



2022.7.31.

National Assembly Futures Institute

2020 NAFI Annual Report



NATIONAL ASSEMBLY
FUTURES INSTITUTE



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President's Message



National Assembly Futures Institute has published its 2020 Annual Report to commemorate the 3rd anniversary of the establishment. I am particularly pleased that we were able to do so in my first year of my term that began late May last year, as the second president of our establishment.

In 2020, the research projects of the NAFI were divided into “Baseline Research” that is based on the expertise and research capabilities of our own researchers; “Core Research” that would contribute to the design of national mid-to-long-term development strategies, which is the purpose of our establishment; and “Explorative Research” that is based on public surveys. We also published more than 40 research reports in 2020. And this annual report includes many summaries of key results from each of the major fields of our research. And, if you are interested in finding out more about any of our research, please visit our official website.

Publishing the NAFI's research reports is not the final phase of our research efforts. I believe it is actually the first step when it comes to utilizing and expanding on the results of our research. NAFI's research efforts include not only the reports of the results, but also the implementation of results and their contribution toward policies. Since deriving national mid-to-long-term development strategies is the purpose of our establishment, making sure our results

are reflected in those policies is our ultimate goal. Hence, to reach our goal, we have been publishing numerous other brief yet in-depth analytical reports like “National Future Strategy Insight” and “International Strategy Foresight” since last August. Furthermore, we have plans to sustain our efforts to expand and provide multiple communication channels to enhance policies not only through social media by releasing videos and news clips, but also by conducting joint seminars with the National Assembly Standing Committee or with a research organization of members of the National Assembly.

I would like to take this opportunity to thank all the researchers of every research group and the members of the research planning team for all their efforts to publish this Annual Report along with all the research reports in 2020. We appreciate all the support and insights that can further expand our research in the future. We will do our utmost to ensure that your invaluable advice and support will indeed further our research to produce results of higher quality.

July 2022

Kim Hyeon Kon

President, National Assembly Futures Institute

김 현곤

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Institute Overview



1. Establishment Basis
2. Brief History
3. People
4. Vision and Mission





1. Establishment Basis

▣ National Assembly Futures Institute Act, Article 1

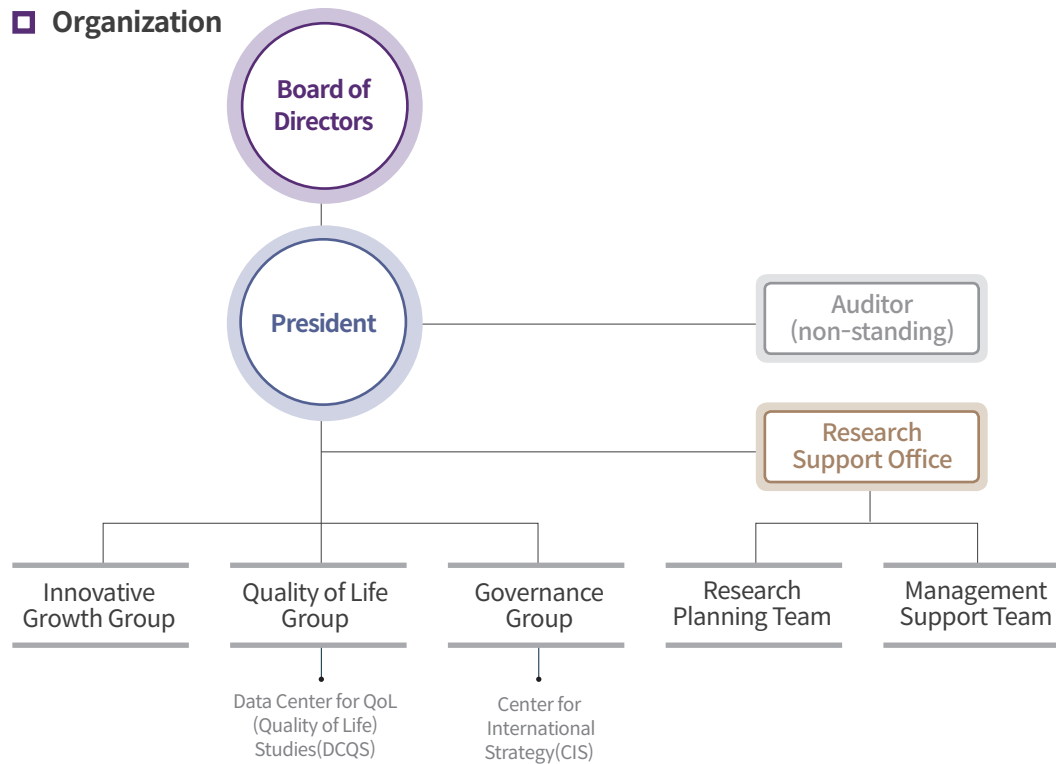
To predict and analyze the changes in the future environment and derive mid- to long-term national development strategies to strengthen the policy competency of the National Assembly and contribute to national development.

2. Brief History

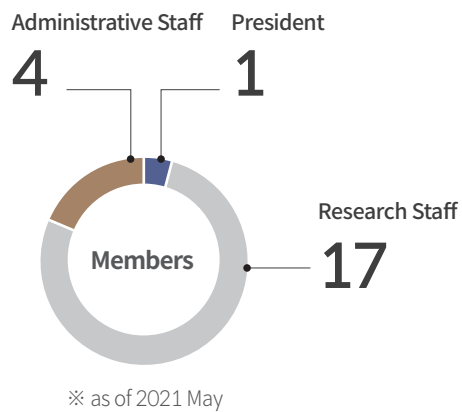


3. People

Organization



Members



President
1
Research Staff
17
Administrative Staff
4
Total
22

4. Vision and Mission

▣ Mission · Vision · Goals



▣ Management Goals · Performance Strategies · Performance Tasks

Management Goals	Performance Strategies	Performance Tasks
1. Suggest national mid-to long-term strategies that all citizens will agree with	Scientifically predict and analyze future changes and suggest ideas regarding the future of the country with citizen participation	① Discover more future agenda based on scientific predictions
		② Suggest an ideal future national vision
	Derive mid- to long-term goals to realize ideas and initiatives regarding the future of the country	③ Develop core mid- to long-term development strategies focusing on the core national agenda
		④ Reinforce mid- to long-term national response to the changes in the global environment

Management Goals	Performance Strategies	Performance Tasks
2. Stronger roles as a future research platform and enhance application to policy making activities	Collaborate and cooperate in terms of future research and reinforce the role as a platform	⑤ Enhance synergy with national research networks
		⑥ Strengthen cooperation with global professional institutions and experts
	Enhance application to policymaking activities by providing multiple communication channels	⑦ Strengthen communication with the National Assembly, the government, the citizens, and the consumers of policy making activities
		⑧ Share and disseminate research results via various media outlets
3. Enhance capabilities of the institute and make advancements to the management system	Strengthen human competency and improve organizational capabilities	⑨ Define the characteristics for the right people for the institution by empowering staff members
		⑩ Increase the number of staff members and create an active human exchange platform
	Create innovation in the research activities system and make advancements in the organization management system	⑪ Innovate research activity systems focused on the institute's missions
		⑫ Make advancements to the organization management system by creating synergistic effects



Research Projects in 2020



1. Characteristics of Research Projects
2. List of Research Outcomes
3. Research Reports
4. Brief Reports





1. Characteristics of Research Projects

Research Projects	Baseline Research	Core Research	Explorative Research
Basic direction	A field-oriented convergence study based on each research group's own capabilities	To focus on internal and external capabilities of core research field	To accumulate predictive data and build database through survey-oriented research
Main Keywords of projects in 2020	<ul style="list-style-type: none"> • (Quality of life) climate, happiness, sustainability, social policy, future population changes • (Innovation agenda) city strategy, Fourth Industrial Revolution, psychological/social capital • (Governance) cryptocurrency, super-aged society, international strategy (China, international organization, Korea-China-Japan) 	<ul style="list-style-type: none"> • (Future prediction) emerging markets, AI, technical impacts, gender equality, infectious disease • (Policy evaluation) meta-analysis of national mid-to-long-term strategies • (National Assembly competence) future of the National Assembly, bipartisan research • (Long-term development) governance reform tasks • (In-depth topic) Inequality (politics, economy, health) 	<ul style="list-style-type: none"> • Future preferred value • Public opinion survey on future policy • Happiness survey
Research project	14 research projects	21 research projects	3 research projects

Research Administration

- Strengthen internal capabilities (seminars, education, academic activities, and joint research)
- Promoting research achievements
- Establishing research networks at home and abroad and joint research

▣ Baseline Research

- Multidisciplinary research projects aimed at theoretical, academic, and policy contributions
- Research on issues and countermeasures of the future by utilizing the expertise of researchers in the quality of life, innovative growth, and governance research groups
 - **(Quality of Living)** Promote research to explore the challenges and plans to be prepared for the future in each field directly related to the quality of life, such as happiness, environment, and population
 - **(Innovation Agenda)** Promote research to explore the challenges and preparations needed to improve innovation and efficiency in each field
 - **(Governance)** Promote research to explore the challenges and preparations needed at home and abroad to ensure stable domestic and international governance in the future

▣ Core Research

- Research projects combining highly interconnected projects into project units to be intensively implemented in the relevant year in order to achieve mid-to-long-term strategic objectives
- Finding key future critical topics and conducting intensive research by mobilizing all internal and external research capabilities regardless of the type of the research group
 - **(Future Impact Prediction)** Promote research on relevant predictions and response measures to core topics of deriving enhancement measures for technology impact assessment and future drivers (emerging market issues, AI, gender, etc.)
 - **(Policy Evaluation)** Meta-evaluate mid-to-long-term plans and technology impact assessment established by the administration to enhance the administration's capabilities for the future
 - **(Improve National Assembly Competence)** Work with Member's Office, legislative staff and policy research institute of the National Assembly to seek way to improve the future of Korean democracy and enhance the role of the National Assembly
 - **(Institutionalization of Long-term Development Strategy)** Proposal of institutionalizing measures to bring fundamental changes in suborganization, fiscal relations, economic and social policies
 - **(Inequality)** Comprehensive research to study the foundation of inequality and provide solutions to reduce the deepening inequality, which is the main cause of social unrest in Korea

▣ Explorative Research

- Surveys, public surveys and data collection/accumulation on specific topics for the public and expert groups
- Improve the utilization of internal and external related research by systematically accumulating and managing prediction data and survey/questionnaire data produced by future research
 - **(Preference Survey)** Use surveys to understand the kind of future that the younger generation wants and provide data for decision on current policies by understanding the public's preferred direction of the policy that is future-oriented for the next generation and determines the future
 - **(Happiness Survey)** Conduct preliminary surveys to research a future systematic and sustainable happiness survey that is applicable to Korea, which can assess the level of happiness of the people and analyze the determining factors

▣ Research Administration

- Organize domestic/international seminars to facilitate and support research projects, publish research journals, operate internal and external committees related to international cooperation, utilization of results, and other research

2. List of Research Outcomes

No.	Research Reports	P.I.
20-01	Exploratory research to enhance preparedness for future climate change impacts	Kim Eun-ah
20-02	A Study of Korea's Happiness Map: Examining Regional Context	Min Bo-gyeong
20-03	A Study on the Establishment of a Monitoring System to Ensure a Sustainable Future	Min Bo-gyeong
20-04	A Study on the Fourth Industrial Revolution and Social Policy Financing: Focusing on Social Cost Estimation	Lee Chae-jeong
20-05	Population estimation study considering direct cohort effects	Heo, Jongho
20-06	Analysis of strategies and case studies on regional circular economies	Kim Eun-ah
20-07	Psychological and Social Capital in Korea: The Current State and Strategy for Education	Sung Moon-ju
20-08	Digital Transformation and its Implications for Growth and Income Distribution: Policy Implications for Reshaping the Innovation Policies	Yeo Yeong-jun
20-09	Strategy for Building a Future Lifelong Learning System: an Exploration Study	Sung Moon-ju
20-10	A study of cryptocurrency and related policy issues	Park, Sung Jun
20-11	Population aging and fiscal decentralization	Park, Sung Jun
20-12	The Future of China	You Chae-kwang
20-13	Research on ROK's Diplomacy in International Organizations Achievements, Limitations, and Suggestions for Improvement -Case studies of UN PKO, UN Security Council, IMF, WHO, and UNDP-	You Chae-kwang
20-14	International disputes among South Korea, China, and Japan	Park, Sung Jun
20-15	Research on emerging issue analysis and online platform development	Kim You-bean
20-16	Artificial Intelligence and Social Change from the Integrated Ecosystem Perspective	Park Seong-won
20-17	Research on improvement for technology assessment	Kim You-bean
20-18	A study to derive future policy directions based on gender equality issues and predictions	Kim You-bean
20-19	Global Infectious Diseases and Social Changes The World After COVID-19	Park Seong-won
20-20	A Study on a Method of Evaluating the Mid-to-Long-Term Plans of the Government	Lee Chae-jeong
20-21	Meta-assessment of mid-to-long-term government plans on climate change	Kim Eun-ah

No.	Research Reports	P.I.
20-22	A meta-evaluation of the government's mid- and long-term plans for addressing the aging of society	Sung Moon-ju
20-23	Meta Evaluation on Long-term Strategies Science and Technology	Yeo Yeong-jun
20-24	The function and role of the National Assembly; what is the problem and how can it be improved	Park Sang-hoon
20-25	Should proposing and passing more bills be the solution	Park Sang-hoon
20-26	What norms of speech should lawmakers abide by	Park Sang-hoon
20-27	What code of conduct should lawmakers abide by	Park Sang-hoon
20-28	Polarized politics; defining the problem and seeking improvements	Park Sang-hoon
20-29	Future Human Resource Development and Legislative Issues in Preparation for the Fourth Industrial Revolution	Park Sang-hoon
20-30	Reform to enhance the democratic quality of Korea	Cho Inyoung
20-31	Institutional reform strategies for re-establishment of intergovernmental fiscal relations	Lee Sunhwa
20-32	Research on Innovation Policy and Support Measures Reforms to accelerate the Transformation of the Innovation Paradigm	Yeo Yeong-jun
20-33	A Study on the Reorganization of Social Service Delivery Systems	Lee Chae-jeong
20-34	A Study on Economic Inequality in Korea	Cho Inyoung
20-35	The Political Consequences of economic inequality focusing on political participation	Cho Inyoung
20-36	Economic Inequality and Tasks of Tax Policy Focusing on Recurrent Taxes on Immovable Property	Lee Sunhwa
20-37	Koreans' Aging according to Life Cycle Using Allostatic Loads	Heo, Jongho
20-38	A Study of Values in Korea: A Future Look	Min Bo-gyeong
20-39	A Study on the Future Policy Public Opinion for the Preferred Future	Park Seong-won
20-40	Koreans' Happiness Survey –Descriptive Analysis Report-	Heo, Jongho

3. Research Reports

20-01

Exploratory research to enhance preparedness for future climate change impacts

P.I Kim Eun-ah

Climate change is regarded as one of the major threats to human society, and highlights the need to devise national and regional strategies to strengthen our resilience to potentially devastating future climate change impacts. The impacts from climate change were classified into four areas (ecology, settlement conditions, energy, society), and we collected risk factors from the literature.

This study analyzed Korea's climate change preparedness in each of the administrative or legislative policy and research sectors. We gathered written information such as research papers or reports, press releases, and legislative notices with which we carried out text analysis including keyword extraction and topic analysis.

Comparing the risk factors with the quantities of the corresponding documents, we were able to identify areas that were comparatively less prepared (movement of species, transportation system, stability of energy supply, health policy) for future risks from climate change.

We organized seminars on these areas to share information on research and policy trends and to discuss the gaps in legislative or administrative policies to be filled to enhance preparedness for future climate change impacts. This study incorporated the discussion results from the seminars to suggest a policy agenda which requires further development.

20-02

A Study of Korea's Happiness Map: Examining Regional Context

P.I Min Bo-gyeong

The purpose of this study is to examine regional conditions related to happiness and derive policy implications, in order to enhance Koreans' capacity for happiness.

This study was carried out through the following steps. First, we presented a system of happiness indicators to aid in the understanding of the multidimensional concept of happiness. We also introduced an evaluation index that examines happiness levels. We then gathered opinions from experts on the happiness indicator system established in 2019 to measure happiness in South Korea.

Second, a happiness map of Korea was created through the establishment of public statistical data and integrated analysis methods. Spatial analysis showed that spatial correlation was relatively large in the proportion of green space, pollution, Basic Living Security recipients, leisure welfare facilities for older adults, and cultural infrastructure. In other words, these indicators tend to be concentrated around a particular region; there are regional differences because the indicators have a deep connection with neighboring regions, and therefore form clusters.

Third, local case studies were conducted to derive happiness strategies within a regional context. Various local researchers provided case studies focusing on specific policies regarding the quality of life and well-being of local residents. This study proposes implications for a happiness measurement methodology and measures to enhance happiness as a future strategy.

Through this study, we hope that the 2019 happiness indicator system will become more objective and create synergies in the area of happiness research suitable for local contexts, through collaboration with research institutes at the municipal and provincial level.

A Study on the Establishment of a Monitoring System to Ensure a Sustainable Future

P.I Min Bo-gyeong

This study proposes a methodological framework for comprehensively diagnosing and analyzing future environmental response capabilities by establishing strategies for addressing environmental changes as well as an indicator system to monitor these responses. Specifically, through in-depth expert interviews and Delphi surveys, we established an indicator system to monitor whether our society is taking the necessary steps to respond to environmental challenges. Furthermore, we derived policy implications for the betterment of society by eliciting and empirically analyzing key indicators. For example, if the aim is to build a healthy super-aged society, it is necessary to monitor the 'healthy lifespan' indicator. In working to establish a zero-carbon society and green infrastructure, the 'national greenhouse gas emissions' indicators should be studied. To transition to an innovative economy, it is necessary to examine the 'R&D cost versus GDP' indicator.

The indicator system derived through this study will be developed further through follow-up research, and we will seek more specific monitoring measures by linking the indicator system to the government's mid-to-long-term plans. Through this ongoing research, we hope to devise practical measures for establishing and operating a reliable future monitoring indicator system based on long-term vision, core strategies, and government mid-to-long-term monitoring indicator systems.

20-04

A Study on the Fourth Industrial Revolution and Social Policy Financing: Focusing on Social Cost Estimation

P.I Lee Chae-jeong

In the era of the fourth industrial revolution, many predict that innovation caused by the development of artificial intelligence and robotics will replace not only human physical labor, but also a large share of knowledge labor. Accordingly, studies have been conducted that analyzed the size and aspects of job replacement caused by innovation stemming from the fourth industrial revolution. In fact, around us today we often see technology replacing everyday human tasks. For example, many restaurants have installed kiosks for ordering and payment, and self-driving cars have emerged.

The current social security system is designed under the premise of human labor. Tax and social insurance premiums are set based on earned income. A basic principle in determining whether a person needs to receive social assistance due to a low income is the question of whether or not he or she is unable to participate in the labor market based on socially accepted reasons such as sickness, disability, lack of ability to work, etc. If job replacement occurs due to technological innovation by the Fourth Industrial Revolution, jobs will be replaced by technology regardless of individual effort or will, and the principle of the social security system will be dismantled.

The study examines the manner in which job replacement caused by Fourth Industrial Revolution innovations affects the maintenance of the current social security system. We estimated the cost of increasing public assistance to the poor, which is increased by job replacement, and the cost of reducing labor income tax and social insurance premium income caused by job replacement. In other words, we estimate the social costs of job replacement caused by technological innovation. In addition, the relationship between the perception of individual households by economic conditions and the perception of reduced earned income by job replacement, and life satisfaction were analyzed, respectively. According to the analysis, poverty costs increase by 42 to 54 %, income tax revenue decreases by 45 to 57 %, and social insurance income decreases by 10 to 16 %. On the other hand, if the level of assets and income is low and households' economic status is perceived negatively, disposable income will also be greatly reduced due to job replacement. In addition, the subjective outlook for quality of life in five years is lower for households with large declines in disposable income due to job replacement, but higher asset levels do not significantly affect the outlook for quality of life. This suggests that the reduction in state revenue due to job replacement negatively affects the maintenance of the current social security system, and income polarization can be exacerbated by job losses and reduced wages.

This study is expected to contribute to specific and effective discussions on which kind of policy and legislative alternatives should be considered to prepare social security systems in the fourth industrial revolution to ease polarization of Korean society. Based on this study, Korean society needs to find ways to actively respond to changes in the labor market and minimize social shocks caused by innovation.

20-05

Population estimation study considering direct cohort effects

P.I Heo, Jongho

Population estimation is a fundamental analysis involved in future forecasts in the areas of finance, industry, pensions, and health insurance. Nevertheless, gaps in the statistics office's future population estimates have been continuously pointed out. The most important limitation of the population estimation method is that the birth cohort effects in the estimates have been calculated based only on age and period effects.

Therefore, this study attempted a more accurate estimation of mortality, fertility, and migrations using the Age-Period-Cohort (APC) analysis method to calculate the birth cohort effect directly.

The main results are as follows: first, the cohort effect had a statistically significant effect on mortality, fertility, and migrations. Second, the APC analysis based on this showed a very high level of predictive accuracy in the mortality rate of Korean men and women. In terms of fertility and migrations, the prediction accuracy was relatively lower.

The findings point to the necessity of considering the APC methodology in future mortality estimations.

Analysis of strategies and case studies on regional circular economies

P.I Kim Eun-ah

The circular economy has emerged as a sustainable and innovative concept that replaces the traditional linear economy characterized by its take-make-dispose flow of materials. This study analyzed case studies on regional circular economies in various areas to extract the common factors in the strategies of making a transition to a circular economy. We inductively developed the conceptual framework of “transition strategy of circular economy” based on these initial analyses with a special focus on the European countries, and modified the framework iteratively when additional case studies were introduced.

The framework consisted of the natural and socio-economic environment of a target region, drivers for transition to a circular economy, transition strategies, and social foundation. We built a structured database (DB) using this framework and the information from each case study was reorganized as input data. We also developed a “wheel model” to visualize the environmental factors and strategies presented in the DB.

Korean case studies of circular economies from Gyeonggi and Jeju provinces were analyzed based on the framework, and we compared the results with other cases in the DB. This study also investigated performance indices for monitoring the status of regional circular economies, and suggested a new set of indices to reflect the sustainability perspective. Based on the comparison between Korean cases and those from foreign countries, we suggested additional measures for the future regional circular economy in Korea.

20-07

Psychological and Social Capital in Korea: The Current State and Strategy for Education

P.I Sung Moon-ju

This study aimed to explore mid- to long-term strategies by suggesting potential policy approaches centered around the field of education in order to develop the psychological and social capital of society.

To this end, this study diagnosed levels of psychological and social capital at the individual level and derived potential policy approaches as educational interventions that can help to promote the levels of psychological and social capital based on the results of the diagnosis. By definition, psychological capital involves a positive developmental state of individuals with high self-efficacy, optimism, hope, and resilience (Luthans et al., 2004).

Social capital connotes intangible capital that is derived from social relations and benefits both individuals and the public (Kim Hee-sam, 2017, p. 22). The data were collected from 1,016 people aged from 19 to 69 years old in Korea using the Gallup online panel. Existing measures were employed to assess the levels of the components of psychological capital (i.e., hope, self-efficacy, resilience, and optimism) and social capital (i.e., interpersonal trust, public trust, norm, participation, and social network). The data were analyzed using descriptive statistics, correlation analysis, and one-way ANOVA.

The results of this study showed that the mean of resilience was the lowest among the components of psychological capital, and the means of participation, social support network, and public trust were lower than the other components of social capital. Also, the correlation analysis indicated that most of the variables were positively correlated with the others. In addition, the results demonstrated that there were significant mean differences in several components of psychological and social capital according to one's income level, parents' education and income levels in adolescence.

This study proposed potential education policy in the areas of primary and secondary education, post-secondary education, and lifelong education and human resource development according to the individual's life cycle in order to develop psychological and social capital. These suggestions included promoting more systematic parental education as lifelong education programs with high accessibility, designing and implementing various student evaluation methods and criteria based on designing valuing systems in secondary education, and strengthening educational welfare for disadvantaged students in both secondary and post-secondary education.

20-08

Digital Transformation and its Implications for Growth and Income Distribution: Policy Implications for Reshaping the Innovation Policies

P.I Yeo Yeong-jun

There have been few studies that quantitatively investigate the opportunities and risk factors driven by digital transformation. In addition, there has been a lack of quantitative research that estimates the impacts of policy interventions to resolve potential problems in the future digital transformation era. Against this background, this study attempts to explore the intrinsic characteristics of digital transformation-led technological changes. In addition, this study explores the long-run impacts of digital transformation on the socioeconomic system in terms of economic growth, employment, and distribution, using a computable general equilibrium (CGE) model.

The results show that digital transformation has the potential to accelerate routine-biased and capital-biased technological changes. In this regard, we have found that economic growth driven by digital transformation disproportionately increases relative demand for capital and non-routinized cognitive tasks over routinized tasks. This shift in the value-added composition is found to have the potential to deepen income inequality, as higher income groups benefit from greater tasks premiums and capital earnings. Furthermore, the quantitative findings suggest that the promotion of the dynamic interaction between digital transformation-led technological change and lifelong learning may alleviate the potential risks induced by technological changes. Based on these findings, this study attempts to redefine the role of innovation policy in making a successful transition to the digital transformation era.

20-09

Strategy for Building a Future Lifelong Learning System: an Exploration Study

P.I Sung Moon-ju

Lifelong learning has been receiving a great deal of attention due to a number of macro-environmental changes, including the 4th industrial revolution, the current low fertility rate, and the resulting aging of society. The government is striving to support lifelong learning for the people by planning and implementing various policies. However, the policies under a public system for learning support need to be more comprehensive and systematic, so that they can address people's learning according to their life stages. In this context, this study aimed to explore strategies for establishing a future lifelong learning support system, and to suggest policy tasks from a mid-to-long-term perspective. This study categorized areas of the future lifelong learning support system according to people's life stages: ① Elementary and secondary education for children and youth, ② Adult vocational education and training (higher education and continuing education), and ③ Adult lifelong education (higher education and adult liberal arts education). To formulate policy tasks for building a future lifelong learning system, this study conducted an integrative literature review (Torraco, 2005). Based on the results of the integrative literature review, several policy tasks were suggested.

In terms of mid-to-long-term policy tasks for children and youth (elementary and secondary education), the following policy tasks to build a future lifelong learning system were suggested:

- Establishing a competency assessment system for lifelong competency management
Providing education support for children and adolescents to improve access to higher education
- Enhancing flexibility of elementary and secondary education curriculum · Improving the college admission system for competency-based curriculum implementation
- Reducing the lifelong learning competency gaps between the disadvantaged and other students in elementary and secondary education

Regarding the mid-to-long-term policy tasks for adult vocational education and training (higher education and continuing education), the following policy tasks to build a future lifelong learning system were suggested:

- Revising the laws related to lifelong learning and vocational education and training
- Establishing public and private learning infrastructures
- Providing professional human resource development service support for new fields of technology

- Providing personalized career development services
- Establishing a social safety net for vocational training

As for mid-to-long-term policy tasks for the adult lifelong education (higher education and adult liberal arts education), the following policy tasks were suggested to build a future lifelong learning system:

- Revising and enacting laws related to lifelong education
- Securing finance for lifelong education
- Bridging the widening gaps in lifelong learning opportunities
- Institutionalizing education for the elderly
- Recognizing the limitations of the government-led lifelong learning system
- Lifelong learning system as a complex space: focusing on emerging learning demands and supplies
- Designing personalized learning programs according to people's life stages
- Forming a social consensus regarding lifelong learning as a right
- Exploring and discussing concepts related to lifelong learning

20-10

A study of cryptocurrency and related policy issues

P.I Park, Sung Jun

Cryptocurrencies such as Bitcoin have gained much attention over the past few years, mainly due to their surging prices and returns. While Bitcoin, the first cryptocurrency, remains dominant in the market in terms of market capitalization and popularity, there are thousands of other cryptocurrencies today. It is a widely accepted view that most of the cryptocurrencies are a very risky asset. This study examines how cryptocurrencies work, how their prices are determined, and how they are (or should be) regulated.

Firstly, the key mechanism of the cryptocurrencies is described. While each cryptocurrency differs from one another in its design, many of them are based on distributed ledger technology (DLT), which is a decentralized record keeping system. Blockchain, which forms the basis of Bitcoin, is a type of DLT. The characteristics of blockchain technology are discussed and compared to the current electronic payment system. Secondly, this study examines properties of cryptocurrencies, and then discusses how the price of cryptocurrencies will change in the future based on the findings of the existing literature, which indicate that the price of cryptocurrencies is affected by factors such as market liquidity, uncertainty, new regulations, and investor sentiment. Lastly, regulation issues such as taxes, prevention of anti-money laundering and combating the financing of terrorism (AML/CFT), and investor protection are discussed.

Population aging and fiscal decentralization

P.I Park, Sung Jun

Korea is aging at an unprecedented pace, and population aging has become one of the most serious problems in the country. While population aging is expected to affect a wide range of sectors of the economy, the fiscal autonomy of local governments could be substantially threatened by the associated decrease in tax revenue and increase in welfare expenditure, along with the decline in the local population. Against the backdrop, this study tries to find ways to improve local finance and fiscal decentralization, which are keys to the local autonomy system.

The study is organized as follows. Firstly, data are presented on population aging and its relationship with fiscal autonomy. Secondly, several social policy programs such as the national subsidy program and basic pension system are examined to see how they affect the finance of local governments. Thirdly, we discuss fiscal decentralization in general, and then how it works in Korea. Lastly, we investigate ways to improve the fiscal autonomy of local governments in the future, taking population aging into account.

20-12

The Future of China

PI You Chae-kwang

This research examines the future of China, which would play a pivotal role in determining the future of South Korea. Focusing on the chance of regime survival, the prospect of sustainable economic growth and the chance of conflict and cooperation with foreign countries, it aims at offering a comprehensive image of China around 2030. China's future will not be completely different from the present image of contemporary China. According to the research, China will remain highly authoritarian with a little prospect of democratization while sustaining its economic growth although the growth rate declines. But China's foreign relations with major countries such as the US, Japan, India and Australia will deteriorate as a result of heightened security competition elsewhere. The research provides a set of future strategies to a policy community in South Korea such as decreasing levels of trade dependence on China, considering the return to a quasi alliance system between the US, South Korea, and Japan, and rebuilding communication channels with China's top leadership.

Research on ROK's Diplomacy in International Organizations Achievements, Limitations, and Suggestions for Improvement -Case studies of UN PKO, UN Security Council, IMF, WHO, and UNDP-

P.I You Chae-kwang

This research is a critical but comprehensive assessment of South Korea's multilateral diplomacy through inter-governmental organizations or IGOs. Grounded in the principal-agent model, a series of case studies was carried out in key areas of diplomacy such as security, economy, health, and development, with a focus on the UN PKO, UN Security Council, IMF, WHO and UNDP. In particular, the research attempts to highlight both the achievements and limitations the diplomacy has displayed, and to present solutions designed to overcome such limitations. In the area of security, the research notes ever-growing participation in UN PKO, and two-time entries into non-permanent membership in UNSC as major achievements. Both a greater contribution to the IMF bail-out fund and participation in global financial governance are considered major achievements of Korea in the global economy. Regarding global health governance, Korea's preventive response to novel infectious diseases has been identified as its major contribution, while a sharp increase in ODA has been considered a major breakthrough Korea has made in the global developmental regime. But the research points out that Korea's diplomacy in the above-mentioned areas still suffers from a lack of further financial contribution, the negligible role of the National Assembly in the diplomacy and the relative ignorance of foreign affairs among the Korean public. Accordingly, the research suggests that the Korean administration, notably the Ministry of Foreign Affairs, must work more with the National Assembly over the issue of increasing contribution in international organization and oversight of its activities, and convince the Korean public to show a greater concern for foreign affairs.

20-14

International disputes among South Korea, China, and Japan

P.I Park, Sung Jun

Recently, there have been growing tensions among South Korea, China, and Japan over many issues. In this study, we analyze various forms of disputes among these countries. In particular, we investigate political tensions, trade disputes, and environmental conflicts in this region, and try to figure out how they interact with one another to further destabilize the region.

Firstly, political tensions are analyzed mainly using "threat perception" theory. It is shown that factors such as the rise of China, conflict between the United States and China, and the past war crimes of Japan play important roles in escalating conflicts in the region. If US-China tension intensifies in the future, it can be expected to adversely affect relationship among these countries. Secondly, trade disputes are investigated using GDELT (Global Database of Events, Language and Tone) and Korean news articles. Two trade disputes are analyzed, including one that occurred between South Korea and China over the deployment of the THAAD system, and a dispute between South Korea and Japan in 2019. The level of political tension is quantified using GDELT, and shown to be consistent with recent development of trade disputes, which originate from political tensions between countries. Lastly, environmental conflicts are analyzed using news articles. Three specific issues related to fine dust, radioactive material, and viruses are investigated. Main events and related events are identified based on the number of articles, and then examined qualitatively. It is shown that the focus of the news articles on each issue changes over time, implying that environmental issues in the region can often evolve into international, domestic, or economic issues.

Research on emerging issue analysis and online platform development

P.I Kim You-bean

Although many studies have predicted and responded such as paradigms and trends, it is not easy to prepare countermeasures to address emerging issues due to the unclear direction of change, its rapid pace, and the difficulty of rational prediction.

The purpose of this study is to find patterns that match the definitions of emerging issues in large-scale data covering multiple disciplines in order to quickly discover emerging issues and implement an online platform.

This study focuses on defining emerging issues, devising novelty and scalability-based detection methodologies based on definitions, and applying the methodology to analyze real-world applications for comprehensive social issues.

This study will be promoted in stages in the future, and this year's study will focus on novelty and scalability among the features of emerging issues; consistency, ripple effects, and influence will be dealt with through future linked studies.

For analysis, three clusters are selected from the Leiden cluster (WoS-based) that contains various issues in the fields of S&T and humanities and society. As a result, emerging issue candidates of #49 were Innovative Leadership, Job Satisfaction, Mediation Role, Coordination Role, and Organizational Citizen Behavior. Those of #985 were Relationship Quality, Social Support, Weak Family, Socioeconomic Status, and Instability. #1346 were related to Land Use, Carbon, Social Cost, and Bioenergy.

Through the linkage of follow-up research, we are going to carry out evaluation and methodology on issues derived from this year's study, and develop new indicators to detect emerging issues and implement the online platform.

20-16

Artificial Intelligence and Social Change from the Integrated Ecosystem Perspective

P.I Park Seong-won

Artificial intelligence technology is expected to lead radical social changes. This study forecasts what social changes could be expected with the development of artificial intelligence, from various perspectives. The study considers work, play, politics, residential environment and climate change as an important integrated ecosystem for human survival, and examines how the development of artificial intelligence affects the integrated ecosystem.

The labor sector is expected to see accelerated unemployment and job insecurity as a result of artificial intelligence; the play sector is expected to over-connect, continue to compete, and reproduce discrimination. For the residential environment sector, it is forecast that homes will change into intelligent residential service platforms. The political and institutional sectors are expected to see the emergence of surveillance states, court rulings by AI algorithm, and the expansion of political tribalism. In the field of climate change, artificial intelligence technology is expected to be able to forecast mid-to-long-term renewable energy generation, and to control the demand and supply of distributed power generation in cities.

The uniqueness of the study is that it has gone from the prediction of social change to the presentation of an artificial intelligence utilization strategy that realizes the future preferred by Korean citizens. For example, in the field of climate change, it is expected that artificial intelligence will be used to realize the digital Earth, and that it will be possible to actively respond to climate change at the community level. In the residential sector, it is suggested that the gap between the cities and the rural areas could be reduced through the use of artificial intelligence. In the political field, artificial intelligence increases the possibility of solidifying the checks and balances of power. In the field of labor, social withdrawal rights and the introduction of employee representation were proposed; in the field of play, the strengthening of citizens' technology literacy and the regulation of biased algorithms were discussed.

In addition, this report discusses the following four major problems from the social impact of artificial intelligence, derived through an artificial intelligence seminar held 20 times at the National Assembly: whether it is appropriate to give artificial intelligence autonomy; the possibility of equal collaboration between humans and artificial intelligence; the biases of artificial intelligence algorithms; the explainable artificial intelligence, and the more transparent artificial intelligence. We discussed these issues and examined the role of the National Assembly in resolving the problems mentioned above.

Research on improvement for technology assessment

P.I Kim You-bean

Technology Assessment (TA) is conducted to analyze the social, economic and environmental ramifications of new technologies and use these to develop relevant response policies.

In an environment where new technologies are constantly emerging, it is necessary to further strengthen the utilization by improving the procedures and methods so that the technology assessment is faithful to its original purpose. This study reports existing technology evaluation cases and performs meta-perspective analysis for institutional improvement.

In order to derive an institutional improvement of the technology assessment, the introduction and progress of Korea's technology assessment was reviewed, and major issues were analyzed. Although it has gradually improved toward expanding citizen participation, it still does not go beyond the framework of expert-centered technology assessment.

By analyzing overseas examples of technology impact assessment, we derived directions and implications for future system improvement in Korea's technology assessment. It is necessary to strengthen the evaluation system through a dedicated organization including the parliament by preparing methods and procedures for evaluating the impact of citizen participation technology using STAA in the United States and OPECST in France as major benchmark models.

Also, we proposed that an organization that performs general decisions and coordination on science and technology policy and execution is established as a permanent committee under the direct control of the President. Throughout this committee, constitutive technology impact assessment should be institutionalized to select and organize related R&D budgets.

Based on the ELSI/RR^{*}, which complements the current constituent technology assessment, it is necessary to derive a method for conducting a real-time technology assessment(RTTA) focused on finding alternatives by promoting a dialogue among stakeholders.

* ELSI(Ethical, Legal and Social Issues), RRI(Responsible Research and Innovation)

20-18

A study to derive future policy directions based on gender equality issues and predictions

P.I Kim You-bean

Gender equality is essential to the full realization of human rights, democracy and social justice, an important value that our society should aim for, and a prerequisite for a sustainable future in terms of human development, economic growth, and population reproduction.

This study aims to forecast the level of gender equality in Korean society in the long-term future (2040) in consideration of future macro-social changes, and to present long-term policy tasks and directions to improve it.

An analysis of the trend of gender equality in Korean society over the past 20-30 years was performed, and policy tasks and directions were suggested to improve the level of gender equality in the future through the prospect of gender equality as of 2020 and the prediction for 2040.

The analysis of gender equality trends over the past two decades found that there had been gradual improvements in areas such as public decision making, economic resource allocation, unpaid labor distribution, gender norms, gender discrimination awareness, sexual violence, and more.

As an effect of macro-environmental change on gender equality, it is expected that positive effects will be seen in the political domain (change of traditional political paradigm, popularization of feminism, revitalization of social minority politics) and in the social domain (change of family, low birthrate).

Based on the analysis of the expected level of gender equality in 2040, an overall level of less than 50 points is seen, but the improvement of the level of gender equality in public decision-making is expected to progress at the fastest rate compared to the present, while reductions in gender violence are expected to progress at the slowest rate. To improve the level of gender equality in the future, short-term policy tasks and long-term policy directions are separately presented.

Global Infectious Diseases and Social Changes

The World After COVID-19

P.I Park Seong-won

With COVID-19, public interest in the social influence of global infectious diseases is increasing. The pandemic is causing unprecedented changes in politics, society, environment, culture, science and technology, and population growth as well as economic shock.

The study addressed the social changes undergone by the world after the four global infectious diseases that have occurred since 2000. This is something the world has experienced in common, and we have seen that the experiences can help us forecast future events that will occur after COVID-19.

Examples of the lessons learned since 2000 include the fact the government's trust and the voluntary participation of the people in anti-virus activities are the key to overcoming pandemics; there is a need for policies to alleviate social fear and psychological anxiety; and the importance of science and technology in vaccine and therapeutic development and epidemiological research.

The study analyzed the cases since the emergence of COVID-19 through an analysis of 1830 articles found in SCOPUS DB last year after the COVID-19 pandemic began. In the UK and India, for example, a public health crisis has created new social underdogs; in Peru and Kenya, domestic violence and child abuse have increased since the regional lockdowns. Black Americans have been suffering from poverty, poor housing, and uncomfortable transportation, and the supply chains of renewable energy and related companies have suffered from economic deterioration since COVID-19. Unexpected events were found everywhere.

The study also noted positive changes after the outbreak of global infectious diseases. Revisions of the law to expand support for the socially vulnerable, the regional innovation of local cooperatives, and various simulations performed by the scientific community for daily recovery are making the world hope for a better future.

In conclusion, this report provides implications on what changes should be anticipated through ten significant questions that forecast the future.

20-20

A Study on a Method of Evaluating the Mid-to-Long-Term Plans of the Government

P.I Lee Chae-jeong

As of 2019, the Korean government has established and implemented approximately 530 mid-to-long-term plans, but there is no control tower that continuously monitors and coordinates such mid-to-long-term plans, which are established every 5 to 20 years. Since the number of mid-to-long-term plans is so large and the frequency of their establishment and execution varies from plan to plan, the government needs to find ways to systematically evaluate and manage its mid-to-long-term plans.

This study aims to seek a measure to evaluate the government's mid-to-long-term plans through the establishment and operation of a performance management system. To this end, a Gap analysis of key indicators that can identify the performance of mid-to-long-term plans was conducted by linking the government's mid-to-long-term plans with K-SDGs (National Sustainable Development Goals), and reviewing the administrative big data utilization plan.

This study linked major mid-to-long-term plans in areas that included education, science and technology, social welfare, and residential conditions to K-SDGs' performance indicators, and conducted a survey of experts in each field using Analytical Hierarchy Process (AHP) methods. In addition, it analyzed three priority performance indicators for each field derived from the AHP survey of experts. It was found that even if a performance management system has been established for major mid-to-long-term plans using K-SDGs, some indicators have identified problems, such as the absence of related statistics. In addition, for the mid-to-long-term planning performance management system to have practical effects, it is sometimes necessary to compare and analyze not only at the national level, but also at the regional (city and city and county) level. To overcome these limitations, it is thus necessary to establish and utilize a comprehensive database using administrative big data to establish an institutional basis for continuous performance management of the government's mid-to-long-term plans based on reliable data.

Based on the results of our analysis, this study proposed the establishment of a performance management system by preparing key performance indicators that each plan should achieve when establishing a mid-to-long-term government plan. In particular, it is necessary to introduce mid-to-long-term planning goals and performance indicators at the level of K-SDGs, establish a consistent performance management system, and operate a mid-to-long-term plan performance management system using administrative big data.

Meta-assessment of mid-to-long-term government plans on climate change

P.I Kim Eun-ah

Climate change affects numerous aspects of our lives, and as such it requires many laws and government plans involving multiple ministries. This study focused on such intricate government policies and carried out a meta-assessment on them in order to strengthen the nation's preparedness for impacts from climate change. We selected five mid-to-long-term master plans based on the centrality of the corresponding legal text, and four policy areas based on the focused group interview results. This study was based on the meta-assessment methodology developed by NAFI in 2019 for analyzing mid-to-long-term government plans, and we tailored the methods to assess the plans in relation to climate change and policies included in the plans. The meta-assessment methodology that we present here aimed to evaluate the relevance, fidelity, and feasibility of the climate change plans. Our meta-assessment on the policy level further employed evaluation criteria on the consistency between interconnected government plans and laws. The results and findings from these assessment processes uncovered substantial problems in the laws and plans related to climate change, and we made several suggestions for amendments.

20-22

A meta-evaluation of the government's mid- and long-term plans for addressing the aging of society

P.I Sung Moon-ju

This study conducted a meta-evaluation of the government's mid-term and long-term plans aiming to address the issues relevant to the aging society and provided suggestions for policy-making as feedback on the policy being currently implemented.

In this study, the meta-evaluation of the government's mid-term and long-term plans was defined as the evaluation of the government's mid-term and long-term plans “by analyzing and synthesizing existing policy evaluation results” (Chelimsky, 1985). The meta-evaluation was conducted in this study using the criteria of validity, congruence, and effectiveness of policies.

Based on the results of the topic modeling, meta-evaluation areas were divided into ① retirement income guarantee, ② social service (health and care guarantee), and ③ lifelong learning support. The following government mid-term and long-term plans were selected for the meta-evaluation areas. Specifically, the 3rd Plan for Low Fertility and Aging Society (Revised) (2016~2020) was selected for all the meta-evaluation areas. The 3rd Plan for Low Fertility and Aging Society (Revised plan) (2016~2020) was selected for the retirement income guarantee area. The 2nd Long-Term Care Plan for the elderly (2018~2022), the 4th National Health Promotion Plan (2016~2020), and the 3rd Plan for Dementia Management (2016~2020) were selected for the social service (health and care guarantee) area. Third, the 3rd Plan for Employment Promotion for the Elderly (2017~2021) and the 5-Year Roadmap for Job Policy (2017~2021) were selected for the lifelong learning support area.

In an exploration of how to implement policies more efficiently and effectively, this study used Q methodology. The sample(N=1,000) was collected from people aged from 19 to 69 years old in Korea. By analyzing the data, the respondents were categorized into four groups based on the similarities of their policy demands in terms of addressing issues on the aging society: ① people with a preference for obtaining governmental support for outplacement rather than improving old-age retirement income security, ② people with a preference for promoting the quality of care for the elderly rather than improving old-age retirement income security, ③ people with a preference for governmental support that covers the life cycle, and ④ people with a preference for a universal retirement income guarantee policy without increasing tax.

Finally, several themes emerged in evaluating the plans in terms of their validity, congruence, and effectiveness in the three areas. Implications for establishing future government mid-to-long term plans and for legislation were suggested.

Meta Evaluation on Long-term Strategies Science and Technology

P.I Yeo Yeong-jun

To improve quality of life while achieving economic development, Korea has established and implemented various mid-to-long-term strategies in the science and technology field. However, policy problems such as a lack of coherence among the plans that are widely established by ministries, limitations to the consistency of policy contents, and a lack of measures that take the long-term perspective into account are expanding. Despite this situation, systematic review and analysis of the mid-to-long-term plan establishment and execution system in the science and technology field has been sluggish.

Against this background, we have attempted to explore the evolution patterns and institutional path dependences of the mid-to-long-term plans in the Korean science and technology field in terms of design and implementation practices. Based on our findings, we have tried to derive policy problems and policy implications. Accordingly, through a quantitative analysis based on text network analysis and a qualitative analysis based on focus group interviews, we were able to identify the following major policy problems in the mid-to-long-term plan establishment and execution system in Korea's science and technology field: ① Limits of adaptation to future policy environment changes due to low autonomy, ② Intensification of keyword discontinuity and limits to guaranteeing the continuity of strategies, ③ Limits in securing consistency between policies due to limitations in coordination between ministries and organizations, ④ Limits in securing plan validity due to restrictions on evidence-based policymaking, ⑤ Decreased effectiveness of individual plans due to poor linkage between policies. Based on these policy problems, this study proposes ten policy tasks to secure adaptability to future rapid environmental changes, and to improve the effectiveness of establishing and executing mid-to-long-term strategies in the science and technology field.

20-24

The function and role of the National Assembly; what is the problem and how can it be improved

P.I Park Sang-hoon

This report is special in that parliamentary aides participated as writers. Until now, research of this kind has been conducted only by scholars or professional researchers outside of the National Assembly. In this regard, this report is the first research done by National Assembly members. The subject of the study is wide-ranging. In the eyes of National Assembly members, these are all important topics, ranging from Chapter 1, which evaluates the changes in the Korean National Assembly over the last 34 years since democratization, to Chapter 11, which covers gender representation in the National Assembly. Furthermore, this report is an effort to analyze a number of bills, which are referred to as 'non-issue bills,' and to analyze topics such as future agendas, the recruitment and promotion of parliamentary aides, and the positive and negative roles of the Legislative and Judiciary Committee.

Should proposing and passing more bills be the solution

P.I Park Sang-hoon

The purpose of this study is to critically analyze existing practices in legislative activities, which have focused on quantitative performance. To accomplish this purpose, various problems caused by massive numbers of bills are shown through cross-country comparisons. Contrary to the popular belief, our National Assembly's bill proposal rate is at least twice that of advanced parliamentary democracies, and therefore a new approach is needed when it comes to the future of our National Assembly. This is because it is impossible to review bills responsibly. Even if lawmakers were to spend four hours a day 300 days of the year reviewing bills, they would only have 10 minutes per bill. Nevertheless, the number of bills passed is at least 21 times (compared to the US) to 172 times more (compared to the UK), so there is a need to enhance the quality of legislation as well as empowering the National Assembly. In conclusion, this study calls for quality over quantity and sufficient deliberation and negotiation in legislation.

20-26

What norms of speech should lawmakers abide by

P.I Park Sang-hoon

The purpose of this study is to examine the norms of speech that lawmakers as legislators should act upon. To accomplish this purpose, this study brings up the tradition of rhetoric, with the aim of reviving the philosophical tradition of rhetoric so that lawmakers can speak in proper political language in order to unify their communities. Chapter 1 focuses on Aristotle and Cicero's philosophical tradition. Aristotle's rhetoric deals with the themes of logos, pathos, and ethos. Cicero's rhetoric focuses on discovery, placement, expression, memory, and action. Chapter 2 examines examples of rhetorical standards, such as speeches by politicians that are representative examples of public speech. Focusing on Pericles' funeral address in the 5th century BC and Lincoln's speech 150 years ago, this report analyzes the influence of Greek rhetoric that persisted for over 2,000 years. Other speeches by Churchill, De Gaulle, and Roosevelt during World War II show the virtues of Roman republicanism, such as honor and courage against fear, greatness, and sacrifice. Chapter 3 covers former US President Barack Obama's speech. As the first black President of the United States, he has been referred to as 'the modern Cicero.' The power of speech was the biggest driving force behind Obama's political success in America, where racism is severe and black voters account for only one-eighth of all voters.

What code of conduct should lawmakers abide by

P.I Park Sang-hoon

The purpose of this study is to examine the code of conduct that lawmakers as legislators should adopt. To this end, a comparative analysis of the code of parliamentary conduct in advanced democracies was performed. As seen in the Rules of Decorum and Rules of Decorum & Debate in the House, the code that lawmakers should value in their political actions and language has a long history. The bottom line is that the rules by which they should abide must be enacted by the lawmakers themselves. In other words, parliament is very cautious when it comes to giving the authority to regulate lawmakers' behavior to outsiders. That's why lawmakers have immunity and are not subject to criminal prosecution. There have been numerous efforts among lawmakers to honor self-regulatory principles and to consider a breach of such principles as more serious than breaking the law. This report argues that it is necessary to make efforts to improve the National Assembly Ethics Code, which has only existed formally since it was enacted in 1992, with richer and more specific content.

20-28

Polarized politics; defining the problem and seeking improvements

P.I Park Sang-hoon

The purpose of this study is to recognize the problems related to political polarization, and to analyze the causes of polarization and its negative consequences. While European political conflicts are mainly seen as a matter of 'new populist parties,' in Korea and the United States, political conflicts are characterized as polarization between the top two parties. In this respect, this report compares the problem of polarization in two-party politics with the polarization in multi-party politics seen in Europe. Furthermore, this report focuses on the relative differences between the polarized two-party politics of the United States and those of South Korea. Is deepening ideological differences between parties the root cause of political polarization? If so, the alternatives to political polarization will naturally be found in the 'moderate.' This report presents a different perspective on this seemingly obvious argument. Ideological polarization cannot be empirically supported in the case of South Korea. The real problem stems from two parties excluding each other over 'power resources,' rather than from an ideological distance or policy differences.

Future Human Resource Development and Legislative Issues in Preparation for the Fourth Industrial Revolution

P.I Park Sang-hoon

This research was conducted under the collaboration between the policy research institute of the political party and the National Assembly Futures Institute. It was to seek the human resource development program that can actively prepare for the Fourth Industrial Revolution, which is already upon us. The research collaborators shared various and in-depth ideas on “a lifelong learning social initiative based on innovative inclusive capabilities” through presentations and discussions. In addition to the capabilities that each learner should possess, they also suggested certain vision and goals of education that our society should pursue together. Furthermore, they put in efforts to manifest knowledge, skills, attitude and values necessary to develop competence. Realization of a lifelong learning society is possible when it proposes ways to improve the law and the system along with the efforts to embody the vision and the goals. To this end, the fact that this research sought to revise laws related to school education, to vocational education and training to health and welfare education can also be noted as one of the achievements of this collaboration. In the long run, this achievement can be appraised as even more future-oriented in that it will also contribute to laying the foundation for human resource development in the era of climate crisis/ decarbonization and for job transfer policy.

The results of this collaboration under the theme of “Future Human Resource Development and Legislative Issues in Preparation for the Fourth Industrial Revolution” will transcend politics and serve the role of an invaluable foundation that will enhance the policy capacity of the National Assembly and build better future for Korea. In the 21st century, the Fourth Industrial Revolution and the Aging Revolution will determine our fate. The paradigm of our society will also fundamentally change. Hence, a new kind of future human resource development system is a must to cope with this new era. The results of the collaboration can hopefully provide a platform for discussion on ways to find the right path of future human resource development policy for the Fourth Industrial Revolution and for the better future strategy.

20-30

Reform to enhance the democratic quality of Korea

P.I Cho Inyoung

This research provides insight into the new governance structure of Korea by comprehensively considering the challenges of efficiency enhancement and capacity building in the legislative body and strengthening accountability in the executive branch. Through this, we derive specific measures to strengthen the legislature's capacity and to strengthen the administration's horizontal and vertical accountability. In particular, through the characteristics of existing political institutions, our report explains the impact of Korea's unique historical and institutional trajectory on the function and operation of the administration and the legislature. Based on that understanding we discuss the possibility of governance and institutional reform in order to improve the functionality and accountability of both branches. Through this, we analyze the causes of inefficiency in legislative activities and propose several institutional improvement measures. Furthermore, by presenting reform tasks to promote accountability in the executive, we propose improvement plans that can achieve the two goals of accountability and efficiency.

Institutional reform strategies for re-establishment of intergovernmental fiscal relations

P.I Lee Sunhwa

As the government's budget increases and its functions diversify, the issue of intergovernmental redistribution of policy authority has emerged as an important public agenda. The key questions raised in this area relate to how decisions about the supply of public goods should be made, and how the supply method and delivery system should be constructed. The increase in welfare spending has expanded the size of local finances in the form of Government Subsidy Programs, which has, as a type of specific grants, the problem of fiscal inefficiency stemming from Common Pool and budget partitioning.

This study aims to analyze the current status and problems of Korea's fiscal decentralization, focusing on the state subsidy system and welfare subsidy programs, and to derive institutional reform strategies to reestablish intergovernmental fiscal relations. Specifically, this study proposes the introduction of a "sectoral comprehensive subsidy" system incorporating a fiscal decentralization factor into the existing government subsidy programs. In addition, reform schemes are proposed, based on a fiscal decentralization platform according to the object and nature of the welfare expenditures, in order to reorganize the central and local government's welfare project sharing system.

Research on Innovation Policy and Support Measures Reforms to accelerate the Transformation of the Innovation Paradigm

P.I Yeo Yeong-jun

In the past, as a latecomer to development, Korea achieved rapid growth by efficiently and successfully engaging in technological learning to absorb and apply advanced technologies and knowledge. However, the institutional inertia inherent in the government-led catch-up model distorts and limits the transformation of technological learning capabilities. To transition to a leading innovation system, it is necessary not only for specific industries and companies, but also for various actors to embody the entrepreneurial spirit and pursue continuous evolutionary development. However, there are growing concerns that Korea's innovation policy plays a limited role in enhancing the dynamics of the innovation ecosystem and creating positive externalities based on expanding diversity.

Against this background, this study aims to examine the major institutional limitations and policy problems inherent in Korea's innovation policy and corporate support schemes. In addition, we systematically propose government policy tasks to resolve the policy problems and support the transition to an entrepreneurial economy. To this end, we intend to quantitatively examine the evolutionary process of Korean firms' innovation activities with considerations of firm heterogeneity. Furthermore, this study attempts to focus on the potential role of high-growth companies in the transition to an entrepreneurial economy, and suggests policy reforms to build a scale-up oriented innovation system. Beyond this, our study explores the bottlenecks in effective innovation policies to promote firms' evolutionary development in order to derive policy implications. Based on these approaches, we intend to derive key policy tasks to support the successful transition of the innovation system, and provide implications for establishing a national future-oriented innovation strategy.

A Study on the Reorganization of Social Service Delivery Systems

P.I Lee Chae-jeong

The state provides various social services, including caring for the elderly and children, as well as public health care services to improve the quality of life of the people. In addition to guaranteeing income by providing cash benefits, the state also provides various social services to help maintain an appropriate level of quality of life, even in situations where personal relationships, including family members, are not available.

Korea's social welfare spending increased from 2.8% of GDP in 1990 to 11.8% in 2018, but this is still half the average of 29 OECD member countries. Considering the rapid arrival of the aged society, it is necessary to review the characteristics of the current social service delivery system and how it needs to be reorganized in order to operate effectively and efficiently in consideration of changes in population structure.

This study aims to discuss a plan for the reform of the social service delivery system in Korea along two dimensions. Above all, the study analyzed the social services by individual countries, which are representative examples of traditional welfare state typology, in terms of the combination of policy tools according to the type of government intervention, and used statistics to categorize major social services. Through this approach, this study attempted to understand what the level of policy intervention shows in common and different ways by type of social service or welfare state in the process of operating a delivery system to effectively provide social services. Further, this study aimed to derive policy implications for how the current major social service delivery system in Korea should be rearranged considering changes in population structure and distribution of residence.

According to the analysis, it appears that the government has much direct involvement in terms of financing in establishing and operating major social service delivery systems in Korea, but actual service creation depends on the market. In addition, the analysis of the demand-supply gap for major social service delivery systems showed that as of 2020, 48.0% of the city and county districts had an appropriate level of social service delivery system. In terms of the accessibility of social service delivery systems to Seoul and the six major metropolitan cities, some regions need to establish additional social service delivery systems in consideration of geographical characteristics and residential development. On the other hand, based on the analysis of the demand-supply gap between cities and provinces considering changes in population structure, Gangwon, Jeonbuk,

Jeonnam, and North Gyeongsang Province are expected to exceed demand, while Daegu, Incheon, Gyeonggi, Sejong and Jeju are expected to exceed supply.

This study is expected to prevent inefficiencies and policy failures caused by excessively market-dependent social service delivery systems, and contribute to a reform of the social service delivery system that reflects changes in population structure in the aged society.

A Study on Economic Inequality in Korea

P.I Cho Inyoung

This study investigates the growing economic inequality in Korea. Chapter 1 of this research examines labor market inequality in Korea. It looks in particular at the division of labor by gender, employment type, and the size of firms. In addition, it analyzes recent changes in the labor market caused by the 4th Industrial Revolution. Chapter 2 deals with asset inequality in Korea, and carefully examines the impact of rising real estate prices on the subjective happiness of households who rent and who own their dwellings.

20-35

The Political Consequences of economic inequality focusing on political participation

P.I Cho Inyoung

This research analyzes the impact of economic inequality on citizens' political participation in Korea. Considering the findings of previous research and theoretical arguments, we identify the manner in which economic inequality has affected political participation in Korea. First of all, we examine recent research trends in the areas of income inequality, asset inequality, voter turnout, and protests by utilizing various collective data illustrating the degree of economic inequality and political participation. Through this, we identify the macro trends between economic inequality and political participation, and derive several tentative hypotheses. Statistical analyses show that when economic inequality worsens, chances of participating in both voting and non-electoral political activities increase. This confirms that there is a little more evidence to support conflict theory. The findings of our research raise concerns that the issue of political representation of the poor is becoming increasingly serious, and that this could worsen in the future. In conclusion, this research suggests some ways to prevent the lack of political representation of the poor.

Economic Inequality and Tasks of Tax Policy Focusing on Recurrent Taxes on Immovable Property

P.I Lee Sunhwa

Together with income inequality, asset inequality has emerged as a major pillar of economic inequality in a majority of countries around the world. Various attempts are being made to supplement existing income taxes through asset taxation as a new type of economic inequality unfolds, but a consensus on the direction of such taxation has not yet been reached, conceptually or institutionally.

In Korea, the level of asset inequality is not as severe as in other advanced countries, but the pace of its progress is gradually increasing.

As real estate accounts for 75% of all types of privately owned assets in Korea, the country's asset inequality is largely attributable to real estate ownership inequality. Real estate has been a major cause of worsening asset inequality and class mobility in the household sector, as too much liquidity has been concentrated in the real estate market and the resulting price increase has raised preferences for household investment.

This study analyzed the current status of inequality in Korea, focusing on real estate assets, and examined the role and function of recurrent taxes on immovable property as a policy measure to correct this. It takes into account the fact that asset inequality has developed around real estate in Korea, and that the comprehensive real estate tax is being used as a policy measure to stabilize the real estate sector and alleviate the concentration of assets. Finally, this study aims to present a mid-to-long-term reform plan for recurrent taxes on immovable property as asset taxes to mitigate inequality.

20-37

Koreans' Aging according to Life Cycle Using Allostatic Loads

P.I Heo, Jongho

Policies on aging have been insufficient in terms of gender and life cycle. In particular, no research has been conducted that attempts to understand the trajectories of different biological aging processes between men and women according to age at the population level. Therefore, using nationally representative data accumulated over a long period and the allostatic load, an objective biological aging indicator, this study aims to ① present the trend of the health gap between men and women over the past 20 years, ② assess the gap between men's and women's health according to age, period, and birth cohort through the latest hierarchical age-period-cohort (HAPC) modeling to solve the identification problem, and ③ investigate the cause of the gap using Oaxaca-Blinder decomposition. Our results found that biologically, men had worse average health over the life cycle than women. Second, through the HAPC analysis, it was confirmed that the health trends and trajectories of men and women differed according to age, period, and birth cohort. Decomposition analysis confirmed that socioeconomic characteristics and health behavior factors were the main factors contributing to the gap. A birth cohort-based policy was proposed based on APC studies in health and aging, as well as timely prevention and intervention of aging-related chronic diseases.

A Study of Values in Korea: A Future Look

P.I Min Bo-gyeong

Korean society is experiencing an accelerating rate of ever more complex environmental changes, including a low birth rate, the rapid development of science and technology, climate change, and COVID-19, for example. There is an increasing need to track and predict Korean values in order to actively respond to rapidly changing megatrends and new crises. Not only do values play an important role in determining life choices and purpose at the individual level, they also act as motivating factors for the efforts and practices of members of society at the collective level. This study presents the need for periodic value surveys to track and predict changing values in Korea and understand the differences between the values of younger and older generations.

The Future Values Survey was conducted on 5,321 teenage and adult respondents age 13 and older to reflect social changes in Korea and examine participants' views and attitudes toward the future. According to the survey results, respondents were hopeful about the future but felt that it would be difficult to increase their level of happiness in the years ahead. Respondents believed that fairness will improve in the future, but conflict will continue to be a serious issue. The survey also showed that younger generations consider leisure to be more important in life than the older generation, and teenagers and those in their twenties are more receptive to new family concepts and technologies.

This study identified complex value systems related to each generation and issue, and presented the need for comprehensive and flexible policies on the premise of understanding national values. We hope that this research can serve as a basis for assessing and predicting present and future social changes in Korea.

20-39

A Study on the Future Policy Public Opinion for the Preferred Future

P.I Park Seong-won

The aim of this study is to draw up policy challenges to realize the future society preferred by the people. The National Assembly Futures Institute confirmed that the people prefer the future, in which preserving the environment and resources for future generations should be the most important goal of society. We have discussed what policies are needed to realize the preferred future through discussions of with various experts.

The policy tasks discussed with experts were surveyed, and the opinions of the people were requested. The results of the survey showed four policy implications. First, the energy consumption efficiency of large cities must be prioritized over the expansion of renewable energy generation, and it is said that carbon reduction and absorption are needed in cities. Second, the flexibility of labor should be expanded based on the premise of the right of freelancers in the labor field and their need for occupational safety. As platform workers are expanding, companies that are utilizing them should pay a fair price for their labor and strengthen their responsibility for worker safety. Third, the elderly should be prioritized rather than young people as the subjects of social welfare. Gaps in the basic pension payment system for the elderly should be resolved, and the level of their pensions should be raised so that they can maintain their livelihood. Fourth, it is necessary to establish a public system of social care. To accomplish this, it is necessary to regularly produce and analyze statistics on various family forms and living communities.

In carrying out this survey, we found that the people's opinions on labor policy and transportation policy are not well-aligned. First, the people's opinions did not lean to either side of the question of comprehensive stabilization policy and flexibility policy in labor policy. Second, when asked whether it should be a priority to build infrastructure based on electric cars in traffic policy or to build infrastructure based on hydrogen cars, the opinions of the people were mixed. The two issues were considered to require a deep discussion, and a deliberation discussion was held in which 200 people participated.

As a result, it was found that the participants preferred a comprehensive stabilization policy rather than a flexible policy, and it was judged that it is important to protect the labor rights of the vulnerable in the long term. In the area of traffic policy, the public preferred to switch energy to electric cars within 10 years and then hydrogen cars. As such, when eco-friendly cars appear in the future, we expect changes in the public transportation-oriented system, the spread of the sharing economy, and changes in housing and labor policy.

Koreans' Happiness Survey –Descriptive Analysis Report–

P.I Heo, Jongho

Despite its high economic development, Korea is known as one of the countries with a relatively low level of happiness. Nevertheless, data for rigorous research on happiness are scarce. To address this, we conducted the “Korean Happiness Survey” to ① track the level of happiness and inequality among Koreans, ② predict various social phenomena, ③ clarify various determinants that determine levels of happiness and inequality, and ④ increase the level of happiness of Koreans. The survey was conducted targeting approximately 14,000 citizens aged 15 or older. The scores are higher than the average of 5.895 points for the three years of 2016-2018 that the World Happiness Report arrived at using the telephone survey method. Our results are expected to have higher validity and reliability than the results of the World Happiness Report. However, we also found low happiness scores in vulnerable groups, confirming that inequality is a major problem. It is necessary to suggest policies that can improve happiness through enhancing quality of life for these groups based on these findings.

4. Brief Reports

▣ National Future Strategies Insight

“National Future Strategy Insight” is a brief-type in-depth research report issued every other week to present national future strategies for Korea based on the analysis of major future issues by the research fellows of National Assembly Futures Institute.

No.1

Predicting Korea in 2050 and 11 Major National Reform Projects Pointed Out by the National Assembly

Writer Kim You-bean

This report classified the possible future of Korea in 2050 into 13 areas, and suggested the 11 Major National Reforms based on the predictions made by 150 experts. The research team of NAFI identified 143 policy projects by analyzing future possible scenarios, out of which 11 major national reform projects were deduced by conducting a survey within the National Assembly.

No.2

The Future Minseo Dreams of: The Year 2050 When She Becomes Thirty

Writer Park Seong-won

Writer announced that the public's most desired future was found to be "preservation distribution society." Preservation distribution society refers to a society where the justice of distribution for easing social polarization is pursued rather than economic growth while the environment and resources are preserved as much as possible for future generations. This society also contains the notion of a challenge distribution society that seeks to face challenges and changes while also pursuing distribution and cooperation. These results are based on NAFI's deliberate discussions with 502 citizens residing nationwide in November 2019 and an online survey for 65 experts in each field.

No.3

The Future and Policy Agendas of Korea in 2050

Writer Kim Hong-bum

This report presented a scenario for the future of Korea in 2050 based on five scenarios covering the respective areas of governance; growth and development; individuals and community; food, clothing and shelter; and humans.

Writer, in a comprehensive future forecasting research, revealed that related issues such as politics, society, culture, economy, and science and technology develop through mutual relations in various futures and derived comprehensive analysis results. Based on the results, he derived 50 desired, responsive and undesired policy agendas through a gap analysis of future scenarios of decline, sustainable growth, and transition.

No.4

Could More Legislative Activities be the Future of Our National Assembly

Writer Park Sang-hoon

Although the legislative activities of the National Assembly have been operative since democratization in 1987, this report diagnosed that a review of the following problems is required: excessive competition over the number of introduced bills, inadequate review of and deliberation on bills, and the hasty passing of bills.

In fact, as of the 20th National Assembly (2016-2020), the Korean National Assembly proposed/introduced more legislations than major advanced countries including France (20 times more), Japan and Germany (60 times more), and the UK (80 times more). The number of the legislations corresponds to the amount that would take five years for a lawmaker to fully read and review, provided he can read and review bills initiated by fellow lawmakers for four hours a day over 300 days a year, with 15 minutes devoted to each bill.

It is emphasized that 'more important legislations' rather than 'more numerous legislations' is the future that the National Assembly needs to move forward to. If we select and propose valuable bills through a preliminary review, and enact them after extensive deliberation, discussion, and adjustment, this will lead to increased public trust in the National Assembly.

A New Way to Derive National Strategies in Response to the Aging Society

Writer Kim Hyeon Kon

President Kim Hyeon Kon of the National Assembly Futures Institute has suggested six new ways to derive national strategies in response to the aging society.

- First, he suggested that rather than keeping with the elderly support policies, there should be a shift in paradigm to an independent aging society considering the fact that anyone can become an elderly person who lives a long life.
- Second, he stated that considering the fact that the public actively looks forward to the positive aspects of the future, while seeking to ignore negative possibilities, there should be a 'Scrooge Strategy' with regard to the aging society.
- Third, there should be a way for the elderly to come together for discussion and design national strategies in response to the aging society for themselves.
- Fourth, there should be a national health and physical activity program to which the elderly can actively contribute, leading to more possibilities for the elderly to contribute to society.
- Fifth, in order to make sure that the elderly can participate in valuable work and activities after retirement, there should be a national compulsory re-education system for the middle aged and the elderly.
- Lastly, there should be a data-based national strategy in response to the aging society by collecting all past data related to aging to analyze the fundamental issues and causes of the aging society in Korea, along with related trends and patterns, to solve the fundamental issues associated with the aging society.

No.6

The Citizens' Choice to Switch to a Conservation and Distribution Society

Writer Jung Young-hoon, Park Seong-won

The research team conducted a survey on the citizens' preference on future policies to realize an ideal future in October, following the deliberative poll on the public's ideal future society in 2050 they had conducted last year.

The survey suggested two policy alternatives for 11 topics including energy production and consumption, means of transportation, response to global infectious diseases, basic income and basic wealth systems, new labor environment including platform labor, and diversifying family types, and then asked the citizens for their choices to realize an ideal future.

In summary of the public's choices for each policy alternative, it was shown that the citizens think that (large) cities need changes rather than rural areas, and that the private sector should be at the center of change, rather than the government. What was interesting was that when it comes to resolving conflicts, the citizens preferred the government or the National Assembly to be responsible rather than the private sector.

In terms of energy switch, response to infectious diseases, punishment for hate crimes, and family types, citizens preferred more of a gradual change than a radical change. In terms of welfare policies, the citizens preferred policies that cover everyone, including the current generation and the future generations, instead of focusing on particular age groups or social class.

Responses to the Effects of Climate Change and Suggestions – Focused on Quantitative Comparisons on National Research Policies

Writer Kim Eun-ah

This report identified Korea's preparation for the future effects of climate change in terms of ① Research ② Administration policies, and ③ Legislative policies in her study on the establishment of response strategies to climate change for the future society, a major task of 2020.

After analyzing related literature and texts, she defined vulnerable areas as those that lack in quantity and identified such vulnerable areas as the following categories: the movements of different species, public health policies, stable energy supply, and transportation systems. With seminars on such topics with experts, she identified research topics and policy agendas that must be complemented to "increase the level of preparation for the future" in terms of the effects and consequences that stem from climate change.

In terms of the movements of different species and public health policies, she pointed out that climate change is considered relatively less important in relation to such policies. There should be basic research on the effects of the movements of species on urban residents and the indirect effects of climate change on health, and the results may be used for communicating with the public to bring about a change in awareness. The suggested policy agendas mostly used the top-down method that brings about change under the leadership of the government, including support policies and institutionalization.

In terms of stable energy supply and transportation systems, it was commonly pointed out that the current policies were focused on energy sources or electricity suppliers based on the current amount of demand for electricity or energy. She stated that there should be policies that are based on future predictions related to changes in lifestyle that result from social changes brought about by circumstances such as COVID-19, and that energy policies and urban planning should be implemented to complement one another. The suggested policy agenda should be formulated in such a way as to design an urban space that can reduce the demand for energy and increase energy efficiency, to modify the price of electricity and fuel needed to effectively use market mechanisms, and to set up various systems.

No.8

An Analysis on the Ripple Effect of Digital Transformation on Korea's Economic Society and Political Insights

Writer Yeo Yeong-jun

Yeo Yeong-jun, an Associate Research Fellow at the National Assembly Futures Institute, predicted that with a rapid digital transformation, there may be economic growth based on the growth of digital transformation-based industries, but in terms of income distribution, income inequality may become greater.

That is to say, expanding government investment to drive digital transformation will accelerate the change in the industrial structure to be more focused on digital capital-intensive industries based on industrial linkage. This will definitely lead the future growth of the Korean economic society.

On the other hand, with digital transformation, it was predicted that there will be relatively less jobs and opportunities for middle-skill workers to obtain economic benefits, as digital transformation technology is closely linked to non-routine tasks of high-skilled workers. A wider gap within the labor market will lead to greater household income inequality, which will result in decreased inclusivity in the digital transformation era.

Accordingly, it was stated that future innovative policy initiatives in the digital transformation era should be based on the understanding of the propensities of digital transformation technology. In particular, the innovative policy initiatives should include the guarantee and support of various types of learning activities including the up-skilling, re-skilling, and creative learning of human resources within the innovation system.

The report analyzed the effects of digital transformation, otherwise known as the Fourth Industrial Revolution, on the future Korean economic society in areas of calculated effects by industries, creating added value, and creating and distributing household income. It then identified the potential risks and opportunities presenting themselves to the Korean economic social system in the digital transformation era.

Social Changes after the Global Pandemic

Writer Park Seong-won, Kim You-bean

The research team identified unprecedented social changes stemming from COVID-19. Some of the many changes are related to radical social finance policies, greater inequality, risks to women and the vulnerable groups, area closures, depression, domestic violence, remote education, digital transformation, climate change, animal welfare, and human-animal interactions.

These are some changes that were identified by the researchers at the National Assembly Futures Institute to discover the social changes that occurred since the global pandemic based on a keyword network analysis of SCOPUS DB (Social Sciences) which has the most data on academic journals. The research team analyzed the perspectives of various scholars on the social changes that occurred as a result of infectious diseases since 2000, including SARS, the swine flu, MERS, and COVID-19.

After investigating the unique issues for each period, it was found that during SARS, there was not only an economic shock, but also psychological changes with regard to resilience, social stigma, and psychological anxiety. During the swine flu, there was a focus on the scientific analysis on the spread of the disease with big data and simulations, and there were also discussions on a system to monitor the animals that were the cause of the disease. During MERS, it was possible to identify the spread of information on the disease with the cooperation between the citizens and the government, and also on social media.

The research team mentioned that in order to respond properly to the COVID-19 pandemic, there should be rapid treatment of the disease and vaccine development, an efficient international cooperation system to spread treatments and vaccines, detailed analysis of the effects of the responsive policies, and continuously fine tuning of the policies. Also, it is necessary to secure the people's trust towards the government to make them cooperate, as well as deriving future-oriented regulation policies.

No.10

A Survey on the Future Values of Koreans

Writer Min Bo-gyeong

This research was conducted a “Survey on the Future Values of Koreans” to identify the values of younger Korean generations and predict the future Korean society.

According to the report, most of the participants predicted that the future will be hopeful, but the level of happiness of individuals will be similar to the one in the present. It was found that the elderly and low-income groups had a less hopeful outlook for the future. Although the participants expected that the future will be fairer than the present, they also expected that there will still be serious conflicts. Accordingly, it was highlighted that there must be preemptive measures to address potential future conflicts.

In terms of comparison and analysis among different generations, it was found that younger generations considered leisure to be more important than older generations, and they also had less of a sense of duty regarding work. In addition, younger generations preferred a more autonomous and fulfilling life, and considered new challenges important.

Lastly, younger generations were highly accepting towards new ideas about the family and scientific technology such as companion animals and human robots. Accordingly, future strategies should take into account these characteristics.

For the “Survey on the Future Values of Koreans,” the research team of the National Assembly Futures Institute defined younger generation to be those currently in their teens and twenties. These findings were based on a survey of 5,321 men and women aged 13 and over living in Korea as of 2020 to identify implications for future policies.

▣ International Strategy Foresight

“International Strategy Foresight” is a brief-type in-depth research report issued every other week to present national future strategies for Korea based on the analysis of major future issues by the research fellows of National Assembly Futures Institute.

No.1

Korea's Security Strategies in the Era of US-China Competition

Writer You Chae-kwang

Writer presented mid- to long-term security strategies for South Korea to adopt amid intensifying competition over supremacy between the US and China. These customized strategies concerning each of the two target countries were derived based on the analysis of how the US-China competition changes the strategic interests of the US, China, North Korea, and Japan, which are Korea's principal counterparts.

The following is a list of the mid- to long-term security strategies concerning each country proposed by You.

The major strategies with respect to the US include: A subtle adjustment of the Korea-US alliance in consideration of relations with China; the creation of a space for diplomatic solutions through a forum for wide ranging talks with the United States; and the securing of independent military capabilities.

Toward China, he presented the following as representative strategies: Allaying China's doubts related to the US deployment of strategic assets in Korea; institutionalizing high-level dialogue channels; and reducing economic dependence.

Regarding North Korea, the following strategies were derived: Military deterrence strategy; continued dialogue in preparation for crises or changes in the security environment; and the strengthening of advanced surveillance capabilities.

The strategies toward Japan are as follows: A quick solution to conflicts over the past; the restoration of a liberal rule-based order; and return to the Korea-US-Japan triangular alliance.

No.2

The New Normal and Korea's International Economic Strategies

Writer You Chae-kwang

The writer suggested some strategies that may be adopted by Korea to secure "sustainable economic growth," a critical economic national interest, in such times where the power struggle between the United States and China is becoming more intense.

He has presented the following international economic strategies in terms of trade, finance, currency, and ODA (Official Development Assistance) in his joint study with the Korean Association of International Studies in 2019.

Some international trade strategies that may be adopted by Korea are: decreasing the trade dependence on particular countries; active participation in Mega FTA; linking bilateral trade and multilateral trade; and cooperation based on the universality of a liberal order.

International finance strategies are: active cooperation with major global financial stability organizations; expanding the financial safety net; strengthening monetary agreements with other countries; expanding the financial market; and strengthening future-oriented digital financial diplomacy.

Regarding international currency strategies, in order to secure an appropriately stable level of exchange rates, he suggested the following strategies: accumulation of foreign exchange reserves; ensure that all strategies match the international standards of Capital Control or Capital Management Measures; and strengthening international financial diplomacy.

ODA strategies include: leading the increase in the scale of ODA; modify the paid/unpaid form of ODA in the mid- to long-term; choice and concentration in terms of ODA; and diversification of ODA portfolios.

Brief Reports in 2020

Classification	No	Brief Reports	Writer	Date
National Future Strategic Insight	1	Predicting Korea in 2050 and 11 Major National Reform Projects Pointed Out by the National Assembly	Kim You-bean	2020.08.20
	2	The Future Minseo Dreams of: The Year 2050 When She Becomes Thirty	Park Seong-won	2020.09.03
	3	The Future and Policy Agendas of Korea in 2050	Kim Hong-bum	2020.09.17
	4	Could More Legislative Activities be the Future of Our National Assembly	Park Sang-hoon	2020.10.15
	5	A New Way to Derive National Strategies in Response to the Aging Society	Kim Hyeon Kon	2020.11.12
	6	The Citizens' Choice to Switch to a Conservation and Distribution Society	Jung Young-hoon, Park Seong-won	2020.11.19
	7	Responses to the Effects of Climate Change and Suggestions – Focused on Quantitative Comparisons on National Research Policies	Kim Eun-ah	2020.11.26
	8	An Analysis on the Ripple Effect of Digital Transformation on Korea's Economic Society and Political Insights	Yeo Yeong-jun	2020.12.10
	9	Social Changes after the Global Pandemic	Park Seong-won, Kim You-bean	2020.12.24
International Strategic Foresight	1	Korea's Security Strategies in the Era of US-China Competition	You Chae-kwang	2020.09.24.
	2	The New Normal and Korea's International Economic Strategies	You Chae-kwang	2020.11.05.



Major Activities



1. Major Events
2. Future Contributions





1. Major Events

National Assembly Futures Institute's 2nd anniversary celebration

Date 2020.5.26.

National Assembly Futures Institute held its 2nd anniversary celebration. At the celebration, the Speaker Moon Hee-sang said, "With my retirement ahead, it is very meaningful to me to see the 2nd anniversary of the NAFI, which will become 'a platform for the National Assembly preparing for the future'. And I look forward to the NAFI will continue to grow and carry out great mission to increase its responsiveness of the future."



Inauguration ceremony for NAFI's 2nd president

Date 2020.6.1.

National Assembly Futures Institute held an inauguration ceremony.

President Kim Hyeon Kon, who took office on the day, stressed that the NAFI would make efforts to establish the role of the institution in accordance with the purpose of establishing the institution under Article 1 of the 「National Assembly Futures Institute Act」 in his inauguration address.

At the inauguration ceremony, Deputy Secretary-General for Legislative Affairs Han Gong-Sik, the Deputy Secretary-General of the National Assembly Kim Seung-Gi and first board members were in attendance, while Secretary-General of the National Assembly Yoo In-Tae and the first Chairman of the board of directors of the NAFI Kim Sun-Wook made a congratulatory speech. The farewell ceremony was also held for the former President Park Jin and appreciation plaques were awarded to the first board members.



Circular Economy Forum for Green Transition

Date 2020.10.29.

National Assembly Futures Institute, National Assembly Citizen Politics Forum, member of the National Assembly Lee Yong Sun, and the Korea Environment Institute, (KEI) co-hosted 'Circular Economy Forum for Green Transition'.

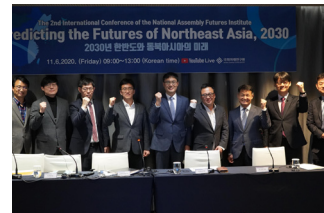
It is expected to serve as a venue for discussion on the implementation of a circular economy that pursues sustainability through resource productivity improvement, resource sharing and cooperative acquisitions amid the growing attention to “coexistence with the environment” as the world suffers from COVID-19 and the climate crisis etc.



The 2nd International Conference: Predicting the futures of Northeast Asia, 2030

Date 2020.11.06.

National Assembly Futures Institute hosted the 2nd International Conference: Predicting the futures of Northeast Asia, 2030. The conference included presentations and discussions on the “Six-Party Talks Prospect of Diplomatic and Security Keynote Policies” and on “What is more likely or more preferred future of Northeast Asia? A diplomatic future or a security future? And if there is a gap between those two futures, what diplomatic or security future would you recommend at the Six-Party Talks?”



National Mid-to-Long-Term Agenda Committee Appointment Ceremony

Date 2020.11.27.

National Assembly Futures Institute successfully held the appointed ceremony for National Mid-to-Long-Term Agenda Committee, at the National Assembly Reception Hall on November 27. The Committee is an advisory body under the Speaker of the National Assembly to discuss issues of national mid-to-long-term agendas. At the ceremony, following welcoming remarks delivered by Park Byeong-seug, the Speaker of the National Assembly, the appointment ceremony, a commemorative picture and the press conference were subsequently held.



NAFI co-hosted the 2nd Future Strategy Conference with MOEF and KDI

Date 2020.12.04.

National Assembly Futures Institute successfully co-hosted the 2nd Future Strategy Conference with the Ministry of Economy and Finance and Korea Development Institute. The conference was held under the theme of “The Age of Super Uncertainty: Challenges and Responses to Resilience” in regard to the raised unprecedented importance of global cooperation and joint response due to COVID-19 pandemic. The Park Byeong-seug, the Speaker of the National Assembly, gave congratulatory remarks, followed by opening remarks from Hong Nam-gi, Deputy Prime Minister of Korea and Minister of Economy and Finance. Then Kim Hyeon Kon, President of NAFI and Choi Jeong-pyo, President of KDI, each gave a welcoming address.



Online Joint Seminar with 3 Policy Research Institutes of the Political Party

Date 2020.12.22.

National Assembly Futures Institute successfully co-hosted the online seminar with The institute for Democracy, The Yeouido Institute and Policy Institute of Justice Party under the theme of “Future Human Resource Development and Legislative Issues in Preparation for the Fourth Industrial Revolution.” This seminar was designed to comprehensively re-examine Korea’s human resource development system and seek policy measures on various issues, regardless of political positions of NAFI of National Assembly and each party’s think tanks.



2. Future Contributions

In terms of predicting the future and building strategies to respond to the future, “Future Thoughts” was shared weekly by the research staff from the National Assembly Futures Institute and Newsis to communicate with the public. Also, “Future Column” was planned to introduce the thoughts of opinion leaders from various fields, such as political, academic, and industrial circles, in the form of featured columns from outside experts.

In 2020, there was a total of 51 sessions of “Future Thoughts” and 28 sessions of “Future Column.”

“Future Thoughts” in 2020

No	Author	Title	Date
1	Cho Inyoung	AI Doctor's and Doctor's Mission	2020.01.02
2	Park Seong-won	A Future in an Unexpected Direction	2020.01.09
3	Kim Hong-bum	Establishment of New Private-Centered R&D System	2020.01.16
4	You Chae-kwang	Evolution of War: From World War II to Drone Assassination	2020.01.22
5	Jung Young-hoon	Labor Law Protection for “Working People”	2020.02.06
6	Min Bo-gyeong	‘One-Person Households’ Era Strategy	2020.02.13
7	Kim You-bean	To Seek A New Era, A New Convergence	2020.02.20
8	Lee Chae-jeong	When I was your age	2020.02.27
9	Lee Sunhwa	What should be the alternative national development model of post-developed countries?	2020.03.06
10	Park Sang-hoon	Thomas Hobbes Theory of Sovereignty	2020.03.12
11	Park Ki-tae	COVID-19, Work-Family Balance, and Leadership	2020.03.19
12	Sung Moon-ju	Work, Personal Happiness and National Competitive Power	2020.03.26
13	Park, Sung Jun	COVID-19, Social Turmoil and the Role of the Government	2020.04.02
14	Kim Eun-ah	Climate Change and Infectious Diseases, and the Butterfly Effect	2020.04.09
15	Yeo Yeong-jun	The Paradox of Digital Transformation and the Non-face-to-face Economy: Another Impact after COVID-19	2020.04.16
16	Park Seong-won	Social Change after the Global Pandemic	2020.04.23
17	Kim Hong-bum	A Need for a Pan-National Discussion to prepare for the Future	2020.04.29
18	You Chae-kwang	International Order after COVID-19: Politicization of Infectious Diseases	2020.05.07
19	Jung Young-hoon	Can We Overcome Employment Society?	2020.05.14
20	Kim You-bean	Infectious Disease and Information	2020.05.21

No	Author	Title	Date
21	Min Bo-gyeong	A Brief Study on New Urban Life	2020.05.28
22	Lee Chae-jeong	Politics and Policies in the COVID-19 Era: Demandingr Careful Distancing to the 21st National Assembly	2020.06.04
23	Lee Sunhwa	For National Financial Management in Preparation for Uncertain Future	2020.06.13
24	Park Sang-hoon	John Locke's Civil Government	2020.06.18
25	Park Ki-tae	Where Do You Currently Work?	2020.06.25
26	Sung Moon-ju	Education in Pursuit of Individual and Social Happiness	2020.07.02
27	Park, Sung Jun	Rising Housing Prices and Asset Inequality	2020.07.09
28	Kim Eun-ah	For the Success of Green New Deal After 2020	2020.07.16
29	Yeo Yeong-jun	Conditions for the New Deal to Become a Big Deal for the Great Transition	2020.07.23
30	Cho Inyoung	Balance between Professionalism and Democracy	2020.07.30
31	Park Seong-won	Black Mirror and Fear of the Future	2020.08.06
32	Kim Hong-bum	It is Time for the R&D, Non-R&D Integrated Budget Review Process.	2020.08.13
33	You Chae-kwang	Pandemic and Unstable Future of China	2020.08.19
34	Jung Young-hoon	The Future of Freedom of Career Choice	2020.08.27
35	Kim You-bean	The Future of the Semiconductor Industry	2020.09.02
36	Min Bo-gyeong	Fill Vacant Homes, Save the City	2020.09.10
37	Lee Chae-jeong	Toward the Balance of Care	2020.09.17
38	Park Sang-hoon	The Words of the Members of National Assembly	2020.09.23
39	Lee Sunhwa	A Framework for the Study of the National Long-term Development Strategy proposed by the National Assembly Futures Institute	2020.10.07
40	Jeong Hoon	Inertia of Our Time	2020.10.15
41	Sung Moon-ju	Transition of Future Education, Toward Fundamental and Practical Change in Education	2020.10.21
42	Park, Sung Jun	The Gap between the Stock Market and the Real Economy	2020.10.27
43	Kim Eun-ah	Circular Economy: Principles Necessary for the Transition to a Sustainable Society	2020.11.05
44	Yeo Yeong-jun	Opportunities and Conditions for Data-Based Policy Making to Ensure Government Trust	2020.11.12
45	Cho Inyoung	The Importance of Data Disclosure for Evidence-Based Policies	2020.11.19
46	Park Seong-won	Predictive Bias that Only Increases Uncertainty	2020.11.26
47	Kim You-bean	Fundamental Improvement of the Construction of Large-Scale Research Facilities	2020.12.03
48	Min Bo-gyeong	Change in Urban Life Caused by COVID-19	2020.12.10
49	Lee Chae-jeong	Social Policy in the Age of Low Birth Adjustment	2020.12.17
50	Park Sang-hoon	Who Makes Politics Ferocious?	2020.12.23
51	Lee Sunhwa	Thoughts on Inequality in Our Society	2020.12.30.

“Future Column” in 2020

No	Title	Author	Date
1	International Environmental Dispute and Its Future	Kim Seong-jin (Associate Research Fellow, Korea Environment Institute)	2020.01.02
2	The Fourth Industrial Revolution and Future Direction of Korean Education	Lee Sung-ho (Professor, Chungang University)	2020.01.08
3	China's Future in 2050 when Chinese Dream is Complete	Ham Myeong-sik (Professor, Jilin University)	2020.01.21
4	Future Democracy and Democracy's Future	Eun Jae-ho(Senior Research Fellow, Korea Institute of Public Administration)	2020.01.30
5	The Present and the Future of Science and Engineering Research	Kwon Gi-seok(Professor, Hanbat National University)	2020.03.05
6	The Future and Expectations of the Industrial Revolution illustrated in “The Avengers”	Heo Eun-nyeong (Professor, Seoul National University)	2020.03.16
7	The Destructive Power of Infectious Disease and the Crisis of Multilateralism	Lee Sinhwa(Professor, Korea University)	2020.03.27
8	Post General Election: A Platform for the Choice and Future of the Youth	Park Soon-ae (Professor, Seoul National University)	2020.04.16
9	The Very Near Future of the Spread of Infectious Disease	Hwang Seok-won (Senior Research Fellow, Science and Technology Policy Institute)	2020.04.22
10	Utilization of Information Technology in Response to COVID-19	Cheon Byeong-yoo (Associate professor, Hanshin University)	2020.05.07
11	Can Basic Income be an Alternative to Social Security in an Affluent Future?	Yang Jae-jin (Professor, Yonsei University)	2020.05.14
12	In the Post-Covid World, a New Kind of Humanity will Emerge	Lee Man-woo (Reserach Fellow, National Assembly Research Service)	2020.05.29
13	Crossing the Rubicon	Lee Yong-sang (Professor, Yeungnam University)	2020.06.29
14	The Pride of a Wounded Man	Lee Young-tak (Chairman, World Futures Forum)	2020.07.28
15	Toward Future Values	Lee Soo-jeong(Professor, Kyonggi University)	2020.08.20
16	Bygone Safety of the Future and the Forthcoming Dangers of the Past	Jeong Ik-jae(Professor, Seoul National University of Sceince and Technology)	2020.08.27
17	Education and Big Data	Lee Yong-sang (Professor, Yeungnam University)	2020.10.15
18	COVID-19 Lesson on Future Survival Method “Reflection and Coexistence”	Kwak No-pil (Senior Reporter, The Hankyoreh)	2020.10.21
19	Civil Society of Korea, and Its Greatness	Mun Jeong-ho (Senior Research Fellow, Korea Research Institute for Human Settlements)	2020.10.27
20	Korea's Energy Sector Report Card assessed by International Organization	Heo Eun-nyeong (Professor, Seoul National University)	2020.11.05
21	Roh Hoe-chan's Habits for Future Study	Ahn Byeong-jin(Professor, Global Academy for Future Civilizations, Kyunghee UNIVERSITY)	2020.11.12

No	Title	Author	Date
22	After COVID-19, a Complete Digital Society	Lee Seung-min (Director Researcher, Electronics and Telecommunications Research Institute)	2020.11.19
23	In the Era of COVID-19, How will Korea's National Innovation System Change?	Kwon Gi-seok(Professor, Hanbat National University)	2020.11.26
24	An Urgent Need to Respond to the Challenges of the Predetermined Future and Super-aged Society	Yang Jae-jin (Professor, Yonsei University)	2020.12.03
25	Framework for Future Policy System: A Caution for Rapid Scientific Technological Change	Kim Tae-yoon (Professor, Hanyang University)	2020.12.10
26	Happiness and Quality of Life in the Era of COVID-19	Byun Mi-ri (Director of City Diplomacy, The Seoul Institute)	2020.12.17
27	The Future of Biden Administration and US-China Rivalry for Global Hegemony	Ham Myeong-sik (Professor, Jilin University)	2020.12.23
28	Survival Strategies of Local Governments at Risk of Extinction in the Age of Population Reduction	Choi Jin-ho(Professor emeritus, Ajou University)	2020.12.30

Appendix



List of Research Projects
in 2021





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■ List of Research Projects in 2021

Field	Project	Research Tasks
Core Research	Foresight and Analysis	Advancements in Methodologies to Investigate Emerging Issues and Predicting the Development of Major Issues
		Inequality and Education: Suggestions to Improve Possibilities to Move Up the Social Ladder
	National Mid-to Long-term Development Strategies	A Study on Legislation Challenges to Support Industry in Response to Climate Change and Predicting Policy Effects
		A Study on Identifying Strategy Tasks for Innovative Growth in the Post-COVID Era
		A Study on Strategies to Adapt to an Era of Low Birth Rates and Aging Society
		A Study on Policy Governance for National Integration
		Transition of the Social and Economic System and Suggestion for a New Welfare System
		Organizing the National Mid- to Long-term Agenda Committee
	Global Strategies	The Effects of the US-China Conflict on International Relations and the Roles of the National Assembly
		A Study on Agenda to Strengthen Diplomacy at the National Assembly and Strengthening Global Networks
Fundamental Research	Accumulate Data on Future Research	A Study on the Happiness and Values of the Korean People
		A Study on National Preferences regarding Future Policies
		A Study on Building Indices for the Future Society and Their Management
Outcome Diffusion	Exploratory Research	A Study on the Improvement of Professional Expertise of Research Staff Members and Investigation for Planning Future Core Research
	Disseminate research outcomes	
	Plan and support research	

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