage policy to protect low-wage workers (Minimum Wage Commission, 2018). Minimum wages that were initially

applied only to specific regions or industries tend to expand nationally as GDP grows and governments' ability to enforce them improves (Brown, 1993; ILO, 2014). According to the Minimum Wage Commission (2018), GDP growth can allow the total income and profits generated within the country to expand coverage. This is because governments can increase their tax revenues, providing more financial resources that can be allocated to various policy initiatives, including the expansion of the minimum wage. Governments might, for example, use increased tax revenues to fund research into the economic impact of minimum wage increases or to provide labour market regulators with additional resources to enforce minimum wage laws. A country's economic growth can, therefore, trigger the expansion of minimum wage policy coverage.

#### **5.3.1.3 GDP Growth Causes an Increase in the Minimum Wage Level**

GDP growth is a crucial indicator of a prosperous economy, and economic growth can be considered equal to GDP growth per capita (Romer, 1994). According to the ILO (2016), economic growth and GDP growth can positively impact an increase in the minimum wage through an increased demand for labour, an improvement in productivity, and government revenue generation. Specifically, economic development and GDP growth typically increase labour demand, and a growth in labour demand has a positive effect on increases in the minimum wage (Lee, 2018). Furthermore, as Noh (2009) argues, if economies expand and new businesses are created, more workers are often needed to meet the growing demand for goods and services. This increase in labour demand can lead to higher wages, including an increased minimum wage (The Treasury of the Australian Government, 2017; Korea Employers Federation, 2019). For these reasons, in a growing economy, it is possible for workers to have more bargaining power as the labour supply tightens and companies need more workers, both of which increase minimum wages further (OECD, 2015).

Economic development and GDP growth can lead to higher productivity and thus increase corporate profits. When firms become more productive, they are able to produce more goods and provide more services (The Treasury of the Australian Government, 2017; Korea Employers Federation, 2019). They can therefore generate more revenue, which, in turn, allows them to raise the wages of their workers (ILO, 2016).

All things considered, it seems safe to say that economic growth has an impact on changes in minimum wage policy. A country's economic level can determine whether a minimum wage policy is complex or simple, and GDP growth can expand the coverage of the minimum wage. Moreover, as a national economy grows, the minimum wage level also rises. The first hypothesis that I shall test is, therefore, that changes in minimum wage policy resulted from economic growth.

- **Hypothesis 1:** Changes in minimum wage policy resulted from economic growth.

## **5.3.2 Income Inequality**

### **5.3.2.1 The Income Gap is the Key Driver of the change from a Complex to a Simple Policy**

The findings of empirical research indicate that when income disparity increases, a complex minimum wage policy tends to be transformed into a single, national system (ILO, 2016). As stated above, for example, the ILO (2016) describes Brazil's transition from having a complex, regionally dependent system to a single, national wage in 1983 in an effort to narrow the income gap between the different regions. Indeed, if a country has more than 30 different minimum wage rates, this will necessarily create income inequality. In Brazil, workers complained that even if they worked in the same industry their income was different, so they

demanded a switch to a single, national minimum wage; and the government accepted their demands (ILO, 2014; Brito, 2017).

Starr (1993) and Wilko (2018) show that minimum wage policy has historically taken the form of a complex system in which wages vary based on industry, region, and occupation. In the early days of minimum wage policies, governments rapidly applied them taking into account the specific needs of people living in different regions, working in industries experiencing severe labour exploitation, and from specific groupings, such as women and children. In Korea, as low-wage workers grew poorer and the wage gap widened, however, the government improved its policies. And it gradually strengthened its policies with regard to a single, national minimum wage in the 1990s.

According to the ILO (2016), countries that have introduced a uniform national minimum wage ‘respect the principle of equal pay for work of equal value’ (ILO, 2016, p. 84). Indeed, empirical studies argue that a single minimum wage should be introduced to resolve income inequality in Japan. Complex minimum wage policies that differ by region and industry reveal further problems that do not resolve wage disparities between regions and sectors (Nakakubo, 2009). Income gaps in national economies have therefore caused the transition from complex to simple minimum wage policies.

### **5.3.2.2 Income Inequality Causes the Expansion of Minimum Wage Policy Coverage**

Existing research demonstrates that income disparities can play a significant role in driving governments’ decisions to expand the coverage of minimum wage policy (OECD, 1998; 2015; ILO, 2014; 2016; Minimum Wage Commission, 2018; Low Pay Commission, 2019). This is because income disparity, the difference in income between high and low-earners in a society, can have important implications for social and economic well-being (World Economic Forum, 2017). It goes without saying that one of the policy areas used to address income inequality is



minimum wage policy (ILO, 2014; 2016; Minimum Wage Commission, 2018). A large income gap can lead to poverty, inequality, low economic growth, and social unrest (World Economic Forum, 2017), but a government can restore social stability and reduce income disparities by increasing wages and guaranteeing basic wages for low-wage workers (OECD, 1998; Vergeer, 2010).

Income inequality has become a pressing issue across the world (World Economic Forum, 2017). Since the 1990s, both developed and developing countries have attempted to bridge their income gaps by enhancing their minimum wage policies. A critical factor in such enhancements is the decision to expand the scope the minimum wage nationwide, apply it to all businesses and industries (ILO, 2016; Minimum Wage Commission, 2018). Income disparities can therefore significantly affect a country's decision to expand its policy coverage.

### **5.3.2.3 Growing Income Disparity Leads to Higher Minimum Wage Levels**

Increasing the minimum wage is one approach to reducing income inequality (ILO, 2014; 2016; European Commission, 2020). According to a theoretical study by Ahn (2009), however, when income inequality in a country widens, political pressure informs a government's decision to increase the minimum wage. In other words, interest groups, such as trade unions, can influence politicians and policy-makers by insisting on wage increases, with the political pressure cause by these interest groups resulting in minimum wage increases (Polaski, 2018). In addition, empirical research suggests that income disparities can affect a country's minimum wage level. A study by Autor, Manning, and Smith (2016), for example, claims that countries with high-wage gaps are likely to raise the minimum wage; and, no dissimilarly, Clemens and Wither (2014) argue that regions with a large gap between the median and the minimum wage tend to increase their minimum wage. These studies suggest that income disparities or wage gaps give rise to conditions that pressure policy-makers into raising minimum wage levels.

Put simply, income disparities can affect the level of a country's minimum wage. In turn, the policy can bridge the income gap and improve social welfare. Generally, policy-makers consider the impact of the income gap when determining the minimum wage level. A widening income gap could increase political pressure on a government to raise the minimum wage (Polaski, 2018).

In conclusion, an increasing income gap affects minimum wage policy. Not only has income inequality historically played a vital role in converting differential minimum wage policies to single minimum wages; it has also contributed to the expansion of policy coverage. Moreover, the widening income gap has been central to increases in the minimum wage level. The second hypothesis is, therefore, that the income gap was a central cause of changes in the minimum wage policy.

- **Hypothesis 2:** The income gap was a central cause of changes in the minimum wage policy.

### **5.3.3 Progressive Governments**

#### **5.3.3.1 The Expansion of Policy Coverage was Legislated through the Political Efforts of Progressive Governments**

As Chae and Woo (2013) point out, progressive governments and political parties tend to prioritise policies that reduce income inequality and promote social welfare (ILO, 2014). Minimum wage policy is an effective tool in helping governments to achieve this goal. It is, therefore, highly likely that, as a rule, left-wing governments expand the scope of minimum wage policy.

Béla and Maarten (2020) provide an overview of minimum wage policies and collective bargaining practice across Europe. Their study notes that left-wing governments in European

countries are more likely to support expanding minimum wage policy coverage to sectors and industries that had not been included previously. By expanding minimum wage coverage, progressive governments seek to ensure that all workers receive a fair wage. This is central to the policy agendas of progressive governments because, by their very nature, they have traditionally tended to focus on the distribution of wealth rather than economic growth. Expanding the coverage of the minimum wage helps to reduce poverty and inequality because workers who receive a fair wage can better support themselves and their families. In addition, increasing the minimum wage helps to tackle exploitation, particularly in industries with a predominantly low-wage workforce.

From the preceding discussion, therefore, we can see that progressive governments favour minimum wage policies that cover a higher percentage of the labour force and are more likely to support policies that strengthen labour protections.

#### **5.3.3.2 Minimum Wage Levels Increase when Left-wing Governments Are in Power**

The minimum wage is determined by a political process that brings a number of stakeholders together (ILO, 2016). A liberal government is more likely to increase the minimum wage level than a conservative government. Left-wing governments prioritise policies that reduce income inequality and improve workers' living standards. One such political direction is an increase in the minimum wage level (Ha, 2009). In particular, progressive governments tend to be more open to negotiating and discussing with trade union representatives and are more likely to represent the interests of workers than right-wing governments (Freeman and Medoff, 1984; Lee, 2019). Such circumstances make it easier for trade unions, the general public, and workers not only to exert pressure on policy-makers to raise the minimum wage, but also for this pressure to be successful in achieving its aims (Reich, 2014).

Indeed, Reich (2014) even argues that progressive governments create the right political environment for raising the minimum wage by actively trying to generate public support for it. Left-wing governments do so through speeches, press appearances, and other public statements that encourage and persuade companies to support an increase in the minimum wage for their employees, arguing for the better interests of both workers and the broader economy.

In short, progressive governments bring about increases in the minimum wage through cooperating with trade unions and engendering a political environment in which such changes gain widespread support. Left-wing governments also actively promote the expansion of the coverage of the minimum wage policy. My third hypothesis, therefore, takes all of this into account, positing that left-wing governments, which prioritise policies aimed at resolving income inequality and improving workers' living standards, have brought about more changes in minimum wage policy than conservative governments.

- **Hypothesis 3:** Changes in minimum wage policy were down to left-wing governments.

### **5.3.4 Global Economic Crisis**

Historical institutionalist scholars argue that critical moments lead to changes in policies (Thelen and Conran, 2016). Indeed, as several empirical studies have shown, critical periods such as the global economic crisis have influenced changes in minimum wage policy.

The OECD (2015) illustrates the extent to which the global economic crisis caused job losses and reduced incomes for workers, further triggering changes in minimum wage policies. Many countries have changed and developed their minimum wage policies to address social and economic imbalances caused by the global economic crisis, such as the widening income gap. For example, governments can increase or expand the minimum wage range to protect low-wage workers and reduce the wage gap during a global economic crisis. This study suggests that raising the minimum wage can also positively impact other aspects of the

economy, such as improving worker productivity and reducing turnover, and argues that developments and changes in minimum wage policies can be effective in adverse economic conditions.

Stiglitz (2009) maintains that in order to strengthen their recovery from the 2008 financial crisis, many European countries bolstered their social security systems to protect the most vulnerable in society. In addition, a number of European countries have enhanced their minimum wage policies in ways that have directly affect wages. In particular, low-wage workers did not fall into poverty when the minimum wage was increased or its coverage expanded. Countries like Germany, France and the UK, for example, have either introduced or raised their minimum wages since the global economic crisis (ILO, 2016; Bosch, 2018; Low Pay Commission, 2019). These policies are intended to help economic growth by both improving the financial situation of low-wage workers and stimulating consumption (ILO, 2016). Returning to Korea, therefore, we might hypothesise that changes in minimum wage policy directly resulted from global economic crises.

- **Hypothesis 4:** Changes in minimum wage policy directly resulted from global economic crises.

## **5.4 Removal of Inadequate Hypotheses Through Hoop Tests**

### **5.4.1 Hoop Tests and Conditions**

So far, I have established four hypotheses that might explain the changes experienced by Korea's minimum wage policy. These hypotheses present us with four possible independent variables: economic growth; income disparity; progressive governments; and global economic crises. Not all hypotheses, however, can sufficiently explain why and how Korea's minimum wage policy changed over the past 35 years. That is, some hypotheses may not be able to

explain the causal relationship using the dependent variable related to changes in the minimum wage policy.

In the following, I employ ‘hoop tests’ (Collier, 2011, p. 826) to be able to efficiently eliminate the inadequate hypotheses. For Collier (2011), hoop tests can help eliminate false hypotheses by setting clear and specific conditions that must be met for the hypothesis to be considered valid. By testing the observed data for these conditions, we can identify discrepancies or gaps in evidence that may suggest that the hypothesis is not supported. We can determine the specific conditions for hoop tests. For the sake of the present study, each hypothesis should be able to explain the dependent variables of changes in the minimum wage policy with the three conditions. Thus, hypotheses that do not meet any of the following three conditions are eliminated.

- Condition 1: The hypothesis must be able to explain the change from two types of minimum wage rates to a single minimum wage rate.
- Condition 2: The hypothesis should at least provide a sufficient explanation for the evolution of the minimum wage policy into a universal policy.
- Condition 3: The hypothesis should be able to explain the increase in the minimum wage level.

### **5.4.2 Elimination of Hypothesis 3**

To evaluate the validity of hypothesis 3 (Changes in the minimum wage policy were the result of left-wing governments), we need to test that hypothesis 3 can meet the three conditions.

#### **5.4.2.1 Verification of the First Condition**

Hypothesis 3 is that progressive governments lie behind changes in Korea’s minimum wage policy. To confirm whether this hypothesis is true, I shall take advantage of data from the

National Archives of Korea (2023) and the Minimum Wage Commission (2018). Hypothesis 3 clearly, however, falls at the first hurdle. South Korea was ruled by conservative governments from 1980 to 1997. In other words, in 1989, when the two types of minimum wage rates were simplified into one, a conservative party was in power. Thus, hypothesis 3 does not satisfy condition 1.

#### **5.4.2.2 Verification of the Second Condition**

In satisfying condition 2, we need to prove whether the left-wing government had an impact on expanding the coverage of minimum wage policy. The National Archives of Korea (2023) record that from 1998 to 2002 Korea was governed by President Kim Dae-Jung of the Democratic Party. Not only he was the first president in our period to lead a progressive government, but the Minimum Wage Commission emphasises President Kim's role in modifying minimum wage policy: 'The gradual expansion of the minimum wage is President Dae-Jung Kim's presidential promise' (Minimum Wage Commission, 2018, p. 97).

Following President Kim's inauguration, the Korean government expanded the scope of the minimum wage policy. The Ministry of Labor announced: 'We plan to amend the law to apply the minimum wage to all workplaces. The revised law ensures low-wage workers' incomes increase and prevents poverty' (Ministry of Labor, 2000, p. 32).

All the while, however, the conservative party opposed the progressive government's efforts, taking a stance against expanding the scope of the minimum wage policy. Indeed, during a debate at the National Assembly in 2000, a conservative party parliamentarian stated: 'I judge that [revision of this law] is a bit premature' (National Assembly, 2000, p. 13). As stated in the previous chapter, the right-wing party maintained that any changes to minimum wage law should only be considered once the effects of the 1997 Asian economic crisis had entirely abated.

A comprehensive review of government and parliamentary documents shows that the progressive governments played an essential role in expanding minimum wage coverage, while conservative documents did not. We can therefore conclude that hypothesis 3 satisfies condition 2.

#### **5.4.2.3 Verification of the Third Condition**

In discerning whether hypothesis 3 satisfies condition 3, we need to ask: was the minimum wage level raised by progressive governments alone? Or did conservative governments also increase it? As discussed in Chapter 4, the minimum wage level has increased throughout the period from 2003 to 2022. During this period, there were three progressive regimes in Korea: President Kim Dae-Jung in 1998–2002; President Roh Moo-Hyun in 2003–2007; and President Moon Jae-In in 2017–2022. Based on statistics provided by the OECD (2022) that, during President Kim’s time in office (1998–2002), the minimum wage level increased from 0.29 to 0.33, while it increased from 0.34 to 0.43 during President Roh’s administration (2003–2007) and from 0.59 to 0.61 during President Moon’s (2017–2022). We can therefore confirm that the minimum wage level in Korea rose under progressive governments. But what of the minimum wage level during the two conservative governments in the period? While the minimum wage level decreased from 0.44 to 0.43 during President Lee’s administration (2008–2012), during President Park’s tenure (2013–2017), it increased from 0.44 to 0.53.

While the data confirm that the minimum wage level in Korea increased when progressive governments were in power, that is, we can also see that conservative governments oversaw both an increase and a decrease in the minimum wage level. Given that a conservative government also increased the minimum wage level, we cannot therefore conclude that progressive governments cause the minimum wage level to increase. And we can conclude that hypothesis 3 does not satisfy condition 3.



In summary, while hypothesis 3 can explain condition 2 because a progressive government oversaw the minimum wage policy's development into a universal policy, it meets neither of the other conditions. Hypothesis 3 does not meet condition 1, because, in 1989, Korea was ruled by a conservative government. Nor can hypothesis 3 sufficiently account for condition 3, because increases in the minimum wage level occurred not only while left-wing governments were in power, but also did so during a right-wing administration. As hypothesis 3 does not satisfy all conditions, therefore, we can rule it out.

### **5.4.3 Elimination of Hypothesis 4**

#### **5.4.3.1 Verification of the First Condition**

To evaluate the validity of hypothesis 4 (Changes in minimum wage policy directly resulted from global economic crises), we need to examine whether the hypothesis can satisfy the first condition related to the transition to a simple minimum wage. When the complex minimum wage was converted into a simple minimum wage in 1989, Korea was not experiencing the effects of a global economic crisis. The National Statistical Office announced that 'the economy has grown thanks to the "three lows significantly": low oil prices, low-interest rates in the international financial market, and devaluation of the Korean currency' (Ahn, 1999, p. 124). Instead, the stabilisation of the international economic market at the time led to the exponential growth for the Korean economy. Hypothesis 4 does not, therefore, satisfy condition 1.

#### **5.4.3.2 Verification of the Second Condition**

To determine whether hypothesis 4 satisfies condition 2 (shift to universal policy), we need to assess whether global economic crises have impacted the expansion of minimum wage policy

coverage. In the context of the 1997 Asian economic crisis, the Korean President made the following statement: ‘We are facing a crisis that the country may go bankrupt if we do something wrong. We are in massive debt, and we are in an urgent situation to prevent the maturing foreign debt that comes in every day’ (Office of the President, 1998, p. 2). The Korean government devised a number of policies aimed at helping it to emerge from the social and economic chaos caused by the 1997 economic crisis. The Minimum Wage Commission, for example, announced:

*The rise in low-wage temporary workers due to the global crisis in Asia has exposed many workers to poverty. To address this, the government has decided to expand the scope of the minimum wage policy. After consultations with related ministries and the ruling party had been completed, they planned to revise the law. (Minimum Wage Commission, 2018, p. 98)*

In addition, the Ministry of Labor also clarifies the relationship between the universalisation of the minimum wage policy and the Asian economic crisis. In its words, the 1997 crisis directly or indirectly influenced the expansion of minimum wage policy coverage as follows:

*Changes in labor policy, such as the improvement of the minimum wage policy, have served as a driving force in overcoming the Asian financial crisis in 1997. ... In the future, we plan to push for a revision of the law so that the minimum wage can be applied to all workers to protect the rights and interests of workers. (Ministry of Labor, 2000, pp. 5–7)*

As we can see, government documents clearly illustrate that the 1997 Asian economic crisis influenced the development of the minimum wage policy. Hypothesis 4 can therefore satisfy condition 2.

#### **5.4.3.3 Verification of the Third Condition**

In examining whether hypothesis 4 meets condition 3 (level of minimum wage increase) in the following, I make use of documents from the OECD and from Korean government sources. It

is a fact that there were changes in the minimum wage level after the 2008 economic crisis. After the 2008 economic crisis, the minimum wage level slowly decelerated for four years. According to the OECD's statistics (2023), the minimum wage level did not rise in the years following the global financial crisis of 2008. Indeed, the ratio of the minimum wage to the median wage was 0.45 in 2009, 0.45 in 2010, and 0.45 in 2011; and in 2012, it fell to 0.43.

The Minimum Wage Commission (2022) records that the nominal minimum wage increase rate was 2.75% in 2010, the second lowest increase rate in 30 years (1988–2018). The lowest year was 1999, during which the rate had hit 2.7%.

*From 2000 to 2008, the rate of increase in the minimum wage recorded an annual average of 11.3%. However, the rate of increase in the minimum wage has decreased since the global financial crisis in 2008. It recorded 6.1% in 2009, 2.8% in 2010, and 5.1% in 2011. (Minimum Wage Commission, 2018, p. 49)*

As the chairman of the Minimum Wage Commission explains the low ratio of the minimum to median wage and the nominal minimum wage increase can be attributed to the 2008 financial crisis as follows: 'Both labour and management agreed on a nominal minimum wage increase of 2.75% through 13 consultations. This is because it reflects the will of both sides to overcome the economic crisis' (Minimum Wage Commission, 2009, p. 2).

In summary, we can see that the 2008 financial crisis caused the minimum wage level to decrease. Government documents themselves attest to how the global economic crisis affected policy-making decisions with respect to the minimum wage. A critical point in condition 3 is, however, whether global economic crises can explain increases in the minimum wage level. While it is true that the 2008 global economic crisis played an essential role in driving changes in the minimum wage level, we cannot say that it influenced an increase in the minimum wage level. Hypothesis 4 does not therefore provide a sufficient explanation for the increase in the minimum wage level after 2003.

But this does not mean that the global economic crisis did not bring about socio-economic changes in Korea. As we saw in Chapter 4 and will return to in Chapter 6, the 1997 Asian economic crisis served to widen income inequality in Korea. And in response to the income gap, policy-makers changed minimum wage policies. In other words, the global economic crisis, which is a critical moment, affects policy change in two stages. The first step is that the critical juncture influences socio-economic changes in Korea. These socio-economic changes, such as increased income inequality, then cause policy-makers to shift their perceptions and policy objectives. Therefore, rather than treating the global economic crisis as a direct cause of changes in minimum wage policy, we can return to hypothesis 4 in Chapter 6 as a means to reveal the cause of the income gap.

## **5.5 Testing Two Hypotheses Through Comparison**

Now that I have discounted hypotheses 3 and 4 using efficient hoop tests, two hypotheses remain. One is that economic growth triggered changes in the minimum wage policy. The other hypothesis is that income disparity was essential in changing the policy. The primary purpose of this section is to test hypotheses 1 and 2 and, through comparing them, reveal that the income gap is the leading cause of policy change. In other words, here, I shall examine in detail how the perceptions of those policy-makers who played a vital role in the policy changes have shifted. Public officials, lawmakers, and members of the Minimum Wage Commissions are the key actors considered to be policy-makers in this study. I shall therefore analyse how they perceived, responded to, and reacted to socio-economic changes in Korea.

In the following, I shall analyse three small cases sequentially to verify the two hypotheses. As discussed above, these are: the simplification of the minimum wage in 1989; the universalisation of the policy in 2000; and the increase in the minimum wage level since 2003.

### **5.5.1 Case 1: From a Complex System to a Single Minimum Wage**

Before I do so, however, it is worth noting that stakeholders are also divided with respect to the two hypotheses. In the Minimum Wage Commission itself, there has been a long-standing conflict between employers' representatives, who value economic growth, and trade union representatives, who want to reduce the income gap (Minimum Wage Commission, 2018). Their conflict of interests has also influenced the perceptions of policy-makers.

#### **5.5.1.1 Conflict of Interest Between Unions and Companies**

##### **5.5.1.1.1 Unions Initially Emphasised Increasing Low Wages Over Narrowing the Income Gap**

In 1988, the first year of the minimum wage, the first key argument put forward by representatives from trade unions was that low wages needed to be tackled, an issue they saw as more critical than reducing income inequality (Lee and Park, 2009). Their reasoning was that 'workers had high expectations that the implementation of the minimum wage would alleviate low wages' (Bae, 1985, p. 17). The Minimum Wage Commission noted that 'The prevailing assessment was that the minimum wage was too low. ... Moreover, high growth and inflation in 1988 led to a relative decrease in the minimum wage' (Minimum Wage Commission, 2018, p. 94).

The Korean Federation of Trade Unions claimed that, owing to the differential minimum wage policy implemented in 1988,

*workers earning the lower minimum wage receive 70% of the minimum cost of living. They do not enjoy a decent quality of life. As a result, minimum wage policies do not solve the problem of low wages. Workers earning a low minimum wage have no protection from the policy. (Kim, 1988, p. 41)*

Indeed, the Korean Federation of Trade Unions had hoped for a single minimum wage policy all along: ‘Since 1986, the Korean Federation of Trade Unions has demanded that there should be a single national minimum wage, not a distinction between low and high minimum wages. However, this claim was not accepted’ (Kim, 1988, p. 40).

#### **5.5.1.1.2 Unions Faced Resistance from the Government**

The union representatives complained that the government sought to respond to the interests of companies over those of workers in the policy-making process. The head of the Korean Federation of Korean Trade Unions stated: ‘Contrary to the purpose of the law to address low wages, the government only reflected the position of companies, such as their ability to pay the minimum wage and the possibility of bankruptcy when calculating a single minimum wage’ (Kim, 1988, p. 41). As trade unions attempted to persuade policy-makers, the government proved resistant to them.

Moreover, in the late 1980s, the Korean government suppressed the workers’ movement (Yoo, 2021). At the time, President Roh promised to ‘create a society where human rights of all classes and people are guaranteed, and free activities are secured’ (Presidential Office, 1988, p. 3). The South Korean government saw the activities of trade unions, however, as a potential threat to the country. In Yoo’s words, ‘The government believed that labour strikes and other forms of the labour movement were not only a cause of social unrest but also detrimental to the progress and development of the country’ (2021, p. 403). The Korean government’s attitude towards trade unions was not therefore a friendly one. As proof of this, we can see that the government both officially and unofficially referred to union activities as illegal and the number of trade union members also decreased. As Yoo writes: ‘The Labor Office ordered to shut down the local union branch in the case the union engages in political activities. ... the

number of union members in Korea decreased by 140,000 in 1989 compared to 1979' (2021, pp. 406–407). The government's perception of trade unions, that is, was not a favourable one.

#### **5.5.1.1.3 The Interest of Management Groups was to Maintain the Current Policy**

The group representing employers underlined the importance of promoting economic growth. It also argued that differences in labour productivity between industries needed to be addressed through the policy. This was also the direction in which the government of the time wanted to move in. This close relationship between businesses and government officials created yet another barrier to the interests of the unions.

In the late 1980s, the government maintained a good relationship with businesses, which Choi writing:

*In the late 1980s, the relationship between the government and corporations developed in a mutually dependent manner. The biggest reason among them was economic and export growth. ... Therefore, the help of businesses was necessary to achieve the government's goals. (1999, pp. 169–170)*

In the 1980s, the Korean government saw economic growth and increased export capacity as its top priorities, pushing other policy objectives aside in the process. This situation is confirmed by government documents. For instance, President Roh commented: 'Korea has grown into a newly industrialised country through its efforts, and the world is watching. ... The best goal is to become a high-income country before the end of the 20th century' (Presidential Office, 1988, p. 1).

Moreover, the government's export strategy depended on making Korean goods competitive as a result of using a low-wage workforce. As Koh writes: 'In the late 1980s, the country lacked technological prowess in electronic products and automobiles compared to Japan, so corporations needed to secure price competitiveness in the global market' (2006, p. 11). As such, it was difficult for the government to sacrifice a policy of economic growth based

on low wages. This became a crucial barrier that prevented unions from persuading government officials.

#### **5.5.1.1.4 Changes in Trade Unions' Interests and Strategies**

Trade unions recognised that persuading the government would be a difficult task. Moreover, as Yoo argues, they changed their approach to emphasise their objections to particular policies: 'In the 1980s, distrust of unions and suppression from the government changed unions. If in the early 1980s unions were a struggle against employers, in 1988 they were transformed into a struggle against state policy' (2021, p. 403). The union representatives therefore focused on the need to narrow the income gap rather than relieve of low wage. The Federation of Korean Trade Unions stated at the Minimum Wage Commission: 'The minimum wage policy does not solve low wages. However, the bigger problem is that the minimum wage policy promotes income inequality' (Minimum Wage Commission, 1988, p. 15). The union representatives were aware of the barriers from the government and knew that conventional methods of persuasion would not work, so they started to insist on contradictions in the policy. They stated, for example: 'The law applies low minimum wages to labour-intensive industries and high wages to technology-intensive industries. This is an act by the government to deepen the wage gap between industries. It violates the purpose of the law' (Minimum Wage Commission, 2018, p. 87).

In addition, union representatives stressed that the policy aggravated social issues among workers: 'By institutionalising wage gaps between industries, conflicts and dissatisfaction between workers are intensifying. Workers in labor-intensive industries want to move to technology-intensive industries' (Minimum Wage Commission, 2018, p. 88). They also argued that the policy deepened wage discrimination against women: '88% of workers in labor-intensive industries such as textiles, shoes, and wigs are female. By applying low wages to



them, another wage discrimination occurs between genders' (Minimum Wage Commission, 2018, p. 88).

In short, the unions argued that the law needed to be amended to resolve these contradictions. A Director of the Federation of Korean Trade Unions stated: 'The union will focus on revising the problematic minimum wage law to prevent wage discrimination' (Kim, 1988, p. 41).

### **5.5.1.2 The Government as Veto Player**

While the unions demanded a policy change, the government sought to maintain the current policy. In this process, the government played the role of a veto player. At the time, the government believed that it had designed the minimum wage system to best respond to the needs of Korean society:

*Due to the characteristics of the Korean economy, differences in labour productivities between the labour and technology-intensive industries should be recognised. Therefore, reflecting the wage gap between the two industries in the policy fits the economic situation well (Bae, 1985, pp. 17–18).*

The government had devised the policy following a lengthy period of review, in which it had also analysed the cases of developed countries. And the resulting policy, so the Korean government at the time felt, was the most ideal. The Minimum Wage Commission gives the following account: 'The government had gone over four bills in 10 months since 1986. ... The Parliament compared the strengths and weaknesses of each bill, and the optimal choice was made' (Minimum Wage Commission, 2018, p. 84). In addition, the director of the Ministry of Labor was confident that the policy was effective, making the official announcement that 'The current minimum wage policy is well-designed. However, social issues may arise in the early stages of implementation. We need the cooperation of stakeholders so that the society can accept the policy and produce practical results' (Kim, 1988, p. 54). In short, the Ministry of

Labor's director emphasised that the government did not want to transform the policy straight away. Ultimately, we can see that policy-makers' estimations of their own processes and efforts also formed a barrier to the interests of trade unions.

### **5.5.1.3 Institutions**

#### **5.5.1.3.1 Transition to a Single Minimum Wage System and its Implications**

In November 1988, the Minimum Wage Commission announced that it would 'not classify the minimum wage by industry for the minimum wage in 1989' (Minimum Wage Commission, 1988, p. 6). During the Minimum Wage Commission's deliberations, the Employers' Federation contested the unions' stance, drawing attention to economic considerations. They argued that, in light of the distinctive features of Korea's economic landscape and labour productivity, a differential minimum wage would be better suited to Korean needs. They also offered a cautionary note, suggesting that the implementation of a uniform minimum wage might precipitate an economic crisis: 'There were concerns that a single minimum wage across all industries would increase the bankruptcy or unemployment of marginal companies' (Minimum Wage Commission, 2018, p. 87). The trade union representatives presented a contrasting viewpoint. In recapitulating the points above, the union representatives underscored that the policy of varied minimum wages contained a number of contradictions. At the heart of these contradictions was that, although the minimum wage legislation had been instituted with the intention of mitigating income disparities, the government had implemented a differentiated minimum wage, thus creating income disparity. Given that this policy contradicted the principles of minimum wage laws, so the union representatives argued, the policy of varied minimum wages ought to be rescinded.

The contradictions as presented by the union representatives had a powerful effect. They revealed a number of problems at the heart of a policy that the government and experts had

considered to be perfect. This resulted in a shift amongst policy-makers. More precisely, policy-makers began to acknowledge the imperfections associated with differential minimum wages. This realisation stemmed from the observations made by the Minimum Wage Commission regarding the challenges inherent in implementing the complex policy. The conflict between trade unions and management groups had presented fundamental challenges to the process of determining two minimum wage rates: ‘In the first year when determining the application of the minimum wage differential, we could not reach an agreement until the end of December’ (Minimum Wage Commission, 2013, p. 35).

Moreover, during that period, ‘the Korean government learned the policies of Japan, a developed nation, but encountered difficulties in its application’ (Minimum Wage Commission, 2018, p. 87). This predicament arose because of a lack of practical experience in its execution. As highlighted in Chapter 4, although a differential minimum wage was implemented, it encountered a lack of comprehension in practice: ‘there were cases in which the business owners and authorities did not know which minimum wage the company should follow’ (Minimum Wage Commission, 2018, p. 93). Thus, policy-makers recognised the complexity of the minimum wage policy in its first year of implementation. Not only was it difficult to determine differential minimum wage rates, but there was also confusion amongst public officials and business owners about its implementation.

The Minimum Wage Commission accepted the opinion of the trade union representatives and applied the single minimum wage: ‘Considering the long-term development of the minimum wage policy and resolving the wage gap by industry, the commission decided to set the minimum wage at the same level regardless of industry’ (Minimum Wage Commission, 1988, p. 6). The commission made its proposal to the Ministry of Labor, which, in turn, accepted it. We need to pay attention to these policy changes as I have described them above. The importance of the wage gap was recognised in the process of changing minimum wage

policy; and that narrowing the wage gap became part of the rationale behind policy change is significant for the purposes of this study.

## **5.5.2 Case 2: Development into a Universal Policy**

### **5.5.2.1 Some Policy-makers Realised that Economic Issues Affected Minimum Wage Policy**

In the 1990s, Korean policy focused on economic growth, and government officials believed that social problems would be resolved as the economy grew. The president announced: ‘By developing the economy in a balanced way, social problems can be solved, and all people can enjoy valid welfare’ (Economic Planning Board, 1992, p. 3). Reports regarding the 7th Five-Year Economic Development Plan in the 1990s also revealed a level of intimacy between the government and companies: ‘1,200 people, including private companies and economists, participated in establishing the 7th Five-Year Economic Development Plan’ (Economic Planning Board, 1992, p. 9). In short, the government placed great importance on economic growth and had a high level of closeness with businesses.

Considering the perceptions of Korean policy-makers in the 1990s, we can accept the hypothesis that Korea’s economic growth triggered the expansion of minimum wage coverage. In other words, increasing minimum wage coverage might have been driven for the most part by economic growth. A statement from the executive director of the National Federation of Employers supports this hypothesis: ‘As the Korean economy increased in the 1990s, the economic development put pressure on the government to expand the coverage of the minimum wage policy, eventually leading to the adoption of a universal policy in 2000’ (Minimum Wage Commission, 2018, p. 47). But our acceptance of this hypothesis is challenged when we

consider how policy-makers' perceptions changed in the aftermath of the 1997 Asian economic crisis.

### **5.5.2.1 Ideas from Various Fields**

#### **5.5.2.1.1 What Altered the Perceptions of Policy-makers in 1997–1999?**

After the Asian economic crisis broke out in 1997, the efforts of researchers based in national research institutes and trade unions, as well as recommendations from international organisations, significantly changed public officials' perceptions. And as a result of these changing perceptions, officials in the central government started to prioritise the reduction of the income gap over economic growth.

##### ***5.5.2.1.1.1 Researchers at National Institutes Raised Issues with the Income Gap in 1998 and 1999***

In the 1990s, a number of researchers across a range of organisations conducted studies on income disparity in Korea. In particular, many studies explored the social circumstances in which income gaps occur. The Korea Labor Institute asserted: 'Korea's economy has grown. But since 1993, income inequality has increased, which has become one of the most crucial social and economic problems in Korea' (Yoo, 1998, p. 224). An academic at Kyongsang National University presented specific figures on the matter: 'In the 1990s, despite the economic growth, the wage gap by company size was widening. The wage ratio of small firms (less than 30 employees) to large companies (500 or more employees) fell from 90% in 1986 to 71% in 1995' (Chang, 1999, p. 172). That is, while big tech companies were achieving global success and paying high wages, small companies with less advanced technology who were less competitive in the international market had no choice but to pay lower wages.

In the late 1990s, the work of national researchers was presented to the government and brought the issue of the income gap to the attention of public officials. According to the 1999 Household Trend Survey by the National Statistical Office (2023), the income of the top 20% of households in 1990 was four times that of the bottom 20%. In 1998, this ratio increased to 5.4 times, reflecting an increase in income disparity over these eight years. The head of the National Statistical Office stated: ‘Economic growth benefits the high-income group first, and the low-income group benefits later. This shows that the gap between the high-income and the low-income workers has widened’ (KBS, 2000, p. 1). Scholars at national research institutes therefore focused their efforts on studying the worsening income disparity. Through their empirical and statistical studies, they conclusively demonstrated that income inequality was on the rise and proffered their findings to policy-makers. During the 1990s, that is, ideas rooted in data analysis sufficiently persuaded the government and the National Assembly.

#### ***5.5.2.1.1.2 Taking the Recommendations of International Organisations Seriously in 1999***

In the late 1990s, the Korean government regarded the recommendations of international organisations as vital, because the country valued reliability in the global community. The state therefore tried to reflect recommendations from international organisations in its policies. The Ministry of Labor, for example, reported: ‘In 1999, Korea entered the ILO Council and actively participated in establishing international labour standards. Korea needs to build trust in the international community because a country’s image is vital for economic growth’ (Ministry of Labor, 1999, p. 482). Moreover, after receiving a bailout from the IMF in 1997, the government actively promoted international cooperation. As the Ministry of Labor put it: ‘After the economic crisis at the end of 1997, due to the openness of the international economy and deepening interdependence, the government’s active response in the international arena is

necessary for Korean companies to survive and overcome the economic crisis' (Ministry of Labor, 1999, p. 269). The government emphasised global standards to improve trust in international organisations: 'Since the Asian economic crisis, Korea has gone beyond political ideology to promote policies that meet global standards in order to raise the credibility of Korea' (Jun, 2023, p. 1).

During and after the Asian economic crisis, the Korean government received a number of recommendations from the ILO and the World Bank. The ILO notes that, 'In the 1990s, Member States needed to widen the minimum wage policy coverage as much as possible and strengthen the minimum wage policy. This is a crucial step to narrow the income gap of domestic workers' (ILO, 2016, p. 9). And World Bank suggested that 'Developing countries should expand the scope of the legal minimum wage to reduce the income gap of workers. In addition, non-regular workers should also be included in the scope of the policy' (Wood, 1997, p. 45).

Advice from international organisations had considerable influence on the Korean government. In order to restore its credibility with international partners and to increase corporate reliability in the international market, Korea recognised that it needed to follow the guidance of international organisations and promote policies that met global standards.

### **5.5.2.3 Interests of Unions and Companies**

#### **5.5.2.3.1 The Political Power of Trade Unions in 1998**

Workers expressed their opinions on the reasons for expanding minimum wage coverage: 'Since this policy aims to ensure workers' minimum living cost, the policy should be applied to all workers. In addition, workers in small businesses should be under the policy to maintain a minimum livelihood' (Minimum Wage Commission, 1999, p. 77). Employers' organisations also supported expanding the minimum wage policy, but they presented a different perspective

on this (Minimum Wage Commission, 1999; 2003; 2018). Indeed, employers' representatives found that 'The timing of expansion should be postponed until the situation of the Asian financial crisis is completely resolved' (Minimum Wage Commission, 2018, p. 98).

As shown above, we know that there were barriers to trade unions expressing their opinions to the government. While business representatives participated in the policy-making process, unions did not. Unions therefore sought to increase their political power: 'Until 1996, the union helped the electoral candidates and asked them to reflect policies such as reducing the income gap' (Jeong, 2002, p. 159). In 1998, union-backed candidates were elected in mayoral and county governor elections. The Labor White Paper described the situation as follows: 'In the June 1998 local elections, four union members from the Korean Confederation of Trade Unions and the Korean Federation of Trade Unions were elected mayor and county governor. As a result, the political power of the unions became stronger' (Ministry of Labor, 1999, p. 46).

Trade unions could now convince officials politically and participate both directly and indirectly in policy-making. This situation created an opportunity by which unions could gradually overcome the barriers presented by the close relationship between the government and companies: 'By winning the election, the union was able to reflect progressive policies and ideologies different from those of conservative groups in its policies' (Jeong, 2002, p. 169).

### **5.5.2.3 Institutional Transformation**

#### **5.5.2.3.1 Recognition of the Importance of Mitigating the Wage Gap**

Following the global economic crisis, the perceptions of public officials began to change. In 1996, with economic growth as Korea's priority, the Ministry of Labor paid little attention to mitigating the income gap. It took no real measures to protect workers from the effects of the widening wage gap between companies. Indeed, the Ministry of Labor merely stated: 'There



was an income gap between large companies and SMEs. The government will recommend that conglomerates refrain from excessive wage increases' (Ministry of Labor, 1996, p. 7).

In the wake of the 1997 economic crisis, however, policy-makers began to respond to similar social changes in a different manner. This was in no small part owing to the influence of studies conducted by national research institutes, the opinions of politicians from trade unions, and the recommendations made by international organisations. The Ministry of Labor explained, for example: 'The proportion of atypical workers, such as temporary, daily, and contract workers, increased. As a result, the income gap has widened between these and regular workers. Thus, the government must promote policies to narrow the income gap actively' (Ministry of Labor, 2000, p. 271).

High-ranking government officials focused on reforming minimum wage law to narrow the income gap. In particular, the government at the time recognised that the minimum wage was too low. The proportion of workers subject to the minimum wage gradually decreased because the minimum wage itself was unrealistically low. The Chief Secretary to the President's Office stated that 'The obsolete minimum wage policy must be improved. The government plans to apply a minimum wage to all workers to protect workers and reduce the income gap. We will raise the unrealistically low minimum wage to a realistic level' (Kim, 2009, p. 81). Indeed, the minimum wage level was certainly low at the time:

*In 1999, the ratio of the minimum to median wage was 20%, the lowest in the OECD. Moreover, the proportion of workers affected by the minimum wage decreased from 10.4% in 1989 to 1.1% in 1999. Therefore, this policy fails because it does not protect low-wage workers and reduce the wage gap. (Song, 2002, p. 103).*

This means two things. First, the Korean government had focused on securing price competitiveness and increasing exports based on low labour costs. The minimum wage level was therefore kept low to stimulate economic growth. The government acknowledged this problem in the late 1990s. Second, the perceptions of public officials changed. From 1999 to

2000, policy agendas aimed at narrowing the income gap and improving minimum wage policy began to appear in government reports and announcements. As a result of these changes in the perceptions of public officials, in July 2000, the Minister of Labor was able to announce at the National Assembly: ‘The government came to propose the amendment to the Minimum Wage Act to reduce the income gap and protect low-income workers in small businesses’ (National Assembly, 2000, p. 10).

#### **5.5.2.3.2 Despite Veto Players, the National Assembly Acknowledged the Need for Policy Reform**

In July 2000, an amendment to the Minimum Wage Act was submitted to the National Assembly. As we saw in Chapter 4, conservative party politicians and management representatives argued that any changes to the law should be delayed, playing their role as veto players. The Environment and Labor Committee spokesperson for the National Assembly, however, emphasised the need for changes to the law:

*Expansion of the application of the minimum wage system entitles about 1.65 million workers who work at workplaces with less than five employees to the target of minimum wage protection. It strengthens the protection of the rights and interests of workers at small workplaces, which are subject to protection and essential social security functions. (National Assembly, 2000, p. 11)*

In addition, an expert speaking to the National Assembly argued that expanding the minimum wage was in line with global standards and could narrow the wage gap:

*The expansion of the system is anticipated to ameliorate the income disparity among businesses of varying sizes, concurrently fostering productivity enhancement through the upliftment of morale. Furthermore, the modification aligns with international standards and practices, notably those advocated by the International Labour Organization (ILO). (National Assembly, 2000, p. 11)*

In November 2000, the amendment to the law was passed, despite opposition from the Conservative Party and business representatives and despite a conservative majority in the National Assembly.

In conclusion, the most significant thing about the transition to a universal minimum wage in 2000 is that public officials and lawmakers recognised the importance of narrowing the income gap. Until the mid-1990s, economic growth was considered more valuable than narrowing the income gap. Public officials' perceptions shifted in the light of work by policy researchers, increased political power for trade unions, and the recommendations of international organisations.

### **5.5.3 Case 3: Raising the Minimum Wage Level**

The rise in the minimum wage level since 2003 is also a result of changing perceptions amongst policy-makers. When considering making changes to minimum wage policy, Korean policy-makers based their decisions on either economic or social factors, such as income inequality. The ILO gives some sense of why this is the case: 'While economic factors may constrain increases in minimum wages, social factors may provide an opportunity to increase minimum wages beyond the minimum survival needs of workers' (ILO, 2016, p. 43). South Korea is no exception to this rule. In a sense two groups spent ten years locked in debate: one group prioritised economic growth, while the other emphasised the need to narrow the income gap.

#### **5.5.3.1 Ten Years of Conflicting Interests**

While unions and progressive parties emphasised that the wage gap needed to be addressed, business representatives and conservative parties wanted to prioritise economic growth. President Roh (2003–2007), who had been a human rights lawyer and belonged to a left-wing political party focused on raising the minimum wage as means to resolve income discrimination.

By contrast, President Lee (2008–2012), who had been the President of Hyundai E&C and belonged to a right-wing party, suppressed the increase in the minimum wage level, emphasising the need instead for economic growth and increased export capacity. It goes without saying that these two presidents and groups took different steps when recognising socio-economic issues and solving them.

#### **5.5.3.1.1 President Roh (2003–2007): Reducing the Income Gap as a Central Policy**

##### **Goal**

During Roh's presidency, policy-makers gained an increasing awareness of the need to increase the minimum wage level. The government recognised that non-regular workers and the income gap lay at the heart of Korea's socio-economic problems. This is stated clearly in the Ministry of Labor's policy plans: 'The number of non-regular workers has increased rapidly since the Asian Economic Crisis in 1997. Discrimination in working conditions and the vulnerability of the social safety net emerge as socio-economic problems' (Ministry of Labor, 2003, p. 8). The National Statistical Office (2023) presents findings that support this claim. The proportion of non-regular workers among the total wage workers continued to increase to 26.9% in 2001, 32.6% in 2003, and 36.6% in 2005. As the Labor White Paper argued, non-regular workers were contributing to the income gap; it presented its findings as follows: 'The wage ratio of non-regular workers to regular workers fell from 67.1% in 2002 to 62.6% in 2005' (Ministry of Labor, 2006, p. 138).

In response to these changes in the workforce, the progressive government presented 'the resolution of income inequality in the labour market' as its 'policy vision' (Ministry of Labor, 2006, p. 26). The left-wing government announced a raft of labour policies aiming, amongst other things, to narrow the income gap. It cited the importance of labour policies in socio-economic change: 'Until now, labour policy has been regarded as an auxiliary means of economic growth. Labour policy will play a pivotal role in helping Korea grow into the

Northeast Asian economic centre' (Ministry of Labor, 2003, p. 12). This vision therefore resulted in changes to the minimum wage. According to the Minimum Wage Commission, 'Despite the recent economic downturn and difficulties for SMEs, the minimum wage is raised by more than 10%. This is because it is a measure to resolve the wage gap and improve the quality of life for low-wage workers' (Minimum Wage Commission, 2003, p. 50). Moreover, the Labor White Paper specified: 'As the income gap between workers continues to increase, a more active role in the minimum wage policy is required to stabilise the livelihood of low-wage workers' (Ministry of Labor, 2006, p. 138).

During President Roh's administration, therefore, the progressive government regarded the reduction of the income gap to be a central policy objective and raised the minimum wage level accordingly. Indeed, as statistic from the OECD (2022) show, the ratio of the minimum to the median wage rose from 0.34 in 2003 to 0.43 in 2007.

#### **5.5.3.1.2 President Lee (2008–2012): Focusing on Economic Growth Policies**

Unlike President Roh, President Lee viewed the core of socio-economic problems from an economic point of view. In his words, 'Over the past decade, we have been mired in economic stagnation and social division. As a result, growth potential has fallen to the 5% level, and dynamism has declined. For these reasons, good jobs have decreased, and the income gap has deepened' (Grand National Party, 2007, p. 15). The conservative government gave the following analysis of the labour market: 'As the economic growth rate declined and the industrial structure shifted from manufacturing to service industries such as ICT, the proportion of non-regular workers increased' (Ministry of Labor, 2008, p. 8).

President Lee claimed that economic growth would solve social and economic problems: 'We will focus on economic growth first. The government will achieve 7% economic growth and create three million regular jobs. As the economy grows, the problems of non-regular workers and income disparity will be resolved' (Grand National Party, 2007, p. 18). The

conservative government's perception and vision influenced minimum wage policy in turn. As discussed in the previous chapter, the minimum wage level decreased from 0.44 to 0.43 over the five years of Lee's presidency. The policy background to the lower minimum wage level can be found in the Ministry of Labor's policy plan: 'If the decision on the minimum wage is delayed due to conflicts between labour and management, the government allow the expert group in commission to decide the minimum wage. Thus, social conflicts due to the absence of the minimum wage are prevented' (Ministry of Labor, 2008, p. 12). In other words, experts appointed by the government were invited to set the minimum wage. In effect, the government was able to indirectly set the minimum wage level if the unions were to demand an excessive increase in the minimum wage (Minimum Wage Commission, 2018).

In brief, the conservative government regarded economic growth as more important than reducing the income gap. It therefore focused on economic change and was passive with regard to the minimum wage. Moreover, as the preceding discussion shows, policy-makers' perceptions and actions differed according to their place on the political spectrum.

### **5.5.3.1.3 Interests and Ideas Changed the Perceptions of Conservative Governments (2010–2022)**

During President Lee's time in office, policy-makers' perspectives underwent a change. As I shall show in the following, the reasons for this change in perception included increased political pressure from unions, the failure of economic growth-oriented policies, and recommendations from international organisations.

#### ***5.5.3.1.3.1 Political Pressure and the Interests of Trade Unions***

Trade unions placed pressure on President Lee and his government to raise the minimum wage in order to reduce income inequality and improve the welfare of people on low incomes. According to the Labor White Paper, a number of labour disputes arose that led to an increased

demand for the resolution of income inequality: ‘Labor disputes intensified at the end of President Lee’s term. The number of labor disputes increased from 86 in 2010 to 105 in 2012. More than 80% of labor disputes are about narrowing the income gap and raising wages’ (Ministry of Labor, 2016, p. 234). Not only did the number of disputes increase, but also ‘the number of participants in labor disputes increased from 40,000 in 2010 to 130,000 in 2012’ (Ministry of Labor, 2016, p. 59).

Alongside exerting political pressure from without, trade unions have strengthened their political position in the National Assembly. According to the Election Commission (2023), In the 2008 National Assembly elections, 17 union members were elected, the year President Lee formed his conservative government. Four years later, in 2012, 15 union members were elected. The Democratic Labor Party announced as follows:

*The Democratic Labor Party has launched the ‘Minimum Wage Realisation Movement Headquarters’. The Headquarters aims to achieve a 25% increase in the minimum wage in 2012. A 25% increase would bring the minimum wage to 50% of the average monthly wage for workers. Only then can the impoverishment of low-wage workers be prevented. (Byun, 2011, p. 1)*

#### **5.5.3.1.3.2 Idea: Failure of Policies Focused on Economic Growth**

A professor of economics at Seoul National University presents the following evaluation of President Lee’s economic policy:

*The achievement of a 7% economic growth rate failed, and his economic growth policy seems wrong. The progressive government’s economic growth rate for the past ten years (1998-2007) was in the 5% range, but the growth rate during the time of President Lee (2008-2012) was in the 4% range. Because there were unreasonable policies only for economic growth, such as tax cuts for companies and deregulation for businesses. ... These functions have had adverse effects on the market-oriented economic system. (Lee, 2013, p. 71)*

According to the Ministry of Labor, the ratio of non-regular workers to regular workers stopped decreasing during Lee's presidency: 'The ratio of non-regular workers showed a decreasing trend during the Roh presidency (2003–2007). However, the non-regular worker ratio during the Lee presidency (2008–2012) remained at 33%' (Ministry of Labor, 2013, p. 627). In addition, the income gap between large corporations and SMEs had worsened. The Ministry of Labor offered the following explanation for this development: 'The wage gap between large companies with more than 300 employees and SMEs with less than 100 employees has widened further. The wage gap increased from 36.4% in 2008 to 37.4% in 2012' (Ministry of Labor, 2013, p. 4). Based on this evidence, policy-makers and researchers concluded that policies focusing on economic growth were ineffective precisely because efforts to narrow the income gap and improve the quality of life of low-wage workers through them had been insufficient.

#### **5.5.3.1.3.3 Idea: Changes in the International Community Affect Korea**

Around 2010, calls to reduce income inequality grew louder across world. The Occupy Wall Street movement, for example, was a global social movement that emerged in 2011 to protest against economic inequality, corporate greed, and the power of money in politics. This movement started in the US but quickly spread to other countries, including Korea, where it inspired the Occupy Seoul movement (Cha, 2022). This movement placed particular pressure on the government to focus on reducing the income gap (Cha, 2022).

The Ministry of Labor recognised a number of changes that had taken place across the international community and explained their impact. It noted in particular that international organisations had begun to emphasise corporate social responsibility:

*Internationally, interest in changing to a new industrial relations system emphasizing corporate social responsibility (CSR) is increasing. International organisations such as the UN, World Bank, and OECD have departments in charge of CSR. ... It includes that companies should respect the*



*human rights of workers, not just focus on growth. Thus, the Korean government and businesses must strengthen corporate responsibilities. (Ministry of Labor, 2013, p. 310)*

Ultimately, as the Occupy Wall Street movement spread to Korea in 2011, the conservative government recognised the importance of narrowing the income gap. The change in the global society in 2010, leading to increased emphasis on corporate social responsibility, had a significant impact on the Korean government.

### **5.5.3.2 The conservative government has focused on narrowing the wage gap since 2013**

Despite belonging to a conservative party that had been historically sceptical of raising the minimum wage during Lee's presidency (2008-2012), President Park's conservative administration (2013–2017) adopted a policy of increasing the minimum wage (Minimum Wage Commission, 2018). This can be understood as a response to the political, social, and international factors that have been discussed above. President Park compared Korea's situation with that of the international community more generally, stating that Korea's policies needed to be improved. She stated: 'In Korea, one-third of wage workers are non-regular workers, and the ratio of non-regular workers is the highest among OECD countries' (Saenuri Party, 2012, p. 73).

As President Park began to publicly recognise that the increase in non-regular workers was a social issue, she announced a policy agenda that was utterly different from that of any previous conservative government: 'The minimum wage system is important for guaranteeing workers' basic livelihood and improving the income gap problem' (Saenuri Party, 2012, p. 77). Park also saw income inequality as being at the heart of South Korea's social and economic problems: 'One of the biggest problems in Korean society is the increase in the income gap. To solve this problem, we will expand the social safety net and improve the minimum wage policy' (Saenuri Party, 2012, p. 174).

The government's policy reports shed light on this shift to prioritising reducing the income gap over economic growth even though it was the conservative government. The Ministry of Labor, for example, outlined the rationale to its policy agenda as follows: 'The policy of economic growth through cost reduction should be avoided. ... And the government should reflect the rate of improvement in income distribution in the minimum wage policy and continuously raise the minimum wage to ensure the income of low-wage workers' (Ministry of Labor, 2015, pp. 9–12).

The changing perceptions of policy-makers during Park's presidency are perhaps the most meaningful factor in explaining why changes to the minimum wage came about. Previous conservative governments (1989-1997 and 2008-2012) had set growth and economic development as their top priority, and to this end, had promoted business-centred economic policies and deregulation. While growth had been achieved, it had been achieved at the cost of unfair distribution and income inequality. Yet President Park promoted a policy agenda that strengthened fairness in income distribution and economic growth. The Ministry for Labor described the results in the following terms:

*The central government has been striving for labor-management harmony. The government focused on narrowing the wage gap. As a result, conservative governments gained trust from workers. We made progress in preventing large-scale labour disputes. The number of participants in labor disputes decreased from 134,000 in 2012 to 77,000 in 2015. (Ministry of Labor, 2016, p. 659)*

## **5.6. Concluding Remarks**

This chapter explores why Korea's minimum wage policy changed and tests two hypotheses to see which provides a better explanation. The first hypothesis is that the minimum wage policy changed because policy-makers recognised the significance of the income gap. The rival hypothesis is that economic growth led to changes in minimum wage policy.

During the 1980s, economic growth was a more important factor in policy change than policy-makers' perception. But policy-makers gradually became more aware of the need to reduce the income gap in the 1990s and, again, after 2003. My analysis proceeded by testing these hypotheses against three historical changes in Korea's minimum wage policy. As I have argued, in 1989, when the minimum wage policy was simplified, trade unions played a leading role in trying to raise awareness of a need to narrow the income gap. The unions argued that two minimum wage levels, as promoted by the government, went directly against the policy's objectives. This argument ended up being accepted by the Minimum Wage Commission, and the private sector, rather than policy-makers, started to emphasise that income disparity posed a serious problem. When the minimum wage expanded to have universal coverage in 2000, awareness spread among policy-makers that the income gap needed to be reduced. Finally, when the minimum wage level rose after 2003, conservative and progressive governments took for granted that narrowing the income gap needed to be set as a top policy goal. In short, as I have shown in this chapter, policy-makers have grown increasingly aware over the past 35 years that reducing the income gap will have significant effects on Korean society.

# Chapter 6: Causal Links between Technological Development and the Income Gap

## 6.1. Introduction

In this chapter, I examine what factors have caused Korea's income gap. As we saw in the previous chapter, changes and developments in minimum wage policy have been attributed to the income gap. The goal of this chapter is to answer my third research question by finding a sufficient causal relationship between technological development and income inequality in Korea over the past 35 years. In other words, here, I investigate in detail why the perceptions of those directly involved in policy-making, such as the President, high-ranking government officials, and members of the National Assembly, have changed and how these have affected their awareness of the issue of income disparities in turn.

The following is therefore divided into three parts. In the first section, I set out to identify the dependent variable, determining it based on the goals of my research, my research questions, and on the insights gained from the policy analysis provided in Chapter 4. Given that I am studying a period of 35 years as opposed to a brief snapshot of a historical moment, I need to specify and clarify the dependent variable accordingly.

The second section presents possible hypotheses that seek to explain the causal connection between technological progress and the widening income gap. These hypotheses explore a range of explanate, including technological progress and economic issues, such as rapid economic growth and global economic crises. I base these hypotheses on prior knowledge, including the findings of existing research and theories related to income disparity (Collier, 2011).

In the third section, I compare and verify my hypotheses, examining the evidence for each in turn. When comparing these hypotheses, three small cases are used, I employ the three smaller cases of changes in Korea's minimum wage policy that were explored in the previous

chapters: the late 1980s; the late 1990s; and since 2003. These three cases are useful in testing the hypotheses against each other, allowing each hypothesis to be tested from different perspectives at three different times.

One of the essential features of what I explore in this chapter is that policy-makers' perceptions have changed over time. In the 1980s, the private sector started to understand that technological progress was the driving force of social change and the cause of income inequality; while it was only in the late 1990s that policy-makers began to recognise this too. By the 2010s, policy-makers accepted that technological advances had made a more significant contribution to widening the income gap than economic issues.

## **6.2. Identifying the Dependent Variable**

This section aims to identify the dependent variable. In general, when identifying dependent variables, researchers must set variables according to their specific research questions and goals. My third research question asks whether technological development has influenced income inequality. The dependent variable representing the income gap in Korea must therefore be measurable, and the data regarding this variable should be obtained from documentary evidence.

My dependent variable in the following is income inequality. According to Baek (2013), income inequality indicates the degree of disparities in a society's income distribution. It is measured by the Lorenz curve or the Gini coefficient, and can be illustrated by comparing between the top 10% and the bottom 10% of incomes or between the top 20% and the bottom 20% (Yu, 2007).

According to the Ministry of Labor (1999; 2015) and the Ministry of Strategy and Finance (2005), the Korean government uses the Gini coefficient and the income quintile ratio to measure income inequality. The National Statistical Office website (2023) points out that,

alongside the first two, the Korean government also relative poverty rates to measure income inequality. In the words of the Ministry of Strategy and Finance: ‘As the economic situation worsens, the difficulties of the low-income and vulnerable groups are aggravated. Income inequality and income disparities, as measured by the Gini coefficient and the income quintile ratio, are worsening’ (Ministry of Economy and Finance, 2005, p. 329).

The wage gap is also used as a measure of income inequality in Korea. This is because wage income accounts for most of the household income in Korea. Indeed, in this light, the Institute for Health and Social Affairs considers the wage gap to be ‘the key indicator of income inequality’ (Yeo and Kim, 2006, p. 92). The Minister of Finance and Economy also notes the role of the wage gap in illustrating income inequality: ‘The wage gap between industries is widening. In particular, the wage gap between large corporations and SMEs is enlarging, which means that income inequality is deepening’ (Na, 1996, p. 2).

This study clearly distinguishes between income inequality and income polarisation, recognising the two as distinct concepts. As Min et al. write:

*Income inequality is a situation in which the distribution situation by income quintile is not evenly distributed. This policy is related to policies to solve the problem of poverty. Conversely, income polarisation means the middle class decreases, and the upper and lower classes increase. In other words, it is a phenomenon in which income distribution is shifted to both extremes. It is closely related to the policy for restoring the middle class in terms of policy. (2006, pp. 1–2)*

Income polarisation, that is, is conceptually different from income inequality. As it has a different use in terms of policy, income polarisation is not employed in this study to refer to inequality. Income inequality—and not income polarisation—is, therefore, the dependent variable in this study; and income disparity and the wage gap are employed to indicate income inequality.

## **6.3. Establishing Hypotheses**

As noted in the previous chapter, this study must present clear standards for setting hypotheses. Collier (2011) argues that qualitative research methods using process-tracing methods must base their hypotheses on prior knowledge. Hypotheses are therefore selected from the findings of previous research, policy-related theories, and empirical data. In the following, I shall set out three hypotheses seeking to explain the causal relationship between technological progress and income inequality. In the process, I shall clarify how each hypothesis has been derived from prior knowledge.

### **6.3.1 Rapid Economic Growth**

The relationship between rapid economic growth and income disparity is complex and has been the subject of a great deal of research to date. A number of researchers have established that rapid economic growth, such as that experienced by South Korea over the past 35 years, can lead to widening income inequality.

As Huh and Ahn (2008) show, countries often witness significant increases in their gross domestic product (GDP) and incomes per capita during periods of rapid economic growth. Moreover, the rapid increase in gross domestic product causes social problems, including the tendency to widen income disparity. Increased investment, higher productivity, and the expansion of various economic sectors tend to drive such growth, resulting in rises in national wealth and average individual income. While rapid economic growth can increase average incomes, however, these incomes are not equally distributed among the population (Atkinson, 2015). A number of researchers have shown indicate that income disparity increases during rapid economic growth, and their findings can be divided into three categories.

First, as Husson (2015) demonstrates, rapid economic growth can favour specific segments of society more than others. Those with higher educational attainment and access to

capital and resources, for example, are often better positioned to use the new opportunities created by economic expansion. They can therefore experience significant income growth, thus widening the income gap between the wealthy and the less privileged.

Second, as Milanovic (2016) argues, fast economic growth can widen the income gap owing to the changes it brings about in the economic structure. As sectors grow at different rates, individuals in rapidly expanding industries enjoy higher wage increases and more remarkable income growth than individuals in sectors that have not experienced the same level of growth. This may further contribute to income inequality. Indeed, Jang (1986), Lee (1989), and Huh and Ahn (2008) recognise the changes that Korea's economic structure has gone as a result of rapid economic growth. Economic growth in Korea precipitated structural shifts, including the transition from a primarily agricultural economy to one that focuses on manufacturing and services. This transformation created winners and losers in the labour market: those with the skills and education required in the new industries in big cities benefited from higher wages and increased job opportunities; individuals with limited education or skills, however, faced difficulties adapting to the changing economic landscape, resulting in wage stagnation and limited upward mobility.

Third, globalisation and market forces are understood as the backgrounds to the widening income gap. According to Lee (2007), as South Korea integrated itself into the global economy through measures such as fostering an export-driven economy and expanding trade, it underwent substantial transformations in its economic landscape. The expansion of trade resulted in heightened competition from other nations in areas such as pricing, product quality, technological advancement, and investment. This integration exposed both Korean industries and their workforce to market dynamics that influenced income distribution. A pivotal consequence of adopting an export-led economy was the discernible impact on wages, particularly for workers with lower skill levels. With increased trade and the opening of markets,



Korean industries faced competition from lower-cost production. This competition put downward pressure on wages for low-skilled workers in sectors exposed to international trade (Park, 1998). Cho (2018) argues, moreover, that as businesses sought to maximise profits and reduce costs, they were more inclined to relocate production to countries with lower labour costs. This led to jobs being both outsourced and offshored, particularly in labour-intensive industries. As a result, some Korean workers faced job losses or wage reductions, contributing to income inequality.

In summary, while rapid economic growth based on global trade often increases a country's GDP and per capita income, they are usually accompanied by a widening of the income gap. Factors such as unequal access to resources, skills, and education, along with industrial re-structuring and globalisation can contribute to rising income inequality. In the light of the preceding discussion, therefore, we can formulate our first hypothesis.

- Hypothesis 1: Rapid economic growth caused the widening of income inequality.

### **6.3.2 Advances in Technology**

The second hypothesis to be discussed in this section concerns both technological progress and income disparities. For countries that pursue growth policies through technological development, such as Korea, technological progress can act as an independent variable, and a social change, such as income disparity, act as a dependent variable (Park, 1998).

The technological innovations that have occurred since the 1980s are related to the 3rd Industrial Revolution, discussed in Chapter 2. Automation, computing, and the Internet have changed both the nature of industries and the working conditions involved in them (Brynjolfsson, 2014). Technological advances through the digital revolution in the late 20th century caused income disparity through three significant changes: job polarisation, skill polarisation, and the concentration of wealth (Katz and Murphy, 1992; Berman, 1994; Betts,

1994; Autor, 1998; Card and DiNardo, 2002; Autor, 2010; Levy and Murnane, 2013; Schwab, 2017). Research on this topic can be roughly arranged into three categories.

In the first of these categories we have work, such as by Levy and Murnane (2013) and Autor (2010), that argues that technological progress leads to job polarisation and income inequality. Job polarisation refers to a phenomenon in which the labour market is divided into high-skill, high-wage jobs on the one hand and low-skill, low-wage jobs on the other. Technological advances and changes in labour demand and supply in industrial settings in particular cause this polarisation. In the past, many manufacturing jobs involved routine tasks that were suited to less educated and less skilled workers. With advances in automation technology, however, machines can now perform many mundane tasks more efficiently and accurately. As a result, demand for low-skill manufacturing jobs has declined, reducing their availability and wages (Katz and Murphy, 1992; Schwab, 2017). At the same time, technological evolution creates demand for workers who can operate, programme, and maintain the advanced machinery and robotics used in manufacturing. These tasks require a higher level of skill and knowledge. Wages for high-skilled workers in manufacturing, such as engineers and technicians, may increase owing to their specialisation and relative scarcity. Thus, these changes are mainly attributable to the effects of technological advances, leading to the polarisation of the job market. Moreover, high-skilled workers experience increased demand and take home higher wages, while low-skilled workers are in decreased demand and receive lower wages. This contributes to income inequality, creating a so-called income gap (Betts, 1994; Lee, 1995).

Second, Berman (1994), Autor (1998), and Acemoglu and Autor (2011) argue that rapid technological developments in a country leads to the polarisation of skills. Skill polarisation effectively widens gaps in wage and employment prospects between workers with different levels of education and skills. For the manufacturing industry to continue developing, for

instance, it adopts automation technology. This means that it requires workers with advanced skills, such as knowledge in robotics, programming, and data analysis (Schwab, 2017). These skills are typically acquired through higher education, professional training programmes, or continuous learning (Jang, 1986). Operators with these advanced skills are in high demand, as they are critical to operating and maintaining automated systems. Since the supply of individuals with these skills is limited, salaries for high-skilled workers tend to increase, thus contributing to income inequality (Jang, 1986). All the while, low-skilled workers in manufacturing who may have performed tasks that are now automated face reduced demand for their labour. As a result, they may have difficulty finding alternative employment opportunities or may be forced to accept jobs with lower wages and lower benefits (Autor, 2014). As their wages stagnate or decline, the income gap widens (Autor, 2014).

Lastly, Lee et al. (2000) and Schwab (2017) explain that technological development leads to wealth concentration and income disparity. For example, some technology companies are crucial in developing and distributing advanced technologies. These companies amass considerable wealth owing to their market dominance with technological evolution. This is because they monopolise technology in a new market or industry and can increase their market share. As a result, corporate owners, executives, and high-skilled workers become incredibly wealthy. Meanwhile, workers in traditional industries or small businesses unable to adopt or keep pace with technological advances struggle to generate significant income. This concentration of wealth in the hands of a select few only exacerbates income disparities within countries.

In summary, rapid technological advances create job polarisation, skill polarisation, and wealth concentration, all of which cause income disparity. As technological development leads to the automation of routine tasks, for example, it reduces the demand for low-skill jobs and

widens the wage gap between high- and low-skilled workers. Our second hypothesis therefore states that the income gap is the result of technological progress.

- Hypothesis 2: the income gap is the result of technological progress.

### **6.3.3 Global Economic Crises**

Historical institutional scholars argue that critical junctures can lead to changes in policy and divert socio-economic phenomena (Thelen and Conran, 2016). Based on this historical institutional theory, we might explore whether the income gap in Korea came about at a critical juncture, such as during a global economic crisis. A number of researchers in Korea have proven the causal relationship between the two through empirical research. As Chae (2007) states, for example: ‘The widening wage gap between large and small business workers has emerged as a new variable that has deepened income inequality since the 1997 Asian economic crisis in Korea’ (2007, p. 215). In addition, the OECD (2015) argues that the 2008 global financial crisis caused workers to lose their jobs and income; indeed, according to the OECD, it increased social and economic imbalances, including widening the income gap.

The Labor White Paper (1999) by the Ministry of Labor and Seok (2002) placed the blame for the wage gap squarely on the 1997 Asian economic crisis. The Asian economic crisis shocked many countries, including Korea, where income inequality increased. The Asian economic crisis was generally linked to slowing economic growth, unemployment, and corporate bankruptcies. These factors are likely to impact mainly low-income or economically vulnerable groups, and during the Asian economic crisis, such vulnerable groups in Korea suffered economically, leading to increased income inequality. And income inequality has been on the rise in Korea since 1997. Income inequality indicators, which were relatively low before the 1997 economic crisis, rose after it. The Gini coefficient, for example, rose from 0.29 in

1997 to 0.32 in 1988 and reached its peak of 0.33 in 1999. Therefore, we can hypothesise that income inequality resulted from the global economic crisis.

- Hypothesis 3: income inequality resulted from the global economic crisis.

In examining income inequality as the dependent variable in this study, it is basic to consider key independent variables such as rapid economic growth, technological advancement and shifts in the global economic landscape. Whilst the research questions, objectives and methodologies delineated in Chapter 3 necessitate the exclusion of certain meso-level independent variables, this investigation focuses on macroscopic changes in income inequality over a 35-year period. Notwithstanding, it behoves us to acknowledge alternative independent variables that exert influence on income inequality.

At the meso level, extant research has scrutinised the proportion of women in high- and low-wage occupations to elucidate how gender-based occupational segregation impacts income distribution (Hegewisch and Liepmann, 2013). Moreover, scholarly inquiry has explored the correlation between educational attainment—encompassing secondary school, university and postgraduate qualifications—and income inequality (Walsemann et al., 2013). Further studies have evaluated the efficacy of social safety nets, including unemployment benefits and food assistance programmes, in mitigating income disparities. These investigations demonstrate that the development and enhancement of welfare schemes have significant ramifications for income inequality (Blank and Hanratty, 1993). Also, housing costs constitute another salient independent variable, with empirical evidence suggesting that expenditures on rent and mortgages can significantly influence income inequality (Dong, 2018). More recent scholarship has examined the impact of healthcare accessibility on income disparities (Yearby, 2018).

In conclusion, it is apparent that income inequality is influenced by a multitude of factors. However, given the specific aims of this investigation and the necessity to address the research questions effectively, it is not practicable to encompass all potential variables. Whilst the selected independent variables are indeed significant and merit discussion, it is crucial to emphasise that this study prioritises those factors which have demonstrably impacted income inequality in South Korea over a period exceeding 35 years. As a result, this focused approach enables a more rigorous and targeted analysis of long-term trends in income disparity within the South Korean context.

## **6.4 Test of Hypotheses Through Comparison**

The primary purpose of this section is to test and compare the three hypotheses set out above. Through this, I shall discover that technological progress has been the major cause of income inequality in Korea over the past 35 years, much more than rapid economic growth and global economic crises. This part therefore sets out the causal relationship between technological development and income inequality and studies how the perceptions of policy-makers, who play an essential role in policy change and development, have changed. I analyse in detail how policy-makers recognised and responded to technological progress in Korea over the period in question. Indeed, civil servants and politicians are the critical actors that need to be understood in order to establish the causal link.

My analyses focus on three small cases, which are used sequentially to compare and evaluate the three hypotheses outlined above. As explored in detail in the previous chapters, these small cases consist of: i) the simplification of the minimum wage in 1989; ii) the development of the policy, giving it universal coverage in 2000; and iii) increases in the minimum wage since 2003.

### **6.4.1 Case 1: Change to a Single Minimum Wage in the 1980s**

As we saw in Chapter 5, when the complex policy changed into a simple policy in 1989, the government announced that this measure was aimed at reducing the income gap (Minimum Wage Commission, 2018). So, how did policy-makers in the late 1980s perceive the causes of the income gap? In short, at that time, even within the one government perceptions differed. While the President regarded technological advancement as the cause of income disparity, the government officials believed that economic growth was responsible.

#### **6.4.1.1 Perceptions and Circumstances until the mid-1980s.**

##### **6.4.1.1.1 The Government Was Unaware that Technological Progress was the Driving Force**

In the 1980s, Korea experienced both technological development and economic growth. The Korea Development Institute explains that Korean society was transformed in the 1980s, particularly referring to the development of heavy industry out of the consumer goods industry: ‘The heavy and chemical industry, which was intensively nurtured in the 1970s, brought rapid economic growth in the 1980s’ (Koh, 2008, p. 41). Government officials were, however, unaware of two things about technological development. First, they failed to realise that technological advancement was the driving force behind social and economic change. The government recognised technological progress as a tool for growth. The 6th Five-Year Economic Development Plan stipulated technology’s role in economic growth: ‘Technological development is a means for economic growth. ... We will develop technology; a key means to strengthen industrial competitiveness and grow high-value-added industries’ (Economic Planning Board, 1986, pp. 41–44). Second, the government did not yet understand that technological progress was the cause of income gap, stating instead that ‘Rapid economic

growth has caused income disparity between regions. The income gap between large cities such as Seoul and Busan and rural areas is getting wider' (Economic Planning Board, 1986, p. 13).

#### **6.4.1.1.2 Lack of Statistics on the Income Gap**

At that time, Korea experienced a substantial economic transformation, often called the 'Miracle on the Han River' (Howe, 2020, p. 17). But the government's ability to collect accurate data on income distribution and to calculate the Gini coefficient was limited. The head of the Social Statistics Bureau of the National Statistical Office of Korea announced: 'The National Statistical Office has prepared and provided the Gini coefficient since 1990, based on the results of the household trend survey' (Kim, 2013, p. 1). The National Statistical Office director also admitted that there were a number of constraints on income inequality-related statistics in the 1980s:

*In the 1980s, there were limitations in data collection. ... Household income surveys were conducted from 1963, but in the case of sensitive surveys such as income, the non-response rate of statistical surveys was high. Therefore, the government did not have accurate data on household income. (Kim, 2013, p. 1)*

Indeed, I was unable to locate statistics on income inequality in government documents from the late 1980s. The only statistics on the wage gap between large and small companies at that time are given in the 1997 White Paper on Labor: 'In 1987, the wage at large companies with 500 or more employees was 1.14 times higher than at companies with fewer than 30 employees. And in 1990, the gap increased to 1.35' (Ministry of Labor, 1997, p. 58). The lack of reliable data on income inequality prevented governments from accurately examining and addressing the extent of income inequality. Indeed, it is evident that without statistics, it would have been difficult for them to identify the causes of inequality. The government was, therefore, perhaps not best placed to understand the causal link between technological progress and income inequality.



## **6.4.1.2 Ideas Influence Changes in the Perceptions of Policy-makers**

### **6.4.1.2.1 Transition to Technology-intensive Industries**

One of the biggest triggers of a shift in perceptions amongst policy-makers was Korea's technological development itself. Korea's predominantly agricultural economy transformed into one based on industry as a result of technological progress and then to one based on technology-intensive industries. This process can constitute the most significant driving force behind changes in perception.

A number of studies have described the level of technological development in Korea. Kim, for example, writes: 'Korea's technological level, which achieved high economic growth, was at the stage of creative imitation in the late 1980s rather than duplicative imitation (1999, p. 126). According to endogenous growth theory, R&D and human capital are the two critical factors in technological advancement (Romer, 1986; Lucas, 1988). And, as the statistics of the National Statistical Office (2002) illustrate, Korea's ratio of R&D investment to GDP continuously increased throughout the 1970s and 1980s, rising from 0.38% in 1970 to 0.77% in 1980, and to 1.87% in 1990.

Human capital also increased, thanks to new education policies and systems. Looking back at this period, the World Bank reports that Korea's education system was the driving force behind the accumulation of knowledge and technological and economic development: 'In 1960, Korea had achieved universal primary education—the basis for a well-educated labour force—which fueled the economy's needs as it industrialized' (World Bank, 1998, p. 9). According to the statistics of the Ministry of Education (2022), the college entrance rate also increased. The proportion of high school graduates who attended university increased from 27.2% in 1980 to 36.9% in 1989.

Through continuous technological progress, Korea's manufacturing industry also underwent changes in the late 1980s. The Bank of Korea noted that the percentage of technology-intensive industries increased:

*Labour-intensive industries such as textiles, wigs, and shoes declined in proportion: 46.4% in 1980, 41.5% in 1985, and 34.1% in 1990. On the other hand, the proportion of technology-intensive industries such as automobiles, petrochemicals, and electronics continued to increase: 53.6% in 1980, 58.5% in 1985, 65.9% in 1990. (Cho and Lee, 1999, p. 20)*

As the structure of the manufacturing industry was transformed, Korea's major export items also changed. According to the Ministry of Trade, Industry and Energy (2023), the top export items (with their respective export proportions) in 1980 were clothing (15.9%), steel (4.1%), and ships (3.6%). In 1990, however, these had changed, with clothing (11.9%), semiconductors (7.0%), and petrochemicals (4.6%) leading Korea's export market. As the share of clothing exports decreased, that is, technology-based products began to top Korean exports.

Changes in Korea's manufacturing structure can be put down to the country's export-oriented economy. In the 1980s, Korea had to compete with developing countries, such as China, for low prices and with products from advanced countries, such as Japan, for technology. 'To strengthen its competitiveness in the global market,' as the Korea Development Institute explains:

*This meant a transition to technology and capital-intensive industries. Since 1986, the government ordered the disposal or restructuring of old facilities that have weakened competitiveness, such as textile and wig companies. (Min et al., 2006, p. 12)*

In addition, the government promoted policies for the technological development of the manufacturing industry:

*The government has strengthened the development of the machinery and electronics industries to change the industrial structure. To this end, the Small and Medium Business Start-up Support Act*

*was created in 1986, and an industrial-based technology development project was promoted in 1987. (Min et al., 2006, p. 12)*

In short, one of the most significant changes to occur in Korea in the 1980s was the shift from labour-intensive to technology-intensive industries. In addition, the increase in R&D and human capital accelerated technological progress. These changes were visible in government and central bank documents.

#### **6.4.1.2.2 Non-government Actors Contributed Ideas to Change Policy-makers' Perceptions**

Private researchers started to understand the causes of social change in the 1980s and, as they did so, they fed these ideas to policy-makers. As the college enrolment rate increased and Korea's manufacturing industry developed into a technology-based industry, the labour market assumed a completely new shape. Researchers focused on these changes in Korean society, and many studies showed how technological development changes labour markets:

*The class and roles of workers changed due to the so-called Ford-style division of labour. Export-oriented large corporations rapidly developed capital and technology ... the roles of office experts such as specialised technical workers and demand have increased. (Huh, 1986, p. 255)*

Other research findings referred to this phenomenon as a structural, social change in the labour force: 'Professional and high-skilled workers have become the high-income class. And this phenomenon has increased the income gap between workers of Korean society' (Lee, 1989, p. 192).

As discussed in Chapter 5, large Korean companies had the ear of the government in the late 1980s. When establishing economic policies or policy plans, the government looked to private companies for their input (Economic Planning Board, 1986). In the 1980s, the government-led economic growth strategy helped certain large companies to grow. Researchers recognised this phenomenon, noting that the government-led technology development

strategy—accompanied by the structural changes in the manufacturing industry in the 1980s—had created a social problem in Korean society in the form of a wage gap. As a scholar at Kyongsang National University, who studies the causes of inequality in Korea, argued: ‘The main cause of the income gap between companies is the wage gap between large technology companies and small subcontractors’ (Jang, 1999, pp. 171–172). He states that this is attributable to a growth policy centred on large companies:

*Big companies monopolised resources and subsidies from the government ... large companies kept close relations with the government. They could develop technology exclusively, and differences in technological progress soon emerged as differences in wage gaps in the labour market. (Jang, 1999, p. 176)*

As stated in the previous chapter, according to the Minimum Wage Commission (2018), workers experienced these changes in industry, and their representatives raised the issue of the wage gap between labour-intensive and technology-intensive industries with the government. And discussed in detail above, the minimum wage was first implemented in 1988 applying a differential minimum wage depending on the different types of industry, thus creating disparity between employees in labour-intensive and technology-intensive industries. Owing to these government policies, union members began to experience the effects of a wage gap. As the Korean Labor Union reported:

*Applying high minimum wages only to technology-intensive industries has been a serious problem. The government caused the wage gap under the pretext of technological development. ... Employees’ self-esteem has fallen in labor-intensive industries. They were stigmatized as working in a low-wage industry. (Minimum Wage Commission, 2018, p. 87)*

Moreover, the Korean Labor Union complained about the difficulties experienced by low-wage workers in labour-intensive industries: ‘With the recent development of technology, high-skilled workers earn high wages, but low-skilled workers in labour-intensive industries cannot lead decent lives on low wages’ (Kim, 1988, pp. 40–41).

In short, workers and researchers became aware of the wage gap between technology-intensive and labour-intensive industries. Workers also acknowledged that technological progress was the driving force behind income disparity.

### **6.4.1.3 The President Recognised that Technological Progress Had Caused the Income Gap**

#### **6.4.1.3.1 Differences in Perceptions Between the President and the Government**

Non-government actors both recognised and experienced the social issue of income disparity in the late 1980s. As discussed in Chapter 4, President Roh's inaugural speech in 1988 named technological development as one of the drivers of socio-economic change: 'the growth of technology and the economy have changed our society from an agricultural to an industrial society. However, it has caused problems such as wage gaps' (Office of the President, 1988, p. 4).

By contrast, policy-makers by and large did not accept that technological development was driving societal change, and they certainly did not see its role in worsening income inequality. Official government documents pointed instead to economic development as the direct cause of the income gap between classes: 'Due to the excessive concentration of economic power, there was a difference in income between classes' (Economic Planning Board, 1986, p. 34). Nevertheless, the government did not clearly indicate in which class the income gap was occurring. While this was, in part, because there were no statistics on the income gap, as the Economic Planning Board commented at the time, 'because of the problems of economic growth-oriented policies, the results of economic growth were not evenly distributed. As a result, income gaps occurred between regions and classes' (Economic Planning Board, 1986, p. 44).

#### **6.4.1.3.2 Lack of Awareness of the Impact of Technological Development**

Korean policy-makers did not recognise that technological progress could result in income inequality, and there are three reasons why this was the case. First, in the 1980s, Korea lacked a number of core technologies. The Korea Institute of Science and Technology Planning and Evaluation, a national research institute, describes the situation as follows: ‘At that time, Korea had excellent production capabilities, but lacked core technologies, such as machinery, electronics, and automobiles, and paid royalties for leading technologies from foreign countries’ (Moon et al., 2011, p. 87).

Second, the level of investment into technological R&D was still insufficient. In the words of the National Research Institute: ‘In the mid-1980s, Korea’s R&D investment was \$100 million, which was only 3% of Japan’s R&D investment. And this figure was equivalent to 5% of Germany’s R&D investment’ (Moon et al., 2011, p. 87). The number of researchers in science and technology was also too low: ‘In the mid-1980s, the number of technology-related researchers in Korea was 37,000, which was 10% of Japan and 5% of the US’ (Moon et al., 2011, p. 87). Lastly, Korean’s technicians lacked the specific higher levels of skills required: ‘In the 1980s, most of Korea’s manpower was technicians and craftsmen. ... There was a great shortage of high-skilled manpower with a doctorate level’ (Moon et al., 2011, pp. 87–89).

Given Korea’s technological capabilities at the time, it is entirely possible that the government was simply unaware that technological advancement had the potential to catalyse societal change. Indeed, as we can see from their statements at the time, policy-makers perceived technological development only a means to economic growth. Since the Ministry of Science and Technology (established in 1998) and the Ministry of Information and Communication (established in 1994) did not exist in the 1980s, the government did not have the requisite policy expertise or framework to acknowledge that technology was an

independent policy are and driving force (Castells, 2000; Castells and Himanen, 2004). A report by the Korea Institute of Science and Technology Planning and Evaluation, a national research institute, reflects this: 'In the 1980s, technology was recognised as auxiliary means for economic growth' (Moon et al., 2011, p. 4).

In short, despite the ideas provided by private researchers and the insistence of the workforce, policy-makers were unaware that technological development could change the world as an independent variable. And they could not see that the income gap was deepening as a direct result of technological advances.

#### **6.4.1.4 Summary**

As I have explored above, there was a significant difference between the President's statements and the government's stance. While President Roh highlighted that technological advancements were responsible for the growing income gap, the economic ministry held a contrasting perspective. During that period, economic ministries did not see technological progress as pivotal to instigating societal shifts, such as income disparity. Nonetheless, the President's pronouncements carried weight, given his central role as a policy-maker in a nation governed by a presidential system. Ultimately, in the late 1980s, the President realised that technological advancement was one of the reasons for the income gap, and this provides a basis upon which we can accept hypothesis 2 (technological development). At the same time, given the government's position, hypothesis 1 (rapid economic growth) may still provide us with an explanation of what drove the widening of the income gap.

#### **6.4.2 Case 2: The Universal Minimum Wage in the 1990s**

In the 1990s, policy-makers started to acknowledge that technological progress played a pivotal role in shaping the socio-economic makeup of Korean society. Certain public research institutes

identified technological evolution as a critical contributor to income inequality. Notably, official government documents reflected a shift in perception, whereby Korean policy-makers recognised that technological development was not merely a supplementary driver of economic growth but, in fact, a prominent force propelling social change. Some policy-makers, however, continued to attribute the escalation of income inequality to economic factors, such as rapid economic growth and the 1997 Asian economic crisis, rather than acknowledging the impact of technological advancements.

#### **6.4.2.1 Perceptions of Policy-makers Until the mid-1990s**

Until the mid-1990s, the Korean government had made limited use of statistics and could not, therefore, accurately grasp the deepening income disparity. Since 1990, the National Statistical Office had prepared and published Gini coefficient statistics, but the only income gap statistics that the Ministry of Labor used until 1996 were those illustrating the wage gap between large companies (more than 500 employees) and small companies (less than 30 employees). Based on limited statistics, the Ministry of Labor issued a positive opinion that the wage gap between large and small companies was narrowing: ‘wages at large companies were 1.4 times higher than those at small companies in 1995. The ratio was 1.42 in 1996 and 1.38 in 1997. ... The wage gap between companies has recently decreased’ (Ministry of Labor, 1997, p. 58). According to the 7th Five-Year Plan for Economic Development in 1991, ‘One of the key social problems is the income inequality between rural areas and cities’ (Economic Planning Board, 1991, p. 38). These government documents show that, until the mid-1990s, the government had no statistics reflecting the income gap on a household-by-household basis.

Furthermore, the government believed that most social problems were caused by rapid economic growth. In 1996, the Finance Minister pronounced:



*Korea's rapid economic growth has created social problems. The growth gap between industries and sectors, such as large companies and SMEs, is widening. In addition, difficulties in SMEs and labour-intensive industries have increased due to rapid growth of wage gap, intensifying competition, and changing consumer preferences. (Na, 1996, p. 2)*

By the mid-1990s, levels of technological development had increased. But the government seemed to have limited scope for recognising technology as an additional means for economic growth. Korea's technological level had entered a new stage. As the Science and Technology Policy Institute saw it, 'in 1990, Korea's level of technology moved out of the imitation phase and entered the creative innovation phase' (Choi, 2018, p. 9). Added to this, the market share of major Korean products increased:

*In the mid-1990s, companies secured a competitive edge in the global market. The global market share of Korean-made automobiles increased from 1.3% in 1986 to 5.4% in 1996. The share of Korean memory semiconductors rose from 3.5% in 1986 to 33.6% in 1996. (Min et al., 2006, p. 1)*

In short, the Korean government continued to concentrate on economic growth over policies that might seek to grasp the effects of technological development. The Korea Institute of Science and Technology Planning and Evaluation described the situation as follows: 'The importance of technology has increased, but technology policy was part of the economic growth until the 1990s. ... They did not perceive technological progress as a trigger for societal change' (Moon, 2011, pp. 4–5). Another characteristic of the Korean government in the mid-1990s was that it did not use Gini coefficient statistics in its policies. Accordingly, officials from the Ministry of Economy and the Ministry of Labor understood that the wage gap between companies was decreasing, and the wage gap between regions was growing.

#### **6.4.2.2 Ideas Provided an Opportunity to Reform Policy-makers' Perceptions**

In the late 1990s, the spread of the Internet and the increasing availability of increasingly powerful computers precipitated rapid social and economic changes in Korea. While the general public began to experience how this technological development was causing a gap in incomes, international organisations such as the OECD, the ITU, and the World Bank were reporting on the association between the two. These ideas presented the opportunity to transform the Korean government's perception.

##### **6.4.2.2.1 Expansion of High-speed Internet Use and Changes in Public Perception**

###### **6.4.2.2.1.1 *The IT Industry was a New Engine for Growth in Korea***

While in the 1980s technological advances were made in the manufacturing sector, the 1990s witnessed technological development in the IT sector. The surge in Internet use itself exercised an enormous influence on policy-makers, playing a larger part in changing their perceptions than any societal changes.

In the late 1990s, the spread of high-speed Internet in Korea began in earnest. A scholar based at The Korea Advanced Institute of Science and Technology (KAIST) explains the lay of the land thus: 'Until the mid-1990s, universities and research institutes used the Internet on a limited basis. However, from the late 1990s, households and businesses also began to use the Internet universally' (Jeon, 2010, p. 17). Especially noteworthy was the swift expansion of the Internet penetration rate. As articulated by the National Information Society Agency, 'Comparing the global growth rate of Internet users from 1998 to 2002, Korea increased by 55%, Japan by 32%, Western Europe by 25%, and the US by 16%' (Lee et al., 2010, p. 31).

Moreover, the development of the IT industry was a driving force in the economic growth and overcoming the effects of the 1997 Asian economic crisis, as statistics from the Bank of Korea indicate:

*If we look at the contribution of manufacturing to GDP growth by industry, from 1996 to 2000, semiconductors and electronic parts accounted for 14.4%, and automobiles accounted for 3.6%. In the late 1990s, Korea transitioned to a digital industry which led economic growth despite global economic crisis. (Min et al., 2006, p. 2)*

The development of the digital industry in the late 1990s played an important role beyond pulling through the global economic crisis. The LG Economic Research Institute offered the following evaluation: ‘The digital industry has become a new driving force in Korea. ... And the industry with high R&D investment and many patents proliferated. ... the country overcame the global economic crisis’ (Lee et al., 2000, pp. 2–24). Indeed, Korea’s economic recovery turned out to be rapid, and according to Statistics Korea (2023), the impacts of the 1997 Asian economic crisis were only very short-term: Korea’s economy grew by 7.9% in 1996 and by 6.2% in 1997; but after a dip to -5.1% in 1998, it rebounded to 11.5% in 1999 and, again, to 9.1% in 2000.

#### **6.4.2.2.1.2 Advances in IT Changed the Perceptions of Businesses and Employees**

The growth of the digital industry and the spread of the Internet began to change society in a number of respects. A scholar from KAIST outlines some of these changes: ‘In 1995, major newspapers began publishing digital newspapers, and in 1996, department stores opened Internet markets for online commerce’ (Jeon, 2010, p. 17). And the development of digital technology caused changes well beyond transforming companies. Differences were also beginning to emerge concerning workers’ earnings: in the late 1990s the development of IT technologies resulted in differences between companies with respect to labour productivity and operating profit. This, in turn, led to a gap in wages. The Korea Development Institute explained this phenomenon:

*the gap widened in companies and workers’ wages. The cause was a surge in IT companies’ labour productivity, which improved significantly. In 1999, labour productivity grew by 30% for*

*information technology (IT) companies, but productivity for non-IT companies decreased by 2%. (Min et al., 2006, p. 36)*

As discussed in Chapter 4, workers' perceptions also changed. Workers began to seek employment at large companies such as semiconductor companies and internet specialised companies that offered higher wages and better welfare. Now, they were largely reluctant to work at small and medium-sized companies, such as manufacturing or subcontractors, who paid low wages (Ministry of Labor, 1997). A researcher studying technological development and social relations explained this change in perceptions amongst the workforce thus:

*Workers have experienced that technology-based conglomerates offer high salaries and benefits. ... On the other hand, non-IT companies or labour-intensive companies exploit labour and provide low wages and poor working conditions. ... Workers have found that technological development has a direct impact not only on companies but also on their wages. (Lee, 1995, pp. 138–139)*

#### **6.4.2.2.1.3 Researchers' Idea that Technological Progress Caused Income Disparity**

A number of state-run research institutes exist in Korea, which work with policy-makers to analyse socio-economic issues and to establish policy agendas. They exercise their roles as think tanks with the explicit aim of changing in public officials' perceptions on policy areas.

In the 1990s, some public research institutes began to argue that the income gap was the outcome of technological development. The Korea Development Institute proved this point by using a quantitative research method driven by statistics: 'Technological progress has not increased employment but has resulted in an imbalance in the labour market. ... Companies have paid higher wages to high-skilled workers, and wage gaps have begun' (Jang, 1986, pp. 85–100). In addition, the Institute for Health and Social Affairs, a national research institute, drew attention to the problem of income disparity in the late 1990s:

*The main cause of income inequality in Korea since 1996 has been technological development. ... In particular, the difference in wage income between technology-based large companies and non technology-based SMEs is noticeable. ... Technological advances have widened the wage gap. (Yeo and Kim, 2006, p. 92)*

#### **6.4.2.2.1.4 Ideas of International Organisations**

As discussed in the previous chapter, following the Asian economic crisis of 1997, the Korean government started to place great importance on global standards. In particular, the Korean government strove to accept and adopt recommendations from international organisations. In the wake of the economic crisis, the Korean government sought to encourage economic growth and regain global trust by promoting regulations and policies that were similar to those found in other advanced countries (Jeon, 2023). Cooperation with international organisations was essential in emerging from the economic crisis in the late 1990s. And reports from international organisations continued to exercise considerable influence on Korean policies (Jeon, 2023).

In the late 1990s, international organisations published reports arguing that technological innovation was the cause of the income gap. According to the 1997 OECD Employment Outlook Report, ‘Changes in technology can increase income inequality because workers who can benefit from new technologies. ... and those with education receive higher wages than those who do not’ (OECD, 1997, pp. 8–10). In 1998, the following year, the ITU made the same claim: ‘Developed countries are experiencing income inequality due to the opportunities provided by new information and communication technologies’ (Peña-López, 1998, p. 3). This is echoed in a report by the World Bank published in 1998: ‘The wider the gap between technological development and knowledge, the higher the possibility of income inequality. ... Technological development brings many benefits, but it also carries the threat of income disparity’ (World Bank, 1998, p. 14).

Reports like these from international organisations presented arguments and evidence to Korean policy-makers, enabling them to understand that technological development was a crucial driver of economic growth and social change. Since the 1997 economic crisis, Korea tried to follow global standards. The Ministry of Finance and Economy's policy plan for 1999, for example, stipulates that 'There is a need to align domestic economic systems and practices with global standards and actively participate in the formation of international economic norms' (Ministry of Finance and Economy, 1999, p. 6). The Labor White Paper likewise declared: 'Due to actively participating in international organisations and trying to introduce international-level institutions after the IMF economic crisis in late 1997 ... it has contributed to preventing labor issues from hindering the improvement of external credibility' (Ministry of Labor, 1999, pp. 481–482). Through these documents, we can see that the government attaches great importance to the proposals of international organisations.

#### **6.4.2.2 Changing Perceptions of Policy-makers**

By examining the viewpoints of policy-makers during the 1990s, we are able to find evidence to support two of the hypotheses outlined above. As documentary evidence shows, policy-makers maintained that both economic factors contributed to income imbalance and technological progress generates disparities in income.

##### **6.4.2.2.1 Government Perception of the Role of Economic Factors**

In the late 1990s, the Korean government accurately recognised that income inequality was posing a problem for Korean society. As we saw in the previous chapter, trade unions continued to raise their concerns about income inequality throughout the 1990s. From 1999, high-ranking government officials were beginning to take income inequality seriously. The Labor White Paper was the first official source to measure income inequality using the Gini coefficient when

it appeared in 1999: ‘The Gini coefficient increased continuously from 1997 to 1999: 0.283 in 1997, 0.316 in 1998, and 0.320 in 1999’ (Ministry of Labor, 1999, p. 531). It also presented its findings on income inequality in Korea by comparing the upper and lower income classes: ‘The gap between the top 20% and the bottom 20% of income has increased. In 1997, the top 20% earned 4.49 times more than the bottom 20%. In 1998, the ratio was 5.41 and in 1999, it was 5.45’ (Ministry of Labor, 1999, p. 531). These official government documents show us that the government began to understand income inequality clearly in the late 1990s. The 1997 Asian economic crisis provided the background against which the government first compiled income inequality statistics accurately and recognised their significance.

According to the Korea Labor Institute (1999), the 1997 economic crisis showed societal and economic problems:

*The Asian Economic crisis at the end of 1997 adversely affected financial and corporate bankruptcies. It exposed problems such as the opacity of companies and governments and moral hazard at once. This caused extreme unemployment and the spread of income inequality. (Kang, 1999, p. 45)*

Here, we can see that perceptions had changed regarding what had caused the income gap. Until the mid-1990s, the government had laid the blame for income inequality on rapid economic growth. In 1999, however, it understood that the Asian economic crisis had caused the gap to widen.

Alongside this change, the Ministry of Labor recalibrated its policy priorities. In 1996, the Ministry of Labor stated: ‘The first goal of labor policy is to reduce labor disputes and strikes. The struggles and solidarity of labor organisations outside the law act as a factor in social unrest’ (Ministry of Labor, 1996, p. 1). Following the global financial crisis, however, the main labour policy of the Ministry of Labor took on a new shape entirely: ‘Reducing the income gap is one of the biggest issues’ (Ministry of Labor, 2000, p. 1). In the National Assembly, therefore, Minister for Labor Choi Seon-Jeong outlined a programme of policies

aimed at reducing the income gap: ‘I came to propose an amendment to the minimum wage policy to reduce the income gap and protect low-wage workers in small businesses’ (National Assembly, 2000, p. 10).

#### **6.4.2.2.2 Policy-makers also Began to Understand the Role of Technological Progress (1998–2001)**

New terms and concepts began to emerge in government documents from 1999 onwards. Terms, such as ‘knowledge-based economy’, ‘knowledge and information powerhouse’, and ‘digital economy’ all came into usage as the government began to recognise the significance of technology development and the IT industry in driving economic growth and social change. This change in perception amongst government ministers started in the Ministry of Information and Communication, that was established in 1994, before spreading to the Ministry of Finance and Economy and the Ministry of Labor.

Specifically, according to documents from the Ministry of Information and Communication, the perception of technological development has changed from a simple auxiliary means to a core driving force of change. For instance, in 1998, the Ministry of Information and Communication announced that it regarded technological development as a means to support economic growth: ‘Informatisation policy in 1998 focuses on supporting economic growth and solving social problems’ (Ministry of Information and Communication, 1998, p. 1). The Ministry’s work plan (1998) set out its rationale: ‘The reason for strengthening the competitiveness of the information and communication industry is to support economic growth’ (Ministry of Information and Communication, 1998, p. 1).

However, this perception began to shift in the 1999 policy plan, and the Minister used media interviews at the time to outline his new perspective on ICT: ‘The digital industry is critical in the Korean economy. Its role and importance are essential for economic growth, and the driving force for growth is the IT industry’ (Cho, 1999, p. 1). Here, we see that the role of



digital technology in the government's eyes, had changed: it had previously been seen as ancillary, but now it was a driving force and a core industry. The Ministry set out its vision for the role of technology in 2000. 'The government will leap forward to become one of the world's top 10 knowledge and information powerhouses, and information technology development is the surest and best policy to strengthen national competitiveness' (Ministry of Information and Communication, 2000, p. 1).

Moreover, the 1999, the Ministry of Finance's policy plan emphasised that Korea needed to focus on R&D and human capital for technological development. It had clearly begun to recognise technological development as an independent variable for economic growth:

*The government will foster the knowledge-based economy... The government should promote policies so that technological development can become a driving force for economic growth ... it is necessary to focus on all capabilities so that the digital industry can develop. (Ministry of Finance, 1999, p. 4)*

Also, the Ministry's own statistical analysis conducted in 2001 prompted it to link the income gap between households with technological development:

*From 1997 to 2000, the semiconductor, computer, and wireless communication equipment industries grew by 135.1%, but other companies grew by only 10.9%. The wage gap between IT and other companies widened. ... There can be many reasons for the difference in household income, but the rapid growth of technology companies and IT development can be considered one reason. (Ministry of Finance, 2001, p. 5)*

Indeed, the Ministry of Finance and Economy began to explicitly state that the development of the IT industry might produce income disparity. 'the development of digital technology presents opportunities and risks to Korea. Even if the problem of income distribution arises by the IT technology, Korea must seize the opportunity for growth through the development of the IT industry' (Ministry of Finance, 2001, p. 8)

Documents from the labour department also illustrate that the perceptions of its officials had changed. A report from 2000 produced by the Ministry of Labor argues that technological development can be a driving force for social change:

*The advent of the digital society brought about unprecedented changes in the labour market. ... Socioeconomic problems due to the knowledge gap intensified. Specifically, for high-skilled workers, there was an increase in demand and wages and a wage gap between new industries such as IT and others. (Ministry of Labor, 2000, p. 217)*

The Ministry's policy plan for 2001 outlined its belief that policies and institutions must be modified in the light of the development of IT. Indeed, to this extent, it is clear that technological progress acted as an independent variable for social policy change. The Ministry of Labor stated:

*We will actively improve labor-related regulations to respond to technological changes efficiently. In particular, in areas where standards and institutions are not established, the ministry will minimise unnecessary regulations to introduce technological innovation into the labor market. (Ministry of Labor, 2001, p. 229)*

In effect, the Ministry of Labor no longer regarded technological development as playing an auxiliary role in national growth. Instead, it recognised that technological innovation represented a driving force for changing social policies.

To sum up, in the late 1990s, policy-makers began to recognise that technological advancement was driving social and economic changes such as income inequality. But the perception that 1997 Asian economic crisis was causing income disparity had not disappeared. In the light of the above discussion, therefore, we can see that both hypothesis 2 (technological development) and hypothesis 3 (global economic crisis) offer reasonable explanations for the income gap in Korea in the late 1990s.

### **6.4.3 Case 3: Increases in the Minimum Wage Level since 2003**

#### **6.4.3.1 Government Perceptions Until the early 2010s**

While in the preceding sections of this chapter, we have looked at Korea's economic flourishing, the following section looks at another picture entirely. Korea's economic growth rate has decreased since the 1990s. According to the Bank of Korea (2022), the per capita GDP growth rate fell to 5.5% in the 1990s, 3.7% in the 2000s, and 2.3% in the 2010s. However, income inequality has not significantly improved despite this lower economic growth rate. Indeed, the National Statistical Office (2023) reports that the value of dividing the top 20% of income by the bottom 20% is 5.38 in 2006, 5.66 in 2010, 5.43 in 2013, and 5.45 in 2016.

Nevertheless, at the start of the 21st century, most policy-makers believed that economic growth and the recent Asian economic crisis had been set the backdrop for the widening income gap. President Roh (2003–2007) believed that economic growth had caused the income gap, stating: 'The gap between the rich and the poor has deepened since the late 1990s due to the legacy of an unbalanced development strategy focused on economic growth' (Democratic Party, 2002, p. 65). This was reflected in a statement by the Ministry of Strategy and Finance in 2013, which pronounced that 'Economic growth is the cause of worsening income distribution' (Ministry of Strategy and Finance, 2013, p. 7). The 2013 Labor White Paper of the Ministry of Employment and Labor likewise reports: 'The wage gap and income imbalance are accelerating due to economic growth' (Ministry of Employment and Labor, 2013, p. 451).

Furthermore, government documents and public research in the 2000s had argued that the 1997 Asian economic crisis was to blame for income inequality. A report from the Ministry of Labor, for example, states: 'The 1997 financial crisis led to the disintegration of families, suicides, increased homelessness, and a widening gap between the rich and the poor due to

mass unemployment. And the severe living difficulties of the low-income class have increased considerably' (Ministry of Labor, 2004, p. 190). The 2005 Economic White Paper stated:

*Since the economic crisis, a number of workers have been laid off due to corporate bankruptcies. ... The laid-off workers sought a new start through self-employed start-ups for a living, but their profitability was significantly weakened. ... As a result, the global economic crisis has become a factor in deepening the income gap. (Ministry of Finance and Economy, 2005, p. 316)*

We find much the same perspective in a report by the state-run Institute for Health and Social Affairs: 'Since the 1997 financial crisis, income inequality in Korea has continued to increase' (Yeo and Kim, 2006, p. 1). Thus, government documents and studies produced by public research institutes show that, until the early 2010s, policy-makers believed that income inequality was driven by economic matters in the form of growth and the recent financial crisis.

#### **6.4.3.2 Various Ideas Brought about Changes in Perceptions**

##### **6.4.3.2.1 Idea 1: Changing Public Perceptions Resulted from Technological Progress**

Among the factors that changed the perceptions of Korean policy-makers in the 2010s, technological change and progress cannot be overlooked. The 2010s witnessed, amongst other things, the so-called 'smartphone revolution' (Korea Communications Commission, 2012) and the AlphaGo shock. As we shall see below, it would be impossible to deny that these two technological advances significantly impacted Korean society in the 2010s.

###### **6.4.3.2.1.1 Exponential Growth in Smartphone Use in 2012**

Smartphones were introduced into Korean society in 2009. Not only had the introduction of smartphones in Korea been relatively late compared to other developed countries, but also according to the Ministry of Science and ICT, when the iPhone 3 was first released in Korea,

only 1% of Koreans used a smartphone (Korea Communications Commission, 2012). Within three years, however, Korea's smartphone usage rate became the highest in the world: 'As of the end of 2012, 67.6% of the population in Korea uses smartphones. This is the highest usage rate in the world. Norway (55%) is second, and Hong Kong (54.9%) is third' (Kim, 2013, p. 1).

A rate of about 67.6% in 2012 meant that most Korean adults, with the exception of teenagers and older people, used smartphones. By comparison, at the end of 2012, only 14% of the world's population used smartphones (Kim, 2013). Statistically speaking, the fact that most adults were using smartphones in just three years proved that smartphone users had increased dramatically.

As we can notice from our daily experiences, smartphones have brought many changes to individuals and society, such as access to information, various applications, and further diversification of work methods. As examined in detail in Chapter 2, smartphone use exploded quickly and has changed lives. People have begun to recognise technological development as an independent variable that causes social change. Numerous news and research articles have highlighted that technological advancement changes the world. As one source puts it: 'The mobile revolution represented by smartphones is changing our lives' (Kim and Kim, 2010, p. 1). Indeed, this mobile revolution has promoted changes in businesses, personal lives, and even political activities. The Korea Telecom Institute of Management and Economics described the transformations as follows: 'Since the introduction of the iPhone in 2009, the smartphone has shaken Korean society, triggering changes in everyday life and across industries' (Baek, 2012, p. 2).

Three developments in particular can be put down to the increased use of smartphones in Korea. First, companies and the Korean economy began to change. The Korea Telecommunications Research Institute notes: 'The number of smartphone content companies

has increased. Moreover, the convergence between other industries and IT, such as shipbuilding, automobiles, and finance, has progressed rapidly' (Kang et al., 2010, p. 1). Second, smartphones have transformed how individuals live their lives: 'Through SNS [social networking services], real-time two-way communication became possible. ... With the development of smart working, individual leisure and working methods changed' (Kang et al., 2010, pp. 1–2). Lastly, the so-called 'Smart Revolution' (Baek, 2012, p. 1) brought sweeping changes to politics. In 2020, the election turnout amongst young people in their 20s who were not interested in politics had increased on its figure in 2016:

*As the use of smartphones and SNS increased, direct communication between politicians and voters became possible. ... Through this, young individuals who previously exhibited no interest in politics underwent a transformation, becoming actively engaged in political affairs. As a result, voter turnout amongst people in their 20s increased, from 29.6% in 2006 to 37.1% in 2010. (Park et al., 2011, pp. 1–7)*

In brief, the rapid growth in smartphone use changed perceptions in the Korean general public. Most people began to believe that technological progress could indeed bring about social change and, with that, progress.

#### **6.4.3.2.1.2 AlphaGo Shocked Korea and Caused a Change in Public Perceptions**

Before the smart revolution had burned out, South Korea experienced a number of advances in AI. In 2016, a game of Go took place, pitting a human against AI. As the Deputy Minister of the Ministry of Science and ICT explained: 'Google's AI program AlphaGo vs Lee Se-dol's match was held in March 2016. The match was broadcast worldwide in English, Korean, Chinese, etc. In the final result, AlphaGo defeated Lee Se-dol' (Kim, 2017, p. 74). This event had a significant impact on Korean society. Deputy Minister Kim gave a positive assessment of the results of the match, stating that it 'made us realise that AI is not a science fiction, but a

real problem, and created opportunities for governments, businesses, and media to move busily toward the development and response of AI' (Kim, 2017, p. 74).

In March 2016, most newspapers and broadcasts reported on the shockwaves running through Korean society in the wake of this game. One, for example, wrote that: 'AlphaGo shocked Korea. AI finally surpassed the human brain' (Choi, 2016, p. 1). Koreans were surprised by the rapid development of artificial intelligence. Newspaper articles in 2016 analysed the cause, with one reporting:

*It is a remarkable technological advancement. This is because in 1997, AI beat the chess champion, but Go game was considered an area where computers could not beat humans. ... So many scientific and Go game experts predicted that AI would find it difficult to defeat humans.*  
(Yoon, 2016, p. 1)

After witnessing the historic confrontation between humans and AI and the overwhelming victory of AI, in Korea, ordinary people began to recognise that AI would change the world, including the structure of the labour market. Researchers in business and economics examined and announced changes in public perception: 'Under the influence of AlphaGo, no one doubted that AI would change the world in every field: economy, society and culture' (Kim and Seo, 2016, p. 22). Some researchers predicted how advances in AI might affect the labour market:

*Ordinary people are now predicting three possible changes in the labour market. The first scenario is that AI can replace all human jobs. The second scenario is that humans and AI cooperate, and humans use AI. That is more positive than the first scenario. ... The last expectation is that AI can destroy some jobs, but new jobs are created. It is a neutral scenario.*  
(Kim and Seo, 2016, pp. 23–25)

#### **6.4.3.2.1.3 AlphaGo's Success Was a Stroke of Good Luck for the Korean Government**

Not only was the general public surprised, but so too was the President, who immediately reacted to AlphaGo's success: 'President Park of South Korea ordered the Minister of Science, ICT and Future Planning to report on AI countermeasures' (Choi, 2016, p. 1). In an AI policy meeting soon after, President Park stated: 'Paradoxically, it is fortunate that our society has been greatly alarmed and stimulated by the AlphaGo shock about the importance of AI development' (Kim, 2016, p. 1).

The shockwaves set in motion by AlphaGo's success turned out to be good news for Korea, as Koreans recognised that technological development would be a critical driving force for social change in the 21st century. Most economic entities had begun to realise the importance of AI and were striving to develop it. Kim, Deputy Minister of the Ministry of Science and ICT, announced the shift of perception that took place in his Ministry in the wake of AlphaGo's success:

*The government has prepared for the rise of AI since 2013... before the AlphaGo event, Korea's interest in AI was low... However, after the AlphaGo match, the word '4th Industrial Revolution' has been talked about countless times in newspapers and on the Internet. As politicians emphasise the meaning of the 4th Industrial Revolution and AI, the public interest seems to have increased. (Kim, 2017, p. 74)*

In short, the rise of smartphone use and the AlphaGo controversy, both in the 2010s, brought about large changes in how Korean people saw technological development. By 2012, about 67.6% of the nation's population were using smartphones and, through this, experiencing first-hand how technological progress had changed their personal lives, the economy, and Korean politics. And before this smart revolution had ended, the Go match between AlphaGo and Lee Se-dol led most Koreans to see that AI would change the face of the labour market.

#### **6.4.3.2.2 Idea 2: Policy Proposals Based on Data from National Research Institutes in the 2010s**



As noted in the previous section, until the 1990s, private researchers and some state-run institutes argued that technological progress was the cause of income disparity. But by the start of the 2010s, most government research institutes attributed the income gap to technological advances. Government-funded research institutes working on ICT, economic, and labour policies studied the relationship between technological development and income inequality. Among the research institutes operated by the government, the Korea Information Society Development Institute presented its findings in 2014: ‘As the information and communication industry developed, technology led to the income inequality deepening’ (Chung, 2014, p. 1). The research centre explained how these two factors were connected by focusing on technological advances: ‘The cause of the income gap is that the benefits of technological development are not equally distributed to all workers. ... The market demand for low-skilled workers decreased as the Internet and computer technology developed’ (Chung, 2014, pp. 6–10). In particular, the institute offered an explanation of how income inequality had come about, emphasising that wealth and opportunities were concentrated in the upper classes, who made good use of technology. ‘In the digital revolution, very few people have become superstars in new technologies and new industries. They succeeded in technology-based ventures and accumulated wealth in a short period. And they have become superstars that take up almost everything’ (Chung, 2014, p. 13).

In 2016, the Korea Development Institute published research on technological progress and income inequality. In its report, it stated: ‘Many economists have suggested technological progress as the cause of the widening income inequality not only in Korea but also around the world’ (Kim, 2016, p. 82). The group provided statistical evidence to illustrate how technological progress had caused income inequality. ‘The income gap in Korea gradually increased between the top 10% and the bottom 10%. In the 1980s, the wealth of the upper class

was seven times greater than that of the lower class. In the 2000s, the figure rose to nine, and in 2015 to ten' (Kim, 2016, p. 82).

In addition, in 2022, the Institute for International Economic Policy argued that the income gap was a result of technological development:

*the benefits of technological progress are concentrated only on a specific group of highly skilled workers with information and communication technology, ICT related skills. ... And labour productivity has improved, but income inequality has deepened due to the ICT progress in Korea. (Baek et al., 2022, pp. 123–124)*

Also, the Korea Labor Institute conducted a study on the same topic. Its research findings in 2015, however, contained a number of slight differences from those of the Korea Information Society Development Institute and the Economic Research Institute. Instead of acknowledging that technological innovation had precipitated a wage gap in Korean society, that is, the Korea Labor Institute only recognised such changes to have so far taken place abroad: 'The trend of technological development is accelerating income inequality abroad. These changes abroad are expected to be similar in Korea in the future' (Kim, 2015, p. 1). By 2017, however, the Korea Labor Institute held a different position entirely: 'It is hard to deny that income inequality has spread. ... Concerns that the 4th Industrial Revolution technologies threaten income distributions have become a reality' (Kown et al., 2017, p. 103). The research centre argued that 'The expansion of automation in the production process will deepen inequality. ... Ultimately, political leadership is needed to solve the problem of the income distribution structure' (Kown et al., 2017, p. 194).

In brief, in the 2010s national research institutes provided society and policy-makers with the idea that the income gap was attributable to technological progress. Although each research centre identified different findings and did so using a range of methods, we can see that their ideas brought about changes in how public actors perceived income inequality and technological progress to relate to one another.

### 6.4.3.3 Changing Awareness Among Policy-makers

#### 6.4.3.3.1 Policy-makers' Perceptions Shifted in the Wake of AlphaGo

Since March 2016, all documents from government bodies appear to have changed to reflect the perspective that the income gap has been deepened by technological development. The President, the government, the National Assembly, and the Bank of Korea all appear to hold this position. The success of AlphaGo, that is, has coincided with dramatic changes in how policy-makers view social change and its relationship to technology. There are four aspects of these changing perceptions, and I shall analyse them each in turn below.

First of all, it is clear that the President's perception has changed. In the 2017 presidential election, that is, in the year after the AlphaGo match, President Moon (2017–2022) announced a pledge to tackle the income gap, firmly stating what he understood to be its cause:

*Income inequality has accelerated increasingly over the past 30 years. ... The development of technology has caused the gap between capital concentration and economic power. These phenomena accelerated the income gap and hindered social integration. (Democratic Party of Korea, 2017, p. 40)*

President Moon's statement is significant. From the 1990s to 2015, preceding presidents had attributed the income gap primarily to economic factors. President Moon, by contrast, emphasised that income inequality and technological evolution are closely connected. And that he includes his convictions about this connection in his presidential election pledge is important. According to the Korean Political Parties Association (2016), a candidate's pledges and policies not only reflect his or her policy intentions; they also present these policies to voters. Moreover, they play a crucial role in fostering communication and public discourse between candidates and citizens (Park, 2016). The President's explicit reference to the relationship between income disparity and technological progress in his pledge indicates that he has

consulted relevant experts on the matter. It also underscores that presidential pledges need to be comprehensible and acceptable to the public, grounded in concepts accessible to the broader citizenry.

Second, a joint government report illustrates the shift in policy-makers' perceptions of the relationship between technological innovation and income inequality. In 2019, all economic and social sector ministries participated in establishing a national strategy for artificial intelligence. The ensuing report, the National Plan for Artificial Intelligence, set out how these various government ministries now viewed the relationship between the development of AI and the income gap: 'AI causes changes in society as a whole, especially in the job structure ... workers who do not adapt to technology are disadvantaged with regard to employment and income in the labor market' (Ministry of Science and ICT, 2019, p. 2). This report illustrates that public officials across central government accepted that AI was a cause of income inequality.

Third, this shift of perspective across government is also reflected in the National Assembly. In 2017, Chung Sye-Kyun, chairman of the National Assembly and a member of the ruling party, argued: 'We must deal with the widening wage gap and job losses caused by the 4th Industrial Revolution and the fast technological progress. ... Laws that hinder the flow of the 4th Industrial Revolution should be reorganised' (Legislation Office of the National Assembly, 2017, p. 1). In addition, in 2016, opposition lawmaker Choo Kyung-ho (who served as the Minister of Strategy and Finance from 2022 to 2023) stated in the National Assembly that technological development has created income inequality:

*Technological development widens the wage gap between high-skilled and low-skilled workers. ... Moreover, the proportion of non-regular workers is still around 32%, and the wage gap between regular and non-regular workers is also a social problem. ... To solve the problem, it is necessary to establish a wage system... (Choo, 2016, pp. 2–7)*

Lastly, the Bank of Korea, which is in charge of monetary policy, attributed the cause of income inequality to the rapid development of technologies: ‘With rapid technological development, the wealth inequality and income gap are widening in Korean society. ... The number of jobs will likely decrease as the technologies of the fourth industrial revolution, such as robots and AI, develop rapidly’ (Lee, 2017, p. 1). This perspective from the Bank of Korea’s is perhaps indicative of a change of perception amongst most public institutions. As Korea’s central bank, the Bank of Korea promotes conservative policies in order, according its website (2023), to contribute to the sound development of the national economy by promoting price stability and establishing and implementing efficient monetary credit policies. The central bank therefore maintains a neutral and conservative position, unlike other public institutions. It is therefore significant that the central bank has identified technological development as a cause of income inequality; and it likely indicates that most public institutions are aware of the causal relationship between technological progress and income inequality.

#### **6.4.3.4 Summary**

Since 2003, policy-makers have largely accepted that technological advancements are the primary driver of income disparities. This acknowledgement emerged as a response to a societal phenomenon, whereby despite the economic growth rate dropping to 2%, the income gap persisted. The shift in perception can be attributed to transformative societal changes, including the almost ubiquitous use of smartphones and the advancement of artificial intelligence. Moreover, perceptions amongst the general public have also changed accordingly. We know that the general public’s perception could serve as an essential idea in the changing attitudes of policy-makers (Hall, 1997). National research institutes that focus on economics, technology, and labour have put forth the idea that technological progress is driving income disparities, based on data and evidence (Pomey, 2010). As a result of these factors, in the 2010s,

policy-makers appear to have acknowledged that the cause of the income gap was technological development, not economic factors. For these reasons, when we are looking for an explanation that fits this third and last period of changes in Korea's minimum wage policy, only the hypothesis 2 survives.

## **6.5 Concluding Remarks**

This chapter set out to establish what had caused income inequality in Korea. In seeking to answer my third research question, I set out three hypotheses and compared them in the light of my analysis of changes in policies and perspectives. While hypothesis 1 explained the income gap through economic factors, such as rapid economic growth, hypothesis 2 did so through the effects of technological development and hypothesis 3 emphasised the role of global economic crises.

Over the 35 years considered in this thesis, policy-makers' perspectives have indeed changed. In the late 1980s, policy-makers believed that the rapid growth of the economy was the leading cause of income inequality. However, private researchers began to argue that income inequality stems from technological advances. At the time, technology-intensive industries were evolving, and trade unions and private researchers were the first recognised the changes accompanying the growth of these sectors. The Korean government did not, however, accept this perception. In the 1980s, the government still had no statistical basis on which to understand income inequality (such as the Gini coefficient) and purely recognised technological development as a means to grow the country's economy. In 1988, President Roh Tae-woo seemed to be on his own in stating that technological development and economic growth had caused the income gap. Where the 1980s are concerned, therefore, the hypothesis that economic growth caused income disparity is still credible, while the hypothesis that

technological development causes income inequality, while weak, gained a foothold in President Roh's inauguration speech.

In the late 1990s, the government believed that the income gap had been widened by economic issues such as rapid growth and the 1997 Asian economic crisis. However, as ministries began to recognise that technological development was driving social change, the government's perception changed. Moreover, a number of government-run research institutes reported that income inequality was the result of technological advances. These changes in perceptions occurred at the same time that high-speed Internet use in Korea underwent rapid expansion. And in the late 1990s, reports from international organisations cited technological development as the cause of the income gap, thus exerting a significant influence on the Korean government. Through my analysis of policy-makers' perceptions in the 1990s, therefore, we can see that technological development and economic issues are likely to have caused the income gap, meaning that all three hypotheses can be accepted.

In the 21st century, the government's perception has undoubtedly shifted. The President, government ministries, the National Assembly, and the Central Bank of Korea appear to have agreed that technological development caused the income gap. This consensus was reached against a backdrop of increasing smartphone use and the emergence of artificial intelligence. These technological developments presented an opportunity for the perceptions of ordinary people as well as policy-makers to change. In particular, we can see from remarks made by the Deputy Minister of Science and ICT and in government documents that the Go match between AlphaGo and Lee Sedol in 2016 played a large part in shifting perceptions. By contrast, government documents since 2016 tend not to point to economic issues as the cause of the income gap. Of course, by this point, the effects of the 1997 Asian economic crisis had been entirely overcome, and, added to that, economic growth had fallen to around 2%. Therefore, when it comes to exploring the causes of income inequality in the 2010s, economic issues

cannot account for them. Instead, technological advancement at least sufficiently explains Korea's income gap in the 2010s. Over the three smaller periods considered in this study, therefore, technological development provides a sufficient cause of the income gap in Korea from the 1980s to the 2010s.



# **Chapter 7: Conclusions**

## **7.1 Introduction**

This research is not aimed at testing or constructing theory but instead is an explanatory case study. The primary objective of this study is to elucidate the reasons behind the distinctive alterations in Korea's minimum wage policy. It means that this thesis set out to ask how technological developments have influenced changes in minimum wage policy over the past 35 years. As a piece of qualitative research, this study examines documentary data and deploys process-tracing to prove that technological development can sufficiently explain why changes in minimum wage policy came about. It also shows why economic issues—rapid economic growth and economic crises—are insufficient in accounting for these changes for the past thirty and a half decades.

In this concluding chapter, I summarise the impact of technological advancements on policymakers' perspectives and their influence on minimum wage policy. Subsequently, I summarise the implications of this study from the viewpoint of historical institutionalist scholars. Furthermore, this chapter will examine the study's contribution to existing research and acknowledge its limitations. Finally, I will reflect on how my findings suggest avenues for future research inquiries.

## **7.2 Technological Progress Impacts Minimum Wage Policy**

In this section, I explore how I have answered the three research questions driving this thesis. My research questions are: i) How has Korea's minimum wage policy changed from 1988 to 2023; ii) What factors have led to the changes in the minimum wage policy?; and iii) Have technological developments been related to the income inequality that caused the changes in

the policy? As set in Chapter 2, this research delineates a two-step progression. First, it demonstrates the causal link between technological development and deepened income inequality. Second, it argues that the causal connection between the income gap and changes in Korea's minimum wage policy. To prove the two-stage causal relationships, I focused on changes in the perceptions of policy-makers and actors.

## **7.2.1 Late 1980s: Technology-intensive Industries and the Transition to a Single Minimum Wage**

### **7.3.1.1 What Technological Advances Occurred?**

In 1986, the Korean government declared its intention 'to transform the industry structure from labour-intensive to technology-intensive by fostering a large number of technology-intensive companies' (Economic Planning Board, 1986, p. 10). We can recognise Korea's technological innovation strategy at the time in remarks made by President Roh (1988–1992). He stated in 1988, for example, that 'The Government will further encourage creativity and innovation in businesses so that technological development and rapid growth can be achieved' (Office of the President, 1988, p. 4).

In Korea, technological advancement has progressed in line with the government's strategic initiatives, and it can be measured using the definition of technological development offered in Chapter 2. According to endogenous growth theory (Lucas, 1988; Romer, 1994), technological development can be measured quantitatively by focusing on two factors: R&D and human capital. Statistics provided by the National Statistical Office (2002) show that Korea's ratio of R&D investment to GDP increased continuously throughout the 1980s: it rose from 0.38% in 1970 to 0.77% in 1980, and eventually to 1.87% in 1990, representing an approximately 2.5-fold increase in the period between 1980 and 1990 alone. The Ministry of Education (2022) provides statistics referring to human capital. In this period, the college

entrance rate increased, with the number of high school graduates who attended university rising from 27.2% in 1980 to 36.9% in 1989. The World Bank agrees that a structured education system played an essential part in Korea's technological development: 'In 1960, Korea had achieved universal primary education—the basis for a well-educated labour force—which fueled the economy's needs as it industrialised' (World Bank, 1998, p. 9).

Korea's technological level improved as a result of its increased R&D and human capital. The Korea Science and Technology Policy Institute states that 'Korean technology in the late 1980s entered the intermediate technological level from the imitation stage in the 1970s' (Choi, 2018, p. 9). This continuous technological progress also caused Korea's manufacturing industry to develop in the late 1980s. The Bank of Korea explains:

*Labour-intensive industries such as textiles, wigs, and shoes declined in proportion: 46.4% in 1980, 41.5% in 1985, and 34.1% in 1990. On the other hand, the proportion of technology-intensive industries such as automobiles, petrochemicals, and electronics continued to increase: 53.6% in 1980, 58.5% in 1985, 65.9% in 1990. (Cho and Lee, 1999, p. 20)*

At this juncture, we need to ask after the rationale behind the Korean government's drive to transition towards a technology-intensive industry. Given Korea's dearth of natural resources and capital, technological development emerged as the sole alternative for fostering economic growth. Moreover, in 1980s Korea, leveraging technological progress for exporting products was a strategic approach to driving economic growth. The Korea Development Institute elucidates this need, stating: 'In the 1980s ... Korea had to enhance its competitiveness for survival in the global market. It had no choice but to shift strategies from low-priced to high-quality products' (Min et al., 2006, p. 12).

## **7.2.1.2 What Areas Have Technological Advances Affected?**

### **7.2.1.2.1 Rapid Economic Growth and the Income Gap**

Technology-intensive industries brought growth to Korea. In the late 1980s, the country witnessed its most remarkable economic upswing in history (Dictionary of Modern and Contemporary Korea, 2005). According to Statistics Korea (2022), Korea's economic growth rate was 11.3% in 1986, 12.7% in 1987, and 12.0% in 1988. The Ministry of Strategy and Finance gives the following account of this growth: 'The government-led growth policies showed economic results based on technological development in the the1980s' (Ministry of Strategy and Finance, 2015, p. 9). Indeed, given the role of technological innovation in Korea's economic growth, Krugman (1994) draws on Korea as one his 'four dragons' that provide fitting examples of endogenous economic growth theory.

Technological progress also, however, brought a number of disadvantages to Korean society, particularly in the form of income inequality in the labour market. As President Roh stated: 'The growth of technology and economy have changed our society from an agricultural to an industrial society. But it has caused problems such as wage gaps' (Office of the President, 1988, p. 4). The Korea Institute of Public Finance reports, 'The income gap between technology-intensive and labour-intensive companies increased from 9.4% in 1980 to 26% in the late 1980s' (Park, 2018, p. 337). The income gap and labour exploitation were clear problems for Korean society, and labour-intensive industries were more exploitative of their workforce than technology-intensive industries. Joo (1999) argues that Korea's export-oriented strategy relied on low wages at home to secure price competitiveness in the global market; and, indeed, in the 1980s labour exploitation in labour-intensive industries was severe. Joo writes: 'Due to low wages and exploitation, labour disputes increased by 50% in 5 years, from 187 cases in 1981 to 276 cases in 1986' (1999, p. 403).

### **7.2.1.3 Whose Perceptions Were Altered by Technological Advancement?**

#### **7.2.1.3.1 Changes in Perceptions Began Outside Government**

There are two aspects to the transformation that perceptions underwent as a result of technological progress. On the one hand, workers and independent researchers recognised that technological progress had changed the structure of the labour market and had created income gaps. On the other hand, however, policy-makers were seemingly unaware of these shifts.

Independent researchers—and, importantly, not those public research institutes—started to explore how technological development brought about changes in the labour market. As one such researcher wrote at the time, ‘Export-oriented large corporations have rapidly grown with technology ... the demand for office experts and specialised technical workers has increased. So, the labour structure has changed’ (Huh, 1986, p. 255). Further studies explained that technological development and changes in the labour structure were causing an income gap. As Lee wrote in 1989, ‘High-skilled workers have become the high-income class. And this phenomenon has increased the income gap between workers and deepened internal conflicts among workers’ (1989, p. 192).

Moreover, through their own experiences in the workplace, workers started to see the wage gap between technology-intensive and labour-intensive industries. The Korean trade union complained: ‘With the recent development of technology, high-skilled workers earn high wages, but low-skilled workers in labour-intensive industries cannot lead decent lives on low wages’ (Kim, 1988, pp. 40–41).

Although perceptions were beginning to change in the private sector, policy-makers failed to realise that technological advancement was driving social and economic change. As we have seen above, the Korean government treated technological progress as a tool for growth. The 6th Five-Year Economic Development Plan stated this explicitly: ‘Technological development is a means for economic growth’ (Economic Planning Board, 1986, p. 41).

Moreover, the government was not equipped to understand any relationship between technological development and income inequality because its ability to collect accurate data on income distribution (and, for example, calculate the Gini coefficient) was limited at the time. Indeed, it only started to do so in 1990 (Kim, 2013). Policy-makers, therefore, could not understand the gap in wages between high- and low-skilled workers. Instead, the Korean government simply calculated the income gap between cities and rural areas, albeit without statistics on the income gap. This approach only equipped them to make observations, such as: ‘Rapid economic growth has caused income disparity between regions. The income gap between large cities such as Seoul and Busan and rural areas is getting wider’ (Economic Planning Board, 1986, p. 13).

In short, unlike policy-makers in the 1980s, President Roh, private researchers and labour unions understood the causal relationship between technological advancement and income disparity, except policy-makers.

#### **7.2.1.4 How Has the Minimum Wage Policy Changed as a Result of Technological Progress?**

##### **7.2.1.4.1 Differences in Perceptions Between the Private Sector and the Government**

In 1989, empirically, unions that recognised that technological advancements led to income gaps started to claim that minimum wage policy needed to be changed in order to close up differences in income discrimination. The Federation of Korean Trade Unions, for example, approached the Minimum Wage Commission with a scathing criticism of its differential minimum wage: ‘This is an act by the government to deepen the wage gap between industries. Therefore, the differential system encourages wage disparity, which violates the purpose of the law’ (Minimum Wage Commission, 2018, p. 87). Officials at the time, however, considered the minimum wage policy to be ideal and policy-makers saw no need for the policy to change. The government emphasised economic factors in formulating its minimum wage policy: ‘In the

Korean economy, the difference in productivity between technology-intensive and labour-intensive industries is an unavoidable reality. Besides, the difference in labour productivity between the two industries should be recognised as a policy” (Bae, 1985, pp. 17–18).

Furthermore, the government took a negative view of what the unions had to say. As Yoo writes: ‘The government believed that labour strikes and the labour movement were not only a cause of social unrest but also detrimental to the country’ (2021, p. 403). As a result, unions were more active in arguing against the government as opposed to focusing their efforts on the specific policy and institution. As we have seen above, the unions pointed out a contradiction at the heart of Korea’s minimum wage policy, accusing the government of using a policy that was designed to eliminate the income gap to instead promote inequality in the workforce (Minimum Wage Commission, 2018).

#### **7.2.1.4.2 How Policy Changed to Resolve Contradictions and Problems**

In 1988, the first year of the policy implementation, policy-makers recognised a number of contradictions in the policy. Indeed, as the unions had argued, instead of bridging the income gap, the differential minimum wage rate had essentially enshrined one in law (Minimum Wage Commission, 2018). In addition, the government’s ability to implement the policy was insufficient and it had no specific statistics on the income gap, such as the Gini coefficient. As a result, it was difficult for the government to resolve conflicts between unions and companies when determining differential rates at the Minimum Wage Commission: ‘In the first year when determining the application of the minimum wage differential, we could not reach an agreement until the end of December. ... Union objected to the final vote and left the meeting’ (Minimum Wage Commission, 2013, p. 35). Taken together, these various factors eventually contributed to the wholesale transformation of the policy, from one that was complex to one that was simple, within a year of the minimum wage being implemented in Korea. By November 1988, the

Minimum Wage Commission was able to report: ‘The Minimum Wage Commission did not classify the minimum wage by industry for the minimum wage in 1989’, seeing this as a way of ‘resolving the wage gap by industry’ (Minimum Wage Commission, 1988, p. 6).

#### **7.2.1.5 Summary**

In the 1980s, the causal relationship between technological advancement and the income gap was recognised by President Roh, private researchers, and labour unions. And the second causal link, income gap reduction and minimum wage policy change, was proven by the Minimum Wage Commission (1988) document.

In particular, the technological advancements of the 1980s hold dual significance, as they instigated shifts in minimum wage policy. First, the shift towards a technology-intensive industry resulted in an income disparity within the labour market, prompting awareness of and demands for improvements in minimum wage policy from private researchers and workers. Policy-makers, however, failed to acknowledge the relationship between technological development and the income gap. Fortunately, President Roh acknowledged and addressed the correlation between technological advancement and the income gap. Workers identified contradictions and issues within the minimum wage policy; and, in response, the government simplified it. Second, the change in perceptions witnessed amongst policy-makers originated in the private sector. Independent researchers, for instance, began to understand both the causal link between technological development and the income gap and the need for changes to Korea’s minimum wage policy. The characteristic feature of this period was, therefore, the policy-maker’s lack of awareness of this causal relationship.



## **7.2.2 Late 1990s: Development of the IT Industry and the Universal Minimum Wage Policy**

### **7.2.2.1 What Technological Advances Occurred?**

#### **7.2.2.1.1 In the Late 1990s, ‘Industrialisation Was Late, but Let Us Get Ahead in ICT’**

In the 1990s, Korea’s technological development policy had changed since previous decades. In the 1980s, the country focused on develop its manufacturing industry, but switched its priorities in the 1990s, such that policies were geared towards developing its IT industry. In the words of the Korea Communications Commission: ‘Korea’s industrialisation was late. However, the country has achieved growth in the knowledge-based industry, with a focus on the ICT industry since the 1990s’ (Korea Communications Commission, 2012, p. 2).

The characteristics of Korea’s technological development in the 1990s can be put down to the influence of the 3rd Industrial Revolution (Schwab, 2017), which differs from the development of technology-intensive manufacturing in the 1980s. While the growth of manufacturing in the 1980s provided Korean industry with and harnessed increased physical power and productivity (Schwab, 2017; Xu, David, and Kim, 2018), the development of the IT industry in the 1990s benefited from information-related technologies (Schwab, 2017; Xu, David, and Kim, 2018). Individuals were now able to obtain information at any time and in any place, thanks to the digital revolution. And anyone with a cell phone and the Internet was now able to communicate with anyone in the world in real time (OECD, 2003; Kim and Jang, 2017; Schwab, 2017; Xu, David, and Kim, 2018; OECD, 2019). Alongside this, the development of computers and software has driven automation in various fields (Ministry of Science and ICT, 2019), with the result that robots with built-in programmes play a large part in manufacturing and inventory management and accounting software are now both faster and more accurate than their human counterparts (Kim and Jang, 2017).

### **7.2.2.2 Korea Has Achieved the Level of Technological Innovation**

The level of technological advances in Korea in the 1990s can be verified and measured in two ways. As we can see from the increased investment in R&D and the greater human capital in Korea, according to endogenous growth theory, technological development has considerably improved. Statistics from the OECD (2022) show that the ratio of R&D to GDP increased from 1.7% in 1991 to 2.1% in 2000, giving Korea the ninth highest level among OECD member countries. Moreover, the World Bank specified that the improvement of ‘Korea’s heavy investment in human capital’ was a key factor in its technological development: ‘Enrollment at private colleges and universities reached 82 per cent of total tertiary enrollment in 1995’ (World Bank, 1998, p. 44). Its enrolment level is now almost double the OECD average of 41% (OECD statistics, 2022).

The OECD (2003) uses the ratio of Internet subscribers and the ratio of IT industry exports to all industry exports as indicators of technological development. The number of Internet subscribers, an indicator of technological progress, has rapidly soared in Korea. Statistics Office Korea (2022) shows that households with Internet access grew from 0.37 million in 1999 to 4.02 million in 2000, and to 7.81 million in 2001. In just three years, that is, the number of Internet users grew by a factor of 20. Furthermore, according to the National Archives (2022), from the late 1990s to the present, the ICT industry has been recognised as an essential factor in Korea’s economic growth and technological development, accounting for 30% of Korea’s total exports. In brief, in the late 1990s, Korea had developed ICT as a core industry and experienced progress in its 3rd Industrial Revolution. As the Science and Technology Policy Institute reports, in the 1990s Korea’s technological development had reached ‘the innovative stage’ (Choi, 2018, p. 9).

### **7.2.2.3 Backgrounds to Technological Progress and Changes in the Government**

In 1993, President Kim Young-Sam announced why ICT would need to become one of Korea's top priorities: 'The world has entered an era of technological competition. If we do not cope with global changes and competitions, we will be left behind' (Office of the President, 1993, p. 1). President Kim Dae-Jung, too, highlighted the significance in Korea's future in 1998, stating: 'We will boldly pursue policies so that Korea should be a technological powerhouse in the 21<sup>st</sup> century's high-tech industrial era' (Office of the President, 1998, p. 5). Both presidents' administrations therefore set about developing the IT industry and fostering continuous technological development. To do so, the Ministry of Information and Communication was established in 1994 and the Ministry of Science and Technology was founded in 1998. By 1998, therefore, two independent ministries strove to foster the development of ICT and overall technological advances. In the words of the ICT Ministry, 'The information technology development is the surest and best policy to strengthen national competitiveness' (Ministry of Information and Communication, 2000, p. 1).

### **7.2.2.4 What Areas Have Technological Advances Affected?**

#### **7.2.2.4.1 Economic Growth and Widening the Income Gap**

According to the National Statistical Office (2022), the annual average growth rate in the 1990s was 4.9%, thus bringing with it improved labour productivity (Lucas, 1988). The OECD found in 2003 that from 1995 to 2000 of all its member countries, Korea had the greatest improvement in labour productivity thanks to its progress in ICT. In this five-year period, the average annual increase in labour productivity attributable to ICT was more than 1% in Korea, while it sat at about 0.9% in Finland and Ireland and about 0.5% in the US, Japan, and Sweden. In the 1990s, therefore, Korea's ICT strategy of 'industrialisation is late, but informatisation is ahead' had improved labour productivity.

Furthermore, the growth strategy for the ICT industry had helped Korea to emerge from the 1997 Asian economic crisis relatively unharmed. Korean society quickly regained stability after the two-year economic crisis. The Ministry of Labor presented its understanding of why and how this had been the case: ‘Due to unemployment measures and ICT fostering policies, the economic growth rate recovered to 6% from minus 5% in 1999, and the unemployment rate fell from 8.6% at the beginning of 1999 to 4.8% at the end of 1999’ (Ministry of Labor, 2000, p. 1). In short, we can see that policies promoting growth through ICT played their part in enabling Korea to overcome the effects of the 1997 Asian economic crisis.

While technological advances brought significant benefits to Korean society and the Korean economy, the 1990s saw income disparities widen more than ever before. A report by the Bank of Korea provides some statistics underlying this situation: ‘In the late 1990s, the wage difference between companies with 500 or more employees and those with less than 30 employees was about 30%. ... It increased from 26% in the late 1980s’ (Choi and Lee, 2008, pp. 7–9). In addition, in the 1990s the government began using the Gini coefficient. Statistics from the National Statistical Office (2022) demonstrate the deepening of income inequality at the time, showing that the Gini coefficient rose from 0.244 in 1995 to 0.310 in 2000.

#### **7.2.2.5 Whose Perceptions Were Altered by Technological Advancement?**

##### **7.2.2.5.1 Policy-makers Recognised that Technological Progress Can Change the World**

The late 1990s were characterised by a change in the perception of policy-makers. Where in the 1980s government departments only regarded technological development as a tool in achieving economic growth, in the 1990s, they began to recognise that technological development is one of the driving forces for changes in both the labour market and society at large.

This switch in perception is evident from the central government's policy plans in the late 1990s. The Ministry of Finance's 1999 policy agenda, for instance, stated: 'The government will foster the knowledge-based economy. ... The government should promote policies so that technological development can become a driving force for economic growth' (Ministry of Finance, 1999, p. 4). The Ministry of Information and Communication's policy plan also explained: 'the driving force for economic growth is the IT industry' (Cho, 1999, p. 1). In addition, the Ministry of Labor's Labor White Paper stated: 'The advent of the digital society brought about unprecedented changes in the labor market ... Socioeconomic problems due to the knowledge gap intensified' (Ministry of Labor, 2000, p. 217).

In the 1990s, policy-makers' perceptions changed as they received the ideas of both workers and expert groups. Changes in the awareness of officials were therefore brought about by a variety of perspectives on the matter. Workers' perceptions were perhaps the most significantly altered by changes in the technological landscape. As discussed in Chapter 4, in the 1990s, workers sought out employment at large companies offering high wages and welfare (Ministry of Labor, 1997). Lee articulates the shift in workers' perceptions in the following terms: 'Workers experienced that conglomerates offer high salaries and benefits. ... But non-IT or labour-intensive companies provide low wages and poor working conditions. ... Thus, workers have found that technological progress directly impacts their wages' (1995, pp. 138–139).

#### **7.2.2.5.2 Increasing Recognition that Technological Advancements Cause Income Gaps**

Government-run public research institutes provided similar ideas to the government. The Korea Development Institute, for example, explained that 'Technological progress has not increased employment but has resulted in the income imbalance in the labour market. ... Big companies have paid higher wages to high-skilled workers, and wage gaps have begun' (Jang, 1986, pp.

85–100). Furthermore, international organisations made similar recommendations to the Korean government. The OECD (1997), the ITU (1997), and the World Bank (1988) all analysed the adverse effects of technological development. According to the OECD's 1997 Employment Outlook Report, 'Changes in technology can increase income inequality because workers who can benefit from new technologies and those with education receive higher wages than those who do not' (OECD, 1997, pp. 8–10).

This evidence goes to show that ideas from the private and public sectors and proposals from international organisations influenced policy-makers' perceptions regarding the relationship between technological progress and the income gap. This shift in the perception of Korean public officials was not unusual, and it occurred in developed countries as well. As mentioned in Chapter 2, Castells (2000) and Castells and Himanen (2004) argue that technological development began to be understood as an independent variable in the 1980s. Before the 1980s, technology policy and technological advances were subordinated to the development of national economic, political, and social policy. Since the 1980s, independent ministries or agencies dedicated themselves to technological R&D and the dissemination of technological discoveries. In short, Korean government, along with other developed countries, recognised that technological progress could change the world in the late 1990s.

#### **7.2.2.6 How Did Minimum Wage Policy Change as a Result of Technological Progress?**

##### **7.2.2.6.1 Demands for the Expansion of Minimum Wage Policy Coverage**

In the late 1990s, the need for a change to minimum wage policy began to emerge domestically and internationally as the development of the ICT industry widened the income gap. The recommendations of international organisations influenced policy-makers in this regard. The World Bank advised in 1997 that 'Developing countries should expand the scope of the legal minimum wage to reduce the income gap of workers' (Wood, 1997, p. 45). The ILO notes that,

‘In the 1990s, Member States needed to widen the minimum wage policy coverage as much as possible and strengthen the minimum wage policy. This is a crucial step to narrow the income gap of domestic workers’ (ILO, 2016, p. 9).

Trade unions also accrued greater authority in changing policy-makers’ perceptions. As the income gap deepened and workers made more demands, union members began to gain political power (Ministry of Labor, 1999). The Labor White Paper described this growing influence of the unions: ‘In the 1998 local elections, four union members from the Korean Confederation of Trade Unions and the Korean Federation of Trade Unions were elected mayor and county governor. As a result, the political power of the unions became stronger’ (Ministry of Labor, 1999, p. 46). Unions also participated in the Minimum Wage Commission and argued in favour of a universal minimum wage policy. We can see, therefore, that as trade unions gained greater political power in the late 1990s, their interests could be reflected in policies.

#### **7.2.2.6.2 Introduction of a Universal Minimum Wage Policy**

In the wake of the Asian economic crisis in 1997, Korea recognised the value of global standards. The government held that meeting such standards would be important in improving Korea’s standing with international organisations. As Jun writes: ‘Since the Asian economic crisis, Korea has gone beyond political ideology to promote policies that meet global standards in order to raise the credibility of Korea’ (2023, p. 1). At this time, thanks to the Gini coefficient, the government could see the widening income gap and recognised the need for measures to protect low-wage workers.

In 2000, the Minimum Wage Act was amended by the National Assembly to have universal coverage. The Minister of Labor of the progressive government expanded on the rationale for this change: ‘The government came to propose the amendment to the Minimum Wage Act to reduce the income gap and protect low-income workers in small businesses’ (National Assembly, 2000, p. 10). The National Assembly supported the revision, with one

member stating that the amendment ‘strengthens the protection of the rights and interests of workers at small workplaces, which are subject to protection and essential social security functions’ (National Assembly, 2000, p. 11).

### **7.2.2.7 Summary**

Unlike in the 1980s, policy-makers in the 1990s had begun to accept that technological progress could produce an income gap. And the coverage of the minimum wage was expanded in order to try to close the income gap. Therefore, we know that the two-step causal link is proven.

In the background of this policy change, Korea’s technology level had entered the innovation stage, and technology policies were independently promoted through the establishment of both the Ministry of Information and Communication and the Ministry of Science and Technology. Alongside this, the Korean government had not only gained the means to accurately reflect income disparity statistically, but had also recognised the importance of actively accepted the recommendations made by international organisations. It goes without saying that, as the unions gained political power, they were able to take part in policy-making processes more effectively than ever before. In other words, in the late 1990s social awareness had changed to such an extent that a universal minimum wage policy could be introduced.

## **7.2.3 Since 2003: Increased Use of Smartphones and AI and the Minimum Wage Level**

### **7.2.3.1 What Technological Advances Occurred?**

#### **7.2.3.1.1 The Smartphone Revolution and the Development of AI Technology**

At the end of 2009, the first smartphones became available in Korea. While only 1% of Koreans used a smartphone at that point (Korea Communications Commission, 2012), within three years, Korea had the highest rate of smartphone usage in the world. Strategy Analytics provided



more detailed data on smartphone usage: ‘As of the end of 2012, 67.6% of the population in Korea uses smartphones. This is the highest usage rate in the world. Norway (55%) is second, and Hong Kong (54.9%) is third’ (Kim, 2013, p. 1). The growth of smartphone usage in Korea was, therefore, rapid, and can be described as a revolution of sorts. The Korea Communications Commission (2012) gives three reasons for referring to this rapid growth as the ‘smartphone revolution’. First, while traditional cell phones could only be used to send and receive text messages and voice calls, smartphones harnessed Internet connections and numerous applications to improve productivity and enable people to pursue hobbies on their phones. Second, smartphones made it possible to work anytime and anywhere, allowing people, for example, to send and receive emails and documents using smartphones while walking. Lastly, the smartphone ecosystem has led to the development of countless new businesses and jobs.

Following the smartphone revolution, Korea experienced another technological advancement in 2016. When AlphaGo beat a human player at Go in March 2016, Korean society was shocked. Most newspapers and broadcasts reported on the match in terms that reflect this amazement: ‘AlphaGo, created by Google, shocked Korea. AI finally surpassed the human brain’ (Choi, 2016, p. 1).

The AI and smartphone revolutions are very different from other technological developments. According to Schwab (2017), the development of smartphones and AI have been accompanied by rapid and widespread effects in other fields. For example, the healthcare industry has been very proactive in harnessing the opportunities presented by AI, going beyond using the Internet and computers to develop AI-assisted smartphone applications that identify and treat brain injury patients; these applications have now been commercialised in Korea and the US (Ministry of Science and ICT, 2019). AI companies have also moved into the financial services sector (Schwab, 2017). The Korean government has sought to respond to such

technological advances, establishing the 4th Industrial Revolution Committee in 2017 to maximise the development and industrial use of AI (Ministry of Science and ICT, 2019).

#### **7.2.3.1.2 Korea, an IT Powerhouse**

Since 2003, the indicators of Korea's technological development have also improved significantly. Its levels of R&D investment, one of the input factors of technological development, have made notable progress. A report by the OECD (2022) shows that while Korea's R&D to GDP ratio was 2.1% in 2000, giving it the ninth highest level among OECD countries, it increased to 3.9% in 2011 and, again, to 4.8% in 2021, giving it the second highest level. Additionally, Korea's technological progress is attested to the innovations that have found their ways into ordinary people's lives, such as, for example, being the first country in the world to launch 5G mobile communication services. Korea's Ministry of Science and ICT (2019) sees the commercialisation of 5G mobile communication services as vital to developing AI: 5G enables smartphone users to receive large amounts of data in real-time through their phones and is essential for using AI applications that require large amounts of data simultaneously. Driverless cars, for example, rely heavily on fast data transmission. With 5G, precise, AI-assisted medical imaging data analysis is now possible using smartphones. For these reasons, the minister of the Ministry of Science and ICT recently declared: 'We started 5G mobile services for the first time in the world and through this, we proved that Korea is one of the most powerful countries in ICT' (Ministry of Science and ICT, 2019, p. 1).

The ITU also has also verified Korea's position as a technological powerhouse, placing it top of the global ICT Development Index (Ministry of Information and Communication, 2005). And Korea has remained in first or second place in the ICT Development Index since 2011 (National Statistical Office, 2022).

## **7.2.3.2 What Areas Have Been Affected by Technological Advances?**

### **7.2.3.2.1 Increase in Non-regular Workers and the Widening Income Gap**

Since 2003, Korea's technological development has remained a core national policy and technological progress has enhanced economic growth. Although Korea is no longer witnessing the rapid growth that it experienced in the 1980s and 1990s, its economic growth has been sustained. The National Statistical Office (2022) shows that the economic growth rate was 5.2% in 2004, 3.2% in 2014, and 2.6% in 2022. In the 2000s and 2010s, however, despite the low economic growth, the income gap between large companies and SMEs has increased. As the Ministry of Labor reported in 2013: 'The wage gap between large companies with more than 300 employees and SMEs with less than 100 employees has widened further. The wage gap increased from 36.4% in 2008 to 37.4% in 2012' (Ministry of Labor, 2013, p. 4).

Furthermore, technological progress gave rise to new issues for Korean society: 'Technological development has led to an increase in the number of non-regular workers in the Korean labour market. ... Since 2000, the proportion of non-regular workers has risen rapidly, from 26.8% in 2001 to 35.9% in 2007' (Choi and Lee, 2008, pp. 24–32). Even after 2010, the proportion of non-regular workers has not decreased; instead, it has increased from 33.2% in 2010 to 38.4% in 2021 (Statistics Korea, 2022). The increase in non-regular workers has become the leading social issue faced by Korea. Indeed, it topped the Ministry of Labor's 2013 policy report: 'The ratio of non-regular workers is very high compared to developed countries (12%), and one out of three wage earners are non-regular workers in Korea. They could fall into the working poor' (Ministry of Employment and Labor, 2013, p. 2).

The increasing ratio of non-regular workers presents a problem to Korean society because it deepens income discrimination between non-regular and regular workers. As the Bank of Korea reports: 'Non-regular workers are mostly low-skilled workers, and the income gap between them and regular workers was widening' (Choi and Lee, 2008, p. 33). The Institute

for Labor and Society reports that ‘The wage ratio of non-regular workers to regular workers was 52.6% in 2006, 46.9% in 2010, and 53.7% in 2022. A wage gap between regular and non-regular workers exists’ (Kim, 2022, pp. 12–15).

### **7.2.3.3 Whose Perceptions Have Been Altered by Technological Advancement?**

#### **7.2.3.3.1 Officials Accepted that Technological Progress Caused The Income Gap**

Since the 2000s, policy-makers have taken for granted that technological developments such as robots and AI produce income disparities. Successive conservative and progressive governments have arrived at this conclusion. At the start of the 21<sup>st</sup> century, Korea prospered from the smartphone revolution and the development of AI. The ratio of non-regular workers has remained above 30%, however, and the wage gap between regular and non-regular workers has not decreased. The Korean government has therefore analysed and reviewed the causes of the income gap. Through the analysis of government documents presented above, I have shown that those policy-makers who were party to the Go match between a human player and AI in 2016 undoubtedly accepted that technological progress has deepened income inequality.

Until the early 2000s, Korean policy-makers had tried to explain income inequality as a result of either economic issues or technological development. In 2001, the Ministry of Finance gave the following evaluation: ‘There can be many reasons for the difference in household income, but the rapid growth of technology companies and IT development can be considered one reason’ (Ministry of Finance, 2001, p. 5). In 2002, however, President Roh (2003–2007) placed the blame firmly on economic growth: ‘The income gap has deepened since the late 1990s due to the legacy of an unbalanced development strategy focused on economic growth’ (Democratic Party, 2002, p. 65). In 2004, the Ministry of Labor followed the president’s lead by focusing on the effects of the Asian economic crisis: ‘The 1997 financial crisis led to a widening income gap between the rich and the poor’ (Ministry of Labor, 2004, p. 190).

In the 2010s, technological progress in Korea brought about changes in this perception. As reports from state-funded research institutes show, since 2014, government departments have begun to realise that technological progress has the power to alter the country's economic, social, and political circumstances. The Korea Information Society Development Institute explained what it saw as the cause of income inequality: 'As the information and communication industry developed, technology led to the income inequality deepening' (Chung, 2014, p. 1). In 2016, the Korea Development Institute reported: 'Many economists have suggested technological progress as the cause of the widening income inequality not only in Korea but also around the world' (Kim, 2016, p. 82).

After AlphaGo beat a human player in 2016, perceptions of the impact of technology in Korea changed. Kim, Deputy Minister of the Ministry of Science and ICT, for instance, announced how perceptions shifted before and after this event:

*before the AlphaGo event, Korea's interest in AI was low. ... But, after the match, AI has been talked about countless times in newspapers and on the Internet. As politicians emphasise the 4th Industrial Revolution and AI, the public interest seems to have increased. (Kim, 2017, p. 74)*

In the words of President Park, 'It is fortunate that our society has been greatly alarmed and stimulated by the AlphaGo shock about the importance of AI development' (Kim, 2016, p. 1).

As awareness of AI and technological evolution has spread, since 2016 policy-makers have publicly acknowledged that the income gap was deepened by technological development. President Moon's (2017–2022) presidential election pledge stated: 'Income inequality has accelerated increasingly over the past 30 years. ... The development of technology has caused the income gap' (Democratic Party of Korea, 2017, p. 40). In 2017, the National Assembly Chairman Chung Sye-kyun also announced: 'We must deal with the widening wage gap and job losses caused by the 4th Industrial Revolution and the fast technological progress'

(Legislation Office of the National Assembly, 2017, p. 1). In short, since 2003, policy-makers have increasingly come to accept that technological development causes income inequality.

#### **7.2.3.4 How Has the Minimum Wage Policy Changed as a Result of Technological Progress?**

##### **7.2.3.4.1 Despite the Low Growth Rate, the Minimum Wage Level Continues to Rise**

The minimum-to-median wage ratio has increased since 2003. Some employers maintained that the minimum wage level should be increased slowly over this period, taking into consideration labour productivity and the rate of economic growth. The issues arising from the proportion of non-regular workers in the Korean workforce and income inequality have, however, been more critical in determining the minimum wage level than economic conditions. According to the Minimum Wage Commission, ‘Despite the recent economic downturn and difficulties for SMEs, the minimum wage has risen by more than 10%. This is because it is a measure for resolving the income gap and improving the quality of life for low-wage workers’ (Minimum Wage Commission, 2003, p. 50).

Since the 2000s, the ratio of non-regular workers has increased to over 30%, and the wage gap between non-regular and regular workers has been one of the most significant social issues faced by Korean society (Ministry of Labor, 2013). Successive conservative and progressive presidents have understood these challenges and have raised the minimum wage level from 2003 to 2022. While presidents from progressive parties have consistently supported raising the minimum wage, President Park, a conservative party member, has highlighted the importance of doing so: ‘One of the biggest problems in Korean society is the increase in the income gap. ... Despite the difficult economic situation, to solve this problem, we will improve the minimum wage policy’ (Saenuri Party, 2012, p. 174).

When looking at the causes of changes in the minimum wage policy in the 2000s and 2010s, therefore, we can see that the critical background to these changes was the drive to

resolve income inequality. Policy-makers, that is, recognised that the widening of the income gap was a result of the rapid development of AI and ICT and that increasing the minimum wage level would be key to mitigating this effect.

#### **7.2.3.5 Summary**

Since 2003, Korean policy-makers have largely accepted that technological development has contributed to widening the income gap. This phenomenon distinguishes itself from the trends observed in the 1980s and 1990s. Until the 2000s, the correlation between technological advancements and widening income gaps was understood mainly by unions and the private sector, and not by policy-makers. The advent of smartphones and AI, however, has shone a light on issues in Korean society such as the rise in non-regular employment and increasing income discrimination. The government has explicitly acknowledged the correlation and has determined that increasing the minimum wage is one of the policy measures designed to address this challenge.

#### **7.2.4 Conclusions**

The aim of this study was to scrutinise the evolving perspectives of policy-makers and the consequent modifications in Korea's minimum wage policy over the last 35 years. Documentary research has enabled me to examine the shifting attitudes among Korean policy-makers. Notably, the income gap has increased owing to technological advancement and, as I have shown, the government has changed its minimum wage policy in an effort to address this. The extent to which policy-makers recognised this causal relationship has varied across the three different periods explored in this thesis. In the 1980s, trade unions and private researchers led the way in recognising the relationship between technological progress and income inequality. The government, however, faced a number of challenges in accepting this

perspective, owing to the absence of accurate statistics on the income gap. During the 1990s, policy-makers too began to recognise the causal link between technological development and the widening income gap; and subsequently, since 2003, policy-makers have taken this relationship as read. That is, I have traced an observable shift the perceptions of policy-makers from the 1980s to the present; at the same time, we have seen how minimum wage policy underwent gradual changes in response to these changing perceptions over a span of more than 30 years.

### **7.3 The Appropriate Hypothesis**

My research aims to establish causality in answer two research questions: my second research question asks after the cause of minimum wage policy changes; while my third research question enquires whether technological advancements have influenced the income gap resulting in changes in the minimum wage. As we saw in Chapter 5, my answer to the second research question indicates that alterations in minimum wage policy have been implemented with the objective of diminishing income inequality. This is in line with the recommendations of the ILO (2014) and the World Bank (1997), both of which underscored that minimum wage policies have a role in addressing income disparities. Notably, Korea's minimum wage policy has changed over the decades and, as we can see from government documents from the 1980s to the 2010s, these changes have come about with the explicit aim of mitigating the income gap.

The third research question asks after the causal relationship between technological development and the income gap. But answering this question takes a different course from answering my second research question. This is because a number of hypotheses might serve to account for the deepening income gap. As discussed in Chapter 5, this study explores multiple layers of analysis. On the one hand, it focuses on the perceptions of policy-makers,



because changes in such perceptions are vital in understanding the background of policy and institutional change (Hall and Talyor, 1996; Thelen and Conran, 2016). On the other hand, we compared two competing hypotheses that put the widening income gap down to the effects of technological development and economic issues, respectively. Economic issues include rapid economic growth and global economic crises. As explored in Chapter 5, my ‘hoop test’ method means that hypotheses that do not sufficiently explain the shift in minimum wage policy are excluded. The hypothesis that manages to account for all changes to minimum wage policy over the 35-year period is that technological development drove such changes.

### **7.3.1 In the 1980s, People Began to Recognise that Technological Progress was the Background**

#### **7.3.1.1 H1: Technological Progress Can Explain the Background for Introducing the Single Minimum Wage Policy**

Most government documents from the 1980s stated that economic growth had led to income discrimination. Nevertheless, we can see that technological development was the background to the policy change in the 1980s. As discussed in Chapter 4, President Roh’s inauguration speech in 1988 was alone amongst our data in noting that technological development had caused socio-economic changes. President Roh stated: ‘the growth of technology and economy have changed our society from an agricultural to an industrial society. However, it has caused problems such as wage gaps’ (Office of the President, 1988, p. 4). The president’s remarks and the government’s position were not identical. The economic ministry took a different view of the matter entirely: ‘Technological development is a means for economic growth ... a key means to strengthen industrial competitiveness’ (Economic Planning Board, 1986, pp. 41–44). At the time, the members of Korea’s Economic Planning Board did not view technological progress as a cause of social changes, such as income disparity. President Roh’s remark is,

however, notable for our purposes because he was a critical policy-maker in a country with a presidential system. It is therefore significant that the President realised that technological advancement was one of the causes of the income gap; and this findings provides a basis upon which we can keep hypothesis 1.

### **7.3.1.2 H2: Rapid Economic Growth Explains Changes in Minimum Wage Policy**

Rapid economic growth can also account for some of the effects of income inequality. Korea's economy grew rapidly in the 1980s, taking it from being a low-income country to a middle-income country. According to statistics from the National Statistical Office (2022), Korea's economic growth rate was 11.3% in 1986 and 12.0% in 1988. Behind this economic growth, a government-led growth policy sought 'to transform the structure of the industry from labour-intensive to technology-intensive by fostering a large number of technology-intensive companies' (Economic Planning Board, 1986, p. 10). Most government documents from the period refer to economic growth as the cause of income inequality. According to the five-year economic development plan prepared with the participation of all ministries, 'Rapid economic growth has caused income disparity between regions. The income gap between large cities such as Seoul and Busan and rural areas is getting wider' (Economic Planning Board, 1986, p. 13). Moreover, the same report states, 'because of the problems of economic growth-oriented policies, the results of economic growth were not evenly distributed. As a result, income gaps occurred between regions and classes' (Economic Planning Board, 1986, p. 44). The Ministry of Labor also took the same position: 'In 1987, the export-led economic growth policy made the wage gap. Wages at large companies with 500 or more employees were 1.14 times higher than at those with fewer than 30 employees' (Ministry of Labor, 1997, p. 58).

In short, the Economic Planning Board and the Ministry of Labor understood that rapid economic growth in the 1980s had caused and was causing income inequality. Their perceptions support hypothesis 2.

### **7.3.2 In the 1990s, Awareness Spread that Technological Progress Was the Cause**

#### **7.3.2.1 H1: Technological Progress Explains the Cause of the Shift Toward a Universal Policy**

In the late 1990s, Korea's technological level entered a stage of innovation and its economy transformed from one centred on manufacturing to one with IT at its heart (Kim, 2013). Korea's first progressive President, Kim Dae-Jung (1998–2002), emphasised the importance of developing ICT as an engine for driving new growth and promoting economic growth and job creation. According to the 1998 work plan of the Ministry of Information and Communication, 'We will invest all our resources to foster ICT ... as a key industry in the 21<sup>st</sup> century and invest more than £2 billion in funds to foster ICT ventures and create jobs' (Ministry of Information and Communication, 1998, p. 17).

The Ministry of Finance's policy plan for 1999 also noted that ICT had played a part in widening the income gap: 'From 1997 to 2000, the semiconductor, computer, and wireless communication industries grew by 135.1%, but other companies grew by only 10.9%. The wage gap between IT and other companies widened. ... IT development can be considered one reason' (Ministry of Finance, 2001, p. 5). The Ministry of Labor's 2001 policy plan argued that policies and institutions must be refined owing to the development of IT: 'In particular, in areas where standards and institutions are not established, the ministry will minimise unnecessary regulations to introduce technological innovation into the labor market' (Ministry of Labor, 2001, p. 229). Through studying an array of government documents, we can see that

technological progress, especially in the ICT industry, was recognised as a significant driving force behind the income gap and behind changing minimum wage policy in the late 1990s. As a result, we can see that technological development, especially the advancement of ICT in the 1990s, caused the income gap in Korea. In other words, we can accept hypothesis 1.

### **7.3.2.2 H2: Economic Factors Provide the Background to the Policy Change**

We should not underestimate the impact of economic factors on changes in Korean society in the 1990s. The 1997 Asian economic crisis had wide-reaching effects on Korea's economy and labour market. President Kim's (1998–2002) presidential inauguration speech attested to these effects: 'Unfortunately, the global economic crisis ... can be said to be the most significant national crisis since the Korean War. The country is facing a crisis that the country may go bankrupt if we do something wrong' (Office of the President, 1998, p. 2). The findings of research institutes supported the president's remarks. The Korea Development Institute reported that 'more than 3,000 companies that failed to overcome the economic crisis in 1997 went bankrupt. The unemployment rate rose from 2.2% to 6.7% in one year' (Korea Development Institute, 1998, p. 10). The government saw the aftermath of the Asian economic crisis as the cause of the widening income gap: 'Due to the global economic crisis, the increase in the number of temporary workers has further worsened the living conditions of low-wage workers exposed to poverty in 1998. Income inequality has worsened' (Minimum Wage Commission, 2018, p. 98). As we can see from official government documents, policy-makers at the time recognised that the effects of the 1997 Asian economic crisis were rapidly plunging Korea into economic and social problems. The 1997 Asian economic crisis, therefore, was a major cause of the income gap in Korean society. Hypothesis 2, therefore, can also explain the increase in the income gap in the late 1990s.

### **7.3.3 Since 2003, Technological Progress Has Been Accepted as the Background for Policy Changes**

#### **7.3.3.1 H1: Technological Advancements Have Widened Income Inequality**

Korea led the global smartphone revolution and, in the past 20 years, has become an IT powerhouse. According to the Ministry of Science and ICT (2019), Korea's smartphone penetration rate was the highest in the world from 2013 to 2019. Korea was the first country to commercialise 4G and 5G mobile communication services (Ministry of Science and ICT, 2019) and Korea's 4th Industrial Revolution was triggered in the early 2000s (Schwab, 2017; Xu, David, and Kim, 2018; Ministry of Science and ICT, 2019). Since 2013, the Korean government has promoted AI policies (Kim, 2017), and the development of AI itself has led to the emergence of driverless cars, AI-assisted counselling, and the replacement of retail store employees by robots; AI is being used in various fields, including finance and medicine, where it is fast replacing humans (Ministry of Science and ICT of Korea, 2019).

The OECD's Development Assistance Committee Chairperson, Moorehead (2021), has, however, argued that ICT represents a double-edged sword: not only has it brought benefits, but it has given rise to income gaps and inequality. Moreover, as the UN reports, 'technological change can widen income inequalities. ... Inequality is also affected by more dramatic technological changes' (United Nations, 2021, p. 11). Korea was no exception to this rule, and policy-makers have acknowledged that technological progress has caused the income gap. As noted in Chapter 6, President Moon and the Chairman of the National Assembly made the same statement to this effect in 2017. And, as the National Plan for Artificial Intelligence states: 'AI causes changes in society as a whole, especially in the job structure. ... workers who do not adapt to technology are disadvantaged about employment and income' (Ministry of Science and ICT, 2019, p. 2).

As we saw in Chapter 6, since 2003, Korean policy-makers have acknowledged that technological progress is a major cause of income inequality and the government has begun to take this causal relationship for granted. Moreover, both right- and left-wing governments have promoted a policy of increasing the minimum wage level in order to alleviate the income gap caused by technological progress. Hypothesis 1 is, therefore, still a viable explanation for changes in this latter period.

### **7.3.3.2 H2: Economic Factors Explain Increases in Income Inequality**

From 2003 to 2013, the government maintained that economic factors were the cause of income inequality. The Ministry of Labor, for instance, attributed the deepening income inequality to the global economic crisis:

*The 1997 financial crisis led to the disintegration of families, suicides, increased homelessness, and a widening gap between the rich and the poor due to mass unemployment. And the severe living difficulties of the low-income class have increased significantly (Ministry of Labor, 2004, p. 190).*

Moreover, government documents from this period repeatedly state that Korea's income inequality is the result of economic growth. The Ministry of Strategy and Finance, for example, reported in 2013: 'Economic growth is the cause of worsening income distribution' (Ministry of Strategy and Finance, 2013, p. 7). Likewise, the Labor White Paper from the same year states: 'The wage gap and income imbalance are accelerating due to economic growth' (Ministry of Employment and Labor, 2013, p. 451).

This perception has, however, changed as economic growth rates have declined since the 2010s. That is, while Korean economic growth has declined in the 21<sup>st</sup> century, the problem of income inequality has not automatically disappeared. Korea's economic growth rate has decreased since the 1990s. According to statistics from the Bank of Korea (2022), the per capita GDP growth rate fell to 5.5% in the 1990s, 3.7% in the 2000s, and 2.3% in the 2010s.

Nevertheless, while growth fell to around 2%, income inequality did not significantly improve. Indeed, the National Statistical Office (2023) shows that the value of dividing the top 20% of income by the bottom 20% is 5.38 in 2006, 5.66 in 2010, 5.43 in 2013, and 5.45 in 2016.

After 2013, the picture changed dramatically. Government documents ceased to attribute income inequality to economic causes. In 2015, the Ministry of Employment and Labor, for example, reported: ‘Due to unfair inter-company relationships, technological advances and labor-management issues, the number of non-regular workers has increased, and the wage gap has widened’ (Ministry of Employment and Labor, 2015, p. 34). Indeed, the recent Ministry of Employment and Labor policy plan states that, ‘In line with digital transformation, the number of platform operators and new types of irregular workers, such as delivery workers, increased. And non-regular workers receive lower wages than regular workers’ (Ministry of Employment and Labor, 2022, p. 3).

As we can see, therefore, policy-makers no longer regard economic growth or global economic crises as the causes of the income gap in the 2010s. Economic issues cannot explain the deepening of income inequality in the 2010s, and so, as a result, the hypothesis that economic factors influence changes in minimum wage policy can be ruled out.

### **7.3.4 Summary**

Through a comparison of the two hypotheses, I have identified that technological development, insofar as it produces an income gap, at least sufficiently explains changes in Korean minimum wage policy since 1988. In the 1980s, economic factors better explained the background to changes in minimum wage policy: as rapid economic growth led to income inequality, the government introduced a single minimum wage policy to close this gap. President Roh (1988–1992), however, was the only policy-maker to state on the record that the income gap had increased as a result of technological development. We understand that technological

development was also a cause of the income gap in this period and therefore also affected the policy changes.

In the 1990s, as Korea's technological level enhanced to the innovation stage through the growth of its IT industry, a number of government documents began to state that technological development was the cause of the income gap. This, by extension, means that technological development was the background against which the minimum wage coverage was expanded. At the same time, the 1997 Asian economic crisis was sufficient for explaining the background to why a universal minimum wage policy was developed. Thus, both hypotheses can be accepted in this case.

After 2003, however, the policy-makers placed more emphasis on the role of technological development than economic factors. The low economic growth and global economic crises cannot explain the deepening of the income gap and changes in minimum wage policy witnessed in the 2010s. As the rival hypothesis no longer explains the income inequality that resulted in changes in minimum wage policy, we have no choice but to rule it out. In the end, technological development is the only factor that can explain the background of all changes in minimum wage policy in Korea from the 1980s to the present.

## **7.4 Understanding the Policy from a Historical Institutional Perspective**

This study examines the changes in and developments of Korea's minimum wage policy using a historical institutionalist framework to do so. In so doing, it aims to bridge a gap in current research. The literature review provided in Chapter 2 showed that most existing research on minimum wage policy in Korea focuses either on explaining changes in minimum wage policy or on pointing out problems in that policy. This study, however, concentrates on analysing not just what has changed in Korean minimum wage policy but also what these changes mean,



using the perspectives of Historical Institutionalism. In particular, I have examined modifications to the policy modification with specific interest in the ‘3 Is’—incrementalism, interest, and idea—and veto players.

## **7.4.1 The Transition from a Complex to a Simple Policy in 1989**

### **7.4.1.1 Incrementalism**

Korea introduced its minimum wage policy in 1988. The policy, which was the result of intensive research and discussion, was considered to be the optimal institution by the government at the time that it was implemented (Minimum Wage Commission, 2018). Within a year of policy’s implementation, however, it transformed from a complex policy to one that was much simpler. Even though the policy had changed, the minimum wage institution was not reformed, meaning that the Minimum Wage Act itself still states that minimum wages can be set differentially for different branches of industry.

Implementing the national single minimum wage policy in 1989 has two meanings from a historical institutionalist perspective. First, when policies and institutions alter in the early stages of implementation, the policy can persist without changing further (Pierson, 2000). Indeed, a single, national minimum wage has been in effect from 1989 to the present. Employers’ groups, however, have insisted that a differential application of the minimum wage be reintroduced. They argue that a differential minimum wage is the most appropriate in the light of current labour productivity by industry and the ability of SMEs to pay the minimum wage (Minimum Wage Commission, 2018). These arguments have been discussed by the Minimum Wage Commission, but Korea still maintains a single minimum wage policy. That is, Korea’s minimum wage policy has essentially lived up to a phenomenon witnessed by

historical institutionalist scholars: early changes in policies and institutions are vital, and when they take place, the policy is less likely to be changed in the light of later events (Pierson, 1993).

Second, we can describe the continued presence of a national single minimum wage as path dependence. The concept of path dependence is essential in historical institutionalist analysis (Pierson, 2000). Path dependence lends policies and institutions considerable stability, even when these policies may not be the optimal choices. In the case of Korea's minimum wage policy, the cost of switching from a single minimum wage to differential wages is difficult to reverse once a particular path has been selected (Pierson, 1993). According to the Korean Statistics Office (2022), in 1989, Korea was a developing country with a per capita income of less than \$5,000, and the country's government lacked the experience and data to implement complex minimum wage policies like Japan. Many developing countries, including Korea, therefore applied a single minimum wage (ILO, 2014). By the 2020s, however, Korea had become a high-income country, and not only is the government better placed to implement policies, but it is also capable of implementing complex minimum wage policies using various statistics and data. Nevertheless, the single minimum wage, which was introduced in 1989, is still applied. This shows that there is inertia in Korea's minimum wage policy, and that legacy and familiarity can maintain the single, national minimum wage in Korea.

#### **7.4.1.2 Interest and Veto Players**

In the late 1980s, the interests of union and management representatives clashed over whether to maintain the differential minimum wage policy. At the time, large corporations had a close relationship with the government, giving them a place at the table when the government worked on its economic policy plan in the 1980s (Economic Planning Board, 1986). Big companies, that is, had a good deal of political power. Management representatives are also a critical group within the Minimum Wage Commission, comprising nine of its 27 members. Business groups

strongly resisted converting the minimum wage to a single minimum wage policy (Minimum Wage Commission, 2018). They acted as veto players, claiming that the differential minimum wage should be maintained and opposing changes to the policy.

Trade unions argued that the government should introduce a single minimum wage to reduce the wage gap between labour-intensive and technology-intensive industries. But they lacked political power. Moreover, as Yoo writes, ‘The government believed that labour strikes and the labour movement were not only a cause of social unrest but also detrimental to the country’ (2021, p. 403). Trade unions therefore put their position to the government, emphasising issues related to the policy and its institutional framework. They stressed the contradictions within the policy, arguing that the government was unintentionally promoting income disparities despite the stated aim of the minimum wage policy to reduce income inequality (Minimum Wage Commission, 2018). Their efforts played a vital role in influencing policy-makers, providing the Minimum Wage Commission with an opportunity to acknowledge the contradictions within the policy and to apply a single wage to resolve them.

#### **7.4.1.3 Ideas**

Private researchers, not public research institutes, led examination of the income gap between labour- and technology-intensive industries. Two things characterise the thoughts of experts in the 1980s. First, they recognised that technological advancements caused income inequality. Second, their conclusions at the time did not indicate that changes to minimum wage policy were needed. For instance, a scholar based at Kyongsang National University, who studies the causes of inequality in Korean society, claims that technological advances by large companies benefiting from the government created the wage gap: ‘The main cause of the wage gap between large technology companies and small subcontractors’ (Jang, 1999, pp. 171–172). He

also points out that this gap has come about thanks to a growth policy centred on large companies:

*Big companies monopolised resources and subsidies from the government ... large companies kept close relations with the government. They could develop technology exclusively, and differences in technological progress soon emerged as differences in wage gaps in the labour market. (Jang, 1999, p. 176)*

Research findings from the time referred to this phenomenon as a structural change in the social labour force: 'Professional and high-skilled workers have become the high-income class. And this phenomenon has increased the income gap between workers and deepened internal conflicts among workers of Korean society' (Lee, 1989, p. 192).

## **7.4.2 The Policy Expanded to a Universal Policy in the Late 1990s**

### **7.4.2.1 Incrementalism**

Korea's minimum wage developed into a universal policy in 2000 with the revision of the Minimum Wage Act. But coverage was not simply extended to all workers overnight. Instead, coverage gradually expanded from 1989 to 2000. The minimum wage only applied to manufacturers employing ten or more workers when it was introduced in 1988, and it was extended to construction and mining in 1989. By 1990, all industries were included, in 1998, it was applied to all workplaces with five or more employees, and in 2000, it was applied to all workplaces irrespective of how many people they employed.

From the perspective of Historical Institutionalism, we can recognise two particularly interesting characteristics of the expansion of the Korean minimum wage policy coverage. First, the policy changed slowly over 11 years, from 1989 to 2000. The policy, that is, gives an example of the stability of policies emphasised by Historical Institutionalism, enabling them to

undergo gradual policy change. Mahoney and Thelen (2009) argue that institutions change gradually and do not shift suddenly or alter entire institutions. The expansion of minimum wage policy coverage in Korea is therefore consistent with the model of incremental changes put forward by historical institutionalists.

Second, the change in Korea's minimum wage policy corresponds to layering among the mechanisms of institutional change. As outlined in Chapter 3, a historical institutionalist framework posits four mechanisms of policy change: layering; displacement; conversion; and drift (Streeck and Thelen, 2005). The changes to Korea's minimum wage policy at this time can be explained by layering among the mechanisms. That is, Korea's minimum wage policy coverage developed into a universal policy by process whereby new institutions were added to the existing system rather than completely replacing or revising it.

#### **7.4.2.2 Interests and Veto Players**

In the late 1990s, the 1997 Asian economic crisis wreaked havoc on the Korean economy and labour market. Both the government and the private sector recognised that external shocks changed society. Korean society experienced a tremendous unemployment rate, and more than 3,000 companies went bankrupt (Korea Development Institute, 1998). The social circumstances at the time attest to the significance of the unions' interest, and insisted that the coverage of the minimum wage policy should be expanded to encompass all workers. In light of their burgeoning political influence, four representatives from trade unions secured seats in the 1988 local elections. Consequently, the government was unable to outright dismiss their interests. The unions therefore actively participated in the process of policy-making and argued in favour of a universal minimum wage.

Employers' groups and the conservative party, however, resisted the expansion of minimum wage coverage (Minimum Wage Commission, 2018). The first veto point occurred

when the government submitted the amendment to the Minimum Wage Act to the National Assembly. In July 2000, the National Assembly discussed the revision of the Act, with the Minister of Labor announcing that ‘The government intends to apply the Minimum Wage Act to all workplaces as a universal policy’ (National Assembly, 2000, p. 10). A member of the conservative Grand National Party argued, however: ‘I agree with the amendment to the law, but it would be better to have a more deliberative discussion’ (National Assembly, 2000, pp. 19–20). As a result, the bill underwent three months of debate starting in July 2000. Three months later, the second veto point occurred, when the opposition party maintained that it would be better to wait until the effects of the Asian economic crisis had been overcome rather than revising the law in 2000. As stated more than once in the preceding chapters, one conservative party member of the National Assembly noted that he found the intended revisions to the law ‘a bit premature’ (National Assembly, 2000, p. 13).

We can see that the conservative party, which seemed to speak in unison with employers’ associations, exercised its right to prevent the minimum wage policy from becoming a universal system. This may point to the political influence of corporations. Indeed, big tech companies had grown into global corporations that played a significant role in Korea’s economic growth (Holden and Lee, 2009). As a result of this, their lobbying power in the government and the National Assembly became more robust (Hong, 2008; Holden and Lee, 2009), and they were able to exploit their power and connections to act as a veto player.

#### **7.4.2.3 Ideas**

In the 1990s, ideas were presented to policy-makers by domestic experts and international associations. Domestic researchers focused on the fact that technological development had caused the income gap, while international organisations put forward the idea that the coverage

of the minimum wage policy should be expanded to reduce the income gap. These ideas worked together to contribute to changes in minimum wage policy.

In particular, state-run research centres argued that technological progress was the cause of income disparity. Given their status as think tanks for government ministries, state-run research institutes were able to work with policy-makers when analysing socio-economic issues or establishing policies, using their findings to influence the perceptions of policy-makers. The Korea Development Institute, for example, had concluded that: ‘Technological progress has not increased employment but has resulted in an imbalance in the labour market. ... Companies have paid higher wages to high-skilled workers, and wage gaps have begun’ (Jang, 1986, pp. 85–100). In addition, the Institute for Health and Social Affairs, a national research institute, pointed out the problem of income disparity in the late 1990s: ‘The main cause of income inequality in Korea since 1996 has been technological development. In particular, the difference in wage income between technology-based large companies and SMEs is noticeable’ (Yeo and Kim, 2006, p. 92).

Furthermore, the Korean government received recommendations from the ILO and the World Bank. The ILO reports that, ‘In the 1990s, Member States needed to widen the minimum wage policy coverage as much as possible and strengthen the minimum wage policy. This is a crucial step to narrow the income gap of domestic workers’ (ILO, 2016, p. 9). The World Bank also recommended that ‘Developing countries should expand the scope of the legal minimum wage to reduce the income gap of workers. In addition, non-regular workers should also be included in the scope of the policy’ (Wood, 1997, p. 45).

Ideas and recommendations from international organisations had considerable influence on the Korean government. Seeking to restore its credibility in international relationships and increase corporate reliability in the international market, the Korean government recognised ‘a need to align domestic economic systems and practices with global standards and actively

participate in the formation of international economic norms' (Ministry of Finance and Economy, 1999, p. 6).

### **7.4.3 Raising the Minimum Wage Level Since 2003**

#### **7.4.3.1 Incrementalism**

According to the Minimum Wage Commission (2022), the minimum wage level has risen throughout the 2000s and 2010s, and, in real terms, the ratio of the minimum to median wage increased from 0.34 in 2003 to 0.63 in 2019. The minimum wage level has, that is, consistently risen up the rankings of OECD countries in this time, from being one of the lowest to being amongst the highest (Lee, 2019). But when the minimum wage sharply increased by over 10% in 2018 and 2019, the Korean government faced a backlash from employers' groups and concerns from international organisations. In 2021, the minimum wage level decreased slightly to 0.61.

The increase in the minimum wage level in South Korea can be understood and explained through the lens of Historical Institutionalism. Using this framework gives us the tools of positive feedback and path dependence, that help us to explain the hike in Korea's minimum wage level since 2003.

The minimum wage has become an essential part of Korea's labour policy and it has a well-established legal framework. Attempts to reduce or increase wages excessively can be blocked institutionally or socially. As discussed in Chapter 4, according to the guidance laid out in the Minimum Wage Act, the Minimum Wage Commission must consider the living costs incurred by workers, the wages of similar workers, and labour productivity when setting the minimum wage. Since the essential cost of living and wages of workers have continued to rise in Korea, there is an inevitable upwards trajectory that fuels increases in the minimum wage.



If the unions demand a minimum wage that is deemed to be too high, a group of experts from the Minimum Wage Commission acts as veto players to stop it. The increase to a certain minimum wage level is, therefore, characterised by path dependence.

The path dependence of increases in the minimum wage is underwritten by a political purpose. As discussed in Chapter 5, the central aim of the minimum wage policy is to bridge the income gap. For politicians and policy-makers, increasing the minimum wage became a way to address social issues such as income inequality, and these political and policy purposes acted as positive feedback for the policy.

Increased expectations for the policy have shaped positive feedback, in a form of incrementalism. Successive presidents have strengthened the minimum wage policy, linking it to the country's social policy. In 2000, for instance, President Kim incorporated the minimum wage policy into the idea of an employment safety net (Ministry of Labor, 2000). In 2002, President Roh recognised the policy's potential use as an essential tool in narrowing the income gap, and acted accordingly. In 2013, President Park expanded and applied the policy as a social safety net (Ministry of Employment and Labor, 2013). And in 2017, President Moon clarified the target of raising the minimum wage to improve household income (Democratic Party of Korea, 2017). As the policy has evolved and the minimum wage level has increased, therefore, stakeholders have also expected the minimum wage to continue to rise, setting the minimum wage on a constant upwards trajectory.

#### **7.4.3.2 Interests**

In the terms of the Minimum Wage Commission's deliberative reports (1999 and 2018), the unions' basic stance has been that the minimum wage should be raised to alleviate wage inequality and protect low-wage workers. In 2008, the head of the Federation of Korean Trade Unions noted: 'It has been 20 years since the minimum wage policy was implemented. But, for

the past 20 years, the minimum wage has not deviated from the level of 33% of the average monthly wage of all workers' (Kim, 2009, p. 15). As the minimum wage level increased in the 2010s, however, unions set specific targets. The Korean Federation of Trade Unions announced, for example, that 'The minimum wage should be raised to 50% of the average monthly wage of all workers' (Koh, 2012, p. 5). Once the minimum wage level had exceeded the OECD average in 2018, the Korean Confederation of Trade Unions argued that 'The minimum wage must be raised to a level where workers and their families can live with a decent living standard' (Minimum Wage Commission, 2018, p. 39). In short, as the minimum wage level increased, the unions hoped that the minimum wage would also continue to rise to reduce the income gap and improve living standards.

The Korea Employers Federation, however, took a very different view of the matter and expressed its concerns about the steep rise: 'A high rate of increase in the minimum wage, ignoring the economic situation, will seriously threaten the business activities of SMEs and the jobs of the vulnerable' (Koh, 2012, p. 2). In 2015, the Korea Federation of Small and Medium Business stated a similar position: 'The current minimum wage level is a great burden on SMEs and small business owners, who are the main payers of the minimum wage' (Kim, 2015, p. 1). They therefore requested that any increases in the minimum wage rate would be modest.

#### **7.4.3.3 Veto Points and Players**

The veto points and players involved in the minimum wage increases in this latter period appear in the Minimum Wage Commission's discussions. The veto players of 2006 and 2020 raised slightly different objections to the decisions being made.

In 2006, left-wing President Roh wanted to raise the minimum wage. When the unions demanded a high increase rate of 35% or more, the group of experts stepped in as veto players. The employers initially requested 'a 2.4% increase and finally demanded a 9.2% increase'

(Minimum Wage Commission, 2021, p. 61). When neither side was willing to give any ground, however, ‘nine experts prepared a guideline for the minimum wage increase rate through a separate meeting. And it ranged from 10.6% to 13.1%’ (Minimum Wage Commission, 2019, p. 54). According to the Minimum Wage Commission (2008), the guideline was set as the lower limit of 10.6% in the light of the economic downturn and the current business conditions for SMEs. Moreover, the upper limit of 13.1% was set in the hope of narrowing the wage gap and improving the quality of life for low-wage workers. The Minimum Wage Commission explained the situation at its meeting in June 2006: ‘The employers’ association opposed the expert group’s guidelines, but the unions accepted. The vote decided on a 12.3% increase’ (Minimum Wage Commission, 2019, p. 54). As a result, the expert group acted as a veto player and suppressed what it deemed to be an excessive minimum wage increase of over 35%.

In 2020, when the progressive government came to power, the minimum wage level rose to 0.63, giving Korea the second highest level among OECD high-income countries. Nevertheless, the union representatives demanded a 16.4% increase, which was opposed by the group of experts (Minimum Wage Commission, 2021). In stark contrast to the union representatives, the group representing employers called for a 2.1% decrease (Minimum Wage Commission, 2021). There appeared to be no scope for these vastly different positions to come together, leading, as the Minimum Wage Commission reports, to a situation whereby ‘Unions and employers have asked a group of experts to propose the guideline for the increase’ (Minimum Wage Commission, 2021, p. 47). The expert group, however, ‘presented a single proposal for an increased rate of 1.5%, not a range’ (Minimum Wage Commission, 2021, p. 47). In the end, at the commission’s final meeting, ‘worker representatives left the meeting room expressing their dissatisfaction, and two employer representatives also gave up voting, objecting to the experts’ suggestion’ (Minimum Wage Commission, 2021, p. 47). Sixteen members participated in the vote, with nine in favour of the 1.5% increase proposed by experts

and seven against it. Here, unlike in 2006, the experts served a function as veto players by presenting a single proposal without suggesting a suitable range for any increases.

In summary, we can see that, thanks to these veto players, the minimum wage policy itself remained stable without experiencing any sudden changes. Indeed, while the minimum wage level increased after 2003, the expert group on the Minimum Wage Commission used their veto to maintain an appropriate minimum wage level.

#### **7.4.3.4 Ideas**

In the period covering changes to the minimum wage since 2003, the ideas affecting these changes can be divided into two categories. On the one hand are those that indirectly support an increase in the minimum wage policy by pointing to how technological development has widened the income gap. During this period, rather than directly asserting that the minimum wage needed to rise, researchers did so indirectly by revealing the severity of the income gap. On the other hand, international organisations voiced their concerns about the probable side effects of the rapid increase in the minimum wage since 2018.

Both domestic and international bodies drew the Korean government's attention to the severity of the income gap and its causes. The Chair of the OECD's Development Assistance Committee, Moorehead (2021), for instance, argues that ICT is a double-edged sword: while it provides clear benefits to society, it can also give rise to income gaps and inequality. Moreover, as the UN reports, 'technological change can widen income inequalities. ... Inequality is also affected by more dramatic technological changes (United Nations, 2021, p. 11). The growth of non-regular workers and income disparity in Korea have been a source of great concern for international organisations. In 2008, the Bank of Korea published the following findings on technological development and the increase in the number of non-regular workers: 'Technological development has led to an increase in the number of non-regular workers. ...

Since 2000, the proportion of non-regular workers has risen rapidly, from 26.8% in 2001 to 35.9% in 2007' (Choi and Lee, 2008, pp. 24–32).

The minimum wage increase of more than 10% in 2018 and 2019 has also attracted the attention of international organisations such as the OECD and the International Monetary Fund (IMF). The OECD's '2020 Korea Economic Report' (2020), for example, argues that low-skilled workers might have been pushed out of the labour market owing to the steep rise in the minimum wage. It also warns that the sharp increment in the minimum wage could lead to rapid price inflation. The IMF's 2019 annual report recommends that, for fear of the policy causing job losses and inflation, the rising rate of the minimum wage should be linked with the rate of increase in labour productivity. These two international organisations are therefore united in their perspectives regarding the social and economic impacts of the rapid changes in Korea's minimum wage policy. Indeed, they encourage policy-makers to reconsider the importance of minimum wage policy not just as a social policy, but as inextricably tied up with the employment rate of low-wage workers, the labour costs of companies, and the inflation rate (ILO, 2014). Indeed, the very importance of this policy helps to justify why this thesis has devoted itself to studying it.

In summary, it is clear that ideas played a significant role in determining the direction of government policies. Since 2003, these ideas have largely expressed the need for an increase in the minimum wage while cautioning policy-makers against excessive increases.

## **7.5 Contributions to Knowledge**

### **7.5.1 Demonstrating the Causal Relationship Between Technological Development and Changes to the Minimum Wage Policy**

The core aim of this thesis is to investigate the causal relationship between Korea's technological progress and changes in its minimum wage policy. In this respect, it contributes to social policy research in four particular ways.

First, this is the first piece of research to attempt to identify the causal connection between technological development as an independent variable and the minimum wage policy changes as a dependent variable in Korea. In other words, the novelty of my research is in its discussion of the causal link between technology and the minimum wage. As we saw in Chapter 2, previous research has not studied the causal relationships between these two areas. This thesis is therefore original and unique.

Second, my research helps to bridge specific gaps in the existing literature on social policy. Previous studies are primarily divided into two different areas. On the one hand are those studies that examine the impact of technological progress on the labour market while, on the other are those that analyse causes of changes in the minimum wage policy or seek to find socio-economic causes, such as income gaps, of changes of the policy. This thesis, however, brings these two aspects together in order to better understand the complex relationship between technological development and changes in Korea's minimum wage policy.

Third, my project makes a significant contribution to the development of research methodologies. Researchers are often faced with difficulties when working between different areas of research. Above, I have combined document research and process-tracing methods to connect two, separate research areas—technological advances and social policy—and use a two-step causal pathway to illustrate a causal mechanism between them. First, I focused on income inequality and changes in minimum wage policy, and then I turned my attention to the relationship between technological progress and the income gap. As a result, this thesis is able to demonstrate that technological development caused the income gap, and that the income gap led to changes in the minimum wage policy.

Finally, this study points to some potential improvements to current minimum wage policy. By providing evidence of the causal link between technological progress and minimum wage policy shifts, my thesis comprises a practical resource for policy-makers. Through engaging with it, they will be able to understand the impact of technological advances and further enhance the government's broader perspective when making decisions affecting the development of minimum wage policies.

### **7.5.2 Analysis of the Policy in Korea Based on Historical Institutionalism**

My study presents a new perspective by analysing changes in Korea's minimum wage policy using a historical institutionalist lens. In so doing, it makes two further contributions to research.

Above all, my research contributes to present knowledge by analysing Korea's minimum wage policy using the tools of Historical Institutionalism, including path dependence. As stated earlier in the literature review in Chapter 2, research on Korea's minimum wage policy tends to focus on explaining policy changes or illustrating problems in the system and how to improve them. Literature that studies policy changes based on policy theories, however, is harder to find, and little research to date explores the causes of changes in the policy.

Compared to other developed countries, Korea's introduction of the minimum wage policy was relatively late. Korea looked to the example of Japan's minimum wage policy, thus following the lead of the only advanced country in East Asia, and implemented a policy based on Japan's in 1988 (Joo, 1999). Over the past 35 years, however, Korea's policy has changed significantly, with the minimum to median wage ratio increasing from 0.33 to 0.61 in that time (OECD, 2022). And the country still uses the same, simple system that emerged from its more complex forerunner in 1989 (Minimum Wage Commission, 2018). Despite changes in the

policy, little research to date has asked why these changes occurred. Yet this study is the first to focus on both how and why Korea's minimum wage policy has changed.

This study is also significant for examining policy changes occurring over 35 years within their historical contexts. As we saw in the literature review in Chapter 2, most research to date concentrates on short-term shifts in the policy. Numerous studies, for example, focus on the causes behind the implementation of a universal policy in 2000, or examines the background to the minimum wage level's rapidly rise in 2018 and 2019. This study, however, is to examine the long-term development of this policy. In doing so, unlike previous research, it has enabled us to grasp how the structure of the policy has been formed and how specific trajectories have been set over time.

## **7.6 Limitations of the Study**

This thesis makes theoretical, methodological, and empirical contributions to existing knowledge. But it also has three limitations. First, my research derives its results from qualitative research, through which it is, however, difficult to generalise the causal relationship between technological development and changes in the minimum wage policy. The empirical approach employed in this study focuses on one country, but for the proposed causal relationship to be generalised would require verification through exploring countries with different economic and political contexts. In particular, it would be necessary to study the relationships between technological development and minimum wage policies in developed countries that both value technological development and have minimum wage policies that have changed in response to social and economic circumstances. Moreover, other causal pathways may be found if we study changes in minimum wage policies in developed countries that also focus on technological progress.



A second limitation arises from the use of document research methods. The advantages of the document research method are clear, as they allow us to investigate specific phenomena in detail and to secure accurate and reliable data by comparing documents from various organisations (Yin, 2003). It provides a robust method for analysing the causes of policy decisions. There are, however, limitations on obtaining documents. Documents from the 1980s, for example, are relatively hard to source because they may not have been digitised and may not, therefore, be registered on the websites of the government and the National Assembly. Moreover, I was unable to access restricted documents that have not been made available online by the National Library of Korea and National Assembly Library; and confidential data from the government, including minutes of the Minimum Wage Commission's meetings, could not be used as data for this study.

Documentary analysis, particularly the use of statements by Korean politicians and policymakers, presents both significant strengths and limitations for this study. One of the key strengths is that these sources provide authoritative and influential perspectives on legislative and regulatory changes, offering critical insight into the intent and rationale for policy adjustments in response to technological change. Policymakers' speeches and official reports serve as primary sources that reveal the priorities and concerns driving legislative action. For example, amid increasing automation, debates in the Korean National Assembly have focused on its impact on income inequality. These discussions reflect public sentiment and justify policy changes aimed at mitigating the negative impacts of technological advancements.

However, relying on such documents also has limitations. Korean politicians and policymakers often express positions that reflect immediate political agendas or public sentiment, which may not comprehensively address the multifaceted impacts of technological change. These sources frequently represent the views of those in power or the positions of particular political parties, potentially overlooking grassroots perspectives and the experiences

of workers directly affected by technological developments. We acknowledge that the differing political philosophies and positions of conservative and progressive parties are likely to yield different research outcomes. Nevertheless, understanding the importance and policy dynamics of technological change can be partially achieved through the views of politicians. Therefore, this study has made a concerted effort to cite remarks from politicians across various political parties and to reflect changes in their perceptions over time.

While the documentary approach and inclusion of comments by Korean politicians provide significant advantages in understanding the importance of technological advancements, income inequality, and the development of minimum wage policy since 1988, it is crucial to recognise the limitations of this research method. Supplementing this approach with qualitative and quantitative data from a broader range of stakeholders can offer a more balanced and comprehensive analysis of the relationship between technological development and minimum wage policy in Korea.

Lastly, although this thesis studies Korea's minimum wage policy, it does not set out any specific policy recommendations. My focus lies instead on identifying the causes of specific and unusual changes in the minimum wage policy, and it does not propose how Korea's minimum wage policy might cope with the development of AI or with future changes in the labour market. For example, while considerations for changes to the minimum wage traditionally consider inflation, the cost of living, the economic growth rate, and labour market conditions, the advent of AI and automation have significantly altered both supply and demand in the labour market. The government might adjust the minimum wage formula to include factors related to the use of AI and robots in the workplace. In addition, it could provide recommendations for sector-specific approaches to the minimum wage policy. AI and automation have resulted in confusion in a number of industries. The Korean government might therefore adopt a sector-by-sector approach to minimum wage policy that addresses the unique

challenges faced by each sector in the 4th Industrial Revolution. Policy recommendations such as these might help to round off my research.

In summary, my thesis analyses Korea's minimum wage policy and identifies its causal relationship with the rapid technological development of Korean society. Yet, it has three limitations. First of all, thanks to its focus on Korean circumstances, its findings would be difficult to generalise without studying further examples in different countries. Moreover, certain older and restricted documents could not be accessed, potentially limiting the efficacy of my document research methodology. Finally, my study was not able to provide policy recommendations. Future research, however, would be well served by seeking to overcome these three limitations.

## **7.7 Avenues for Future Research**

Future research can overcome the limitations discussed above. First, further studies of the causal relationship between technological progress and changes in the minimum wage policy might expand their reach beyond Korea to other countries with high levels of technological development and continuously changing minimum wage policies. The UK, for example, would provide an interesting case study. It introduced a minimum wage in 1909 which has undergone a number of changes as the country developed through successive Industrial Revolutions. Again, Germany and Japan, which are powerhouses in manufacturing and technology, would also be worth studying. Germany introduced its national minimum wage in 2015, while Japan has applied and developed different minimum wages by region and industry (Minimum Wage Commission, 2018). Studying these countries may shed further light on the role of technological advancement in driving minimum wage policy reforms.

Second, it is necessary to give further attention to the direction in which Korea's minimum wage policy has developed. Korea underwent rapid social and economic

transformation as a result of the 3rd and 4th Industrial Revolutions. Social policies relating to the labour market, such as the minimum wage policy, need to respond appropriately to technological progress in order to keep up pace with them. Increasing the minimum wage in the 4th Industrial Revolution may well lead to increased unemployment, for example; it is therefore time to consider and discuss improvements to existing policies that might protect low-skilled workers (Kharlamova et al., 2018). The government should adequately develop the policy to protect the vulnerable as the use of AI increases (McAfee and Brynjolfsson, 2016). As an extension of this thesis, therefore, studies of the direction in which Korea's minimum wage policy is developing in the AI era are urgently needed. Such studies would be well placed to assist social and public policy researchers, political scientists, and legal scholars who focus on these areas.

Finally, future investigations might employ methodologies that can overcome the limitations of document research methods. As I have stated above, securing old data from the 1980s presented challenges, and classified documents were inaccessible. Future research, however, might deploy mixed research methods. It might, for example, interview groups of experts, shedding light on reasons for the policy changes, technological development, and economic policies of the 1980s, through the testimonies of high-ranking officials from the central government. In addition, this might indicate details of what was discussed in those meetings that are restricted. Such qualitative research methods may well provide more robust means to grasp the causal relationship between technological progress and changes in Korea's minimum wage policy.

Moreover, quantitative research methods may be well placed to explore the causal relationship between technological development and changes in the minimum wage. According to endogenous growth theory (Lucas, 1988; Romer, 1994), technological progress can be quantitatively measured using statistics reflecting increases in human capital and the R&D

budget ratio, both of which are input factors for technological development. Researchers can also make full use of statistics on smartphone and broadband usage, both of which are output factors of technological progress. Furthermore, both the expansion of minimum wage coverage and the minimum wage level can be measured quantitatively. Therefore, both conducting interviews with historical stakeholders and using quantitative methods to numerically verify the relationship between technological progress and changes in minimum wage policy offer approaches that may overcome some of the limitations of this study.

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# Appendices

## Appendix 01 Coding System

Coding System		Small Case Studies		
		to Single minimum wage policy	to the Universal Policy	Increase in the level of the
Topics	Evidence & Data	1988 ~ 1989	1990 ~ 2003	2004 ~ 2022
Policy Analysis	Technological Changes & Progress			
	Economic Growth & Issues			
	Social changes			
	Institution & Policy changes			
	what has the policy changed?			
	How has the policy transformed?			
	Why has the policy altered?			
	Interest			
	Trade Unions			
	Employers			
	Veto points & players			
	Critical Juncture			
Global Economic Crisis				
The cause of changes in the policy	Possible Propositions			
	Economic Growth			
	Global Economic Crisis			
	Income Gap			
	Political Issues			
	Interest			
	Trade Unions			
	Employers			
	Ideas			
	Private Researchers			
	Public Institutes			
	International Organisations			
	The Public			
	Polymakers` Perceptions			
	State of policymakers` awareness			
	limitations			
	Changes and developments			
Backgrounds of Chagnes				
The link between the Technological progress & the income gap	Possible Propositions			
	Technological Progress			
	Rapid Economic Growth			
	Global Economic Crisis			
	Political Issues			
	Interest			
	Trade Unions			
	Employers			
	Ideas			
	Private Researchers			
	Public Institutes			
	International Organisations			
	The Public			
	Polymakers` Perceptions			
	State of policymakers` awareness			
	limitations			
	Changes and developments			
Backgrounds of Chagnes				

## Appendix 2 Main Data Sources

<p>The National Assembly</p>	<ol style="list-style-type: none"> <li>1. Parliamentary &amp; Presidential election pledges (1988 ~ 2022)</li> <li>2. Minutes on Revision of the Minimum Wage Act (1988 ~ 2022)</li> </ol> <p>(<a href="https://www.assembly.go.kr/portal/main/contents.do?menuNo=600045">https://www.assembly.go.kr/portal/main/contents.do?menuNo=600045</a>)</p> <p>&lt; Official Websites &gt;</p> <ol style="list-style-type: none"> <li>1. Parliamentary Policy References (<a href="https://www.assembly.go.kr/portal/cnts/cntsCont/dataA.do?cntsDivCd=POLCYRM&amp;menuNo=600106">https://www.assembly.go.kr/portal/cnts/cntsCont/dataA.do?cntsDivCd=POLCYRM&amp;menuNo=600106</a>)</li> <li>2. National Assembly Library (<a href="https://www.nanet.go.kr">https://www.nanet.go.kr</a>)</li> </ol>
<p>The Government</p>	<ol style="list-style-type: none"> <li>1. Annual work plan for each ministry (1988 ~ 2022)</li> <li>2. Minimum Wage Policy Report (1988 ~ 2022)</li> <li>3. Research reports of the Minimum Wage Commission (1988 ~ 2022)</li> <li>4. (Tech + Gini) Five-year economic development plan (1988~1997)</li> <li>5. National technological development plan (1998 ~ 2022)</li> <li>6. Statistics related to the minimum wage (1988 ~2022)</li> </ol> <p>&lt; Official Websites &gt;</p> <ol style="list-style-type: none"> <li>1. National Archives of Korea (<a href="https://www.archives.go.kr">https://www.archives.go.kr</a>)</li> <li>2. Minimum Wage Commission (<a href="https://www.minimumwage.go.kr">https://www.minimumwage.go.kr</a>)</li> <li>3. Ministry of Employment and Labor (<a href="http://www.moel.go.kr">http://www.moel.go.kr</a>)</li> <li>4. Ministry of Economy and Finance (<a href="https://www.moef.go.kr">https://www.moef.go.kr</a>)</li> <li>5. Ministry of Science and ICT (<a href="https://www.msit.go.kr">https://www.msit.go.kr</a>)</li> <li>6. Korea Development Institute (<a href="https://www.kdi.re.kr/">https://www.kdi.re.kr/</a>)</li> <li>7. Korea Labor Institute (<a href="https://www.kli.re.kr">https://www.kli.re.kr</a>)</li> <li>8. Korea Information Society Development Institute (<a href="https://www.kisdi.re.kr">https://www.kisdi.re.kr</a>)</li> <li>9. Statistics Korea (<a href="https://www.index.go.kr">https://www.index.go.kr</a>)</li> </ol>
<p>International Organizations</p>	<ol style="list-style-type: none"> <li>1. The Minimum Wage system (ILO, 2014))</li> <li>2. Minimum Wage Policy Guide (ILO, 2016)</li> <li>3. Artificial Intelligence &amp; Responsible (OECD, 2019)</li> <li>4. The Future of Work (OECD, 2019)</li> <li>5. Technology And innovation 2021 (UN, 2021)</li> </ol> <p>&lt; Official Websites &gt;</p> <ol style="list-style-type: none"> <li>1. OECD Library (<a href="https://www.oecd-ilibrary.org/">https://www.oecd-ilibrary.org/</a>)</li> <li>2. ILO publications (<a href="https://www.ilo.org/global/publications/lang--en/index.htm">https://www.ilo.org/global/publications/lang--en/index.htm</a>)</li> <li>3. The World Bank (<a href="https://www.worldbank.org/en/research">https://www.worldbank.org/en/research</a>)</li> <li>4. International Telecommunication Union (<a href="https://academy.itu.int/itu-d/projects-activities/capacity-development-topics">https://academy.itu.int/itu-d/projects-activities/capacity-development-topics</a>)</li> <li>5. UN (<a href="https://research.un.org/en">https://research.un.org/en</a>)</li> <li>6. IMF (<a href="https://www.imf.org/en/Research">https://www.imf.org/en/Research</a>)</li> </ol>



Law & Decrees	Minimum Wage Act Labor Standards Act
Media, Published books & Reports	Related Journal papers Monography  < Stakeholder`s Websites > 1. Korean Enterprises Federation ( <a href="https://www.kefplaza.com">https://www.kefplaza.com</a> ) 2. Korean Federation of Trade Unions ( <a href="http://nodong.org/">http://nodong.org/</a> ) 3. Federation of Korean Trade Unions ( <a href="http://inochong.org/">http://inochong.org/</a> )