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기 획 재 정 부
박 상 우

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훈련결과 보고서

I. Introduction

The COVID-19 pandemic, which caused a significant global impact in 2020, brought about substantial changes in various aspects of human society, including social, economic, political, and cultural dimensions. Particularly noteworthy is the transformation in the field of health and welfare, where the direction has shifted significantly before and after the onset of the pandemic. The repercussions of the COVID-19 shock were disproportionately concentrated on vulnerable populations, leading to unprecedented outcomes such as increased social inequality. During my extended study abroad program in the United Kingdom, I engaged in relevant learning and research to explore the pre and post-COVID financial strategies.

This report will undergo four major analytical phases. Firstly, by analyzing the patterns of social investment from 1990 to the pre-COVID year of 2017, an understanding of the global trends in welfare investments up to the eve of the pandemic will be established. This will provide an opportunity to examine how welfare-related financial investments have evolved globally and regionally and speculate on future trends. Secondly, the impact of COVID-19 on families through a scoping review will be analyzed . Understanding how families, the most fundamental and crucial unit in human society, have been affected by the pandemic will significantly contribute to formulating future welfare fiscal policies. The third and fourth stages involve policy proposals. Third, a comparative analysis of global policies for SDG Goal 1.1 (by 2030, eradicate extreme poverty for all people everywhere) will be conducted. In order to overcome social inequality, poverty eradication is identified as the fundamental fiscal policy. Additionally, an analysis will be conducted on how the global poverty rate has changed due to the impact of COVID-19. The fourth stage will discuss the sustainability of pension systems and comparative policies for ensuring post-retirement income security. Given that the most significant impact of polarization is felt by the economically and socially vulnerable elderly population, I intend to analyze and propose reforms to pension systems worldwide as part of a fiscal strategy for income stability in old age.

II. Analysis 1 : The pattern and effectiveness of social investment between 1990 and 2017

1. Background

The concept of a welfare state has developed and changed in terms of how to mitigate the social risks that people are encountering and how the state will satisfy the public's desire for welfare. In particular, in recent years, as the pace of change in society has accelerated and society has become more complex, the aspects of social risk have also diversified. If the old social risks were mainly the risk of aging and the risk of income reduction due to unemployment, the recent new social risks such as working poor and child care, are the risks that emerge as a result of the transition to the post-industrial era (Taylor-Gooby, 2004). In response to these new social risks, the perspective of social investment emerged. (Morel, Paler and Palme, 2012).

In this chapter, the historical and theoretical background of the emergence of the concept of social investment will be dealt with, and whether such social investment actually occurred in OECD countries will be empirically analyzed. First of all, according to the typology of the welfare state, OECD countries will be divided into several groups to analyze the characteristics of each group. It first divides social expenditure into social investment expenditure and compensatory social expenditure to check whether OECD countries or certain welfare state groups have increased social expenditure and what type of expenditure has been increased to determine whether the actual social investment has occurred. In this process, it is also reviewed whether convergence occurs between groups or countries. Finally, in order to examine how effective social investment was, a correlation analysis between social investment inputs and outcomes will be conducted.

2. The stage of the welfare state: The emergence of social investment perspectives

In this chapter, in order to examine the background of the emergence of social investment perspectives, the research on the stage of the welfare state will be examined. First of all, from 1945 to the late 1970s, Keynesianism became the basis for a welfare state. Keynesian argued that the government's expenditure on welfare policy is a good means of reviving the economy during a recession. In other words, they insisted that welfare policies help the economy by generating aggregate economic demand while maintaining workers' wages above a proper level during the economic recession (Morel, Paler and Palme, 2012). Welfare policies at this time served as social insurance in response to the old social risk of income reduction due to unemployment, aging and disease. (Hemerijck, 2012). However, as stagflation occurred in the 1970s, Keynesianism faced limitations in responding and neoliberalism appeared. According to the neoliberal approach, it is argued that the automatic mechanism of the market should be respected and government intervention should be minimized. According to neoliberalism, public social expenditure is only a cost and a factor that lowers growth and causes inflation. Consequently, they argue that government spending, including social expenditure, should be retrenched.

From the post-industrialization era in the late 1990s, new social risks emerged. Taylor-Gooby (2004, p2.) mentioned “New social risks are the risks that people now face in the course of their lives as a result of the economic and social changes associated with the transition to a post-industrial society”. Specifically, the unemployment due to changes in industrial structure, the instability of families as care for young children due to the entry of women into the labor market is the examples of the new social risks (Bonoli, 2007). Accordingly, the social investment perspective emerged to respond to the new social risks (Morel, Paler and Palme, 2012). From this point of view, welfare policies are not just a means of getting out of poverty, but investments in education, job training, and child care are needed. In particular, it is argued that this is meaningful as a future investment for economic growth. (Jenson, 2012). The following content of the essay examines the patterns of how these social investments were actually made in OECD countries, and analyzes whether they were actually effective.

3. Analysis of social investment expenditure and compensatory social expenditure in OECD countries between 1990 and 2017

The framework of the analysis

The following analysis will analyze the flow of social expenditure from 1990 to 2017 by dividing it into social investment expenditure and compensatory social expenditure. In the analysis of Nikolai (2012), only public social expenditure from 1980 to 2007 was analyzed, but in this essay, it will include not only public social expenditure but also mandatory private social expenditure. Mandatory private social expenditure is the social expenditure that is paid by legislation, but the operating entity is the private sector. For example, according to the OECD SOCX manual, pensions paid to former public servants from autonomous funds in countries such as Canada, the Netherlands, and Sweden are counted as mandatory private expenditure, not as public social expenditure. In order to analyze including social expenditure guaranteed by legislation, both public and mandatory private social expenditure will be used. In addition, regarding the countries, the 20 OECD countries that have the date availability of public social expenditure and mandatory private social expenditure from 1990 to 2017 are selected. The analysis period was set from 1990 to 2017 not only because of the data accessibility but also because the social investment perspective began to appear mainly in the late 1990s (Jenson and Saint Martin, 2003). By setting the analysis period from 1990 to 2017, it will be possible to examine how social investment actually appeared and changed between countries.

First, scatterplot graphs are drawn by setting compensatory social expenditure on the X-axis and social investment expenditure on the Y-axis. As same as Nikolai's analysis (2011), compensatory social expenditure consists of social expenditure for old ages, survivors and the unemployed. Social investment expenditure includes social expenditure for education, active labor market programs (ALMP) and family. Additionally, based on the average of each variable in 1990, the countries will be divided into four clusters. Cluster 1 includes the countries whose social investment expenditure level is higher than the average of all 20 countries, and at the same time, the compensatory social expenditure level is lower than the average. Cluster 2 is a group of countries with both social investment and compensatory social expenditure are above average, and Cluster 3 is a group of countries with both social investment and compensatory social expenditure are below average. Lastly, Cluster 4 is a group of countries with social investment expenditure lower than the average and compensatory social expenditure level higher than the average. When dividing the cluster, in order to highlight the change from the start time of the analysis, it will be judged based on the average value of 1990.

Finally, the 20 OECD countries were divided into four groups using the social welfare state typology of Esping-Andersen (1990) and other researches that offer A complementary perspective. Esping-Anderson (1990) classified welfare states into three types: social democratic welfare regime, conservative welfare regime and liberal welfare regime based on de-commodification level, stratification level, and role relations between markets and families. The social democratic welfare regime countries, represented by Nordic countries such as Denmark, Finland and Sweden, pursues the highest level of universal equality and has the strongest effect of de-commodification, while the degree of stratification is very low. In the conservative welfare regime countries, which includes Belgium, France, Germany, etc., there is little emphasis on market efficiency and commercialization, but it is characterized by maintaining the labor market class through the welfare system and preserving the role of the traditional family system. Lastly, The United States, Canada, the United Kingdom, and Australia, which belong to the liberal welfare regime countries, implement residual welfare as a safety net, and implement public assistance-oriented welfare policies to meet only very partial needs. In addition to these three categories, Gal (2010), Abrahamson (1999), Bonoli (1997), Ferrera (1996), Castles (1995), Leibfried (1993) argued that Southern Europe should be classified as a new type. In other words, in the case of Southern

Europe such as Greece, Italy, and Spain, it could be classified into another independent type in that the family plays a role as a major provider of welfare based on the centrality of the family. Based on these discussions, 20 countries were classified into four groups as shown in Table 1.

Table 1. Grouping countries by welfare regimes

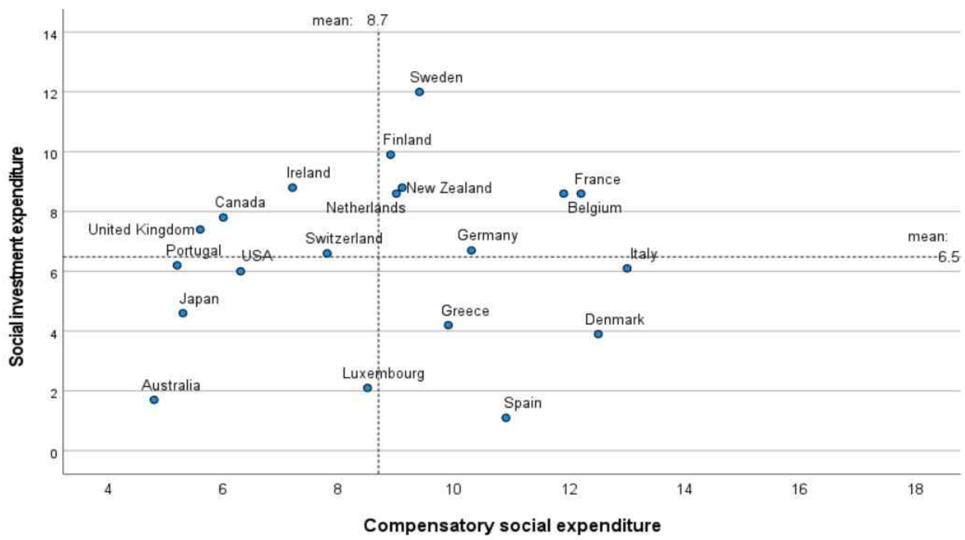
Social democratic countries	Conservative countries	Liberal countries	Southern European countries
Denmark Finland Sweden	Belgium France Germany Japan Netherland Luxembourg Switzerland	Australia Canada Ireland New Zealand UK USA	Greece Italy Portugal Spain

Social investment expenditure and compensatory social expenditure in 1990

As can be seen in Figure 1, in 1990, the average social investment expenditure of the 20 countries is 6.5% of GDP, slightly lower than the average compensatory social expenditure, 8.7%. The cluster 1 group, which has a higher level of social investment expenditure than the overall average and a lower level of compensatory social expenditure than the overall average, includes four countries: Canada, Ireland, Switzerland, and the UK. Cluster 2 groups with higher than the overall average level of social investment expenditure and compensatory social expenditure include 7 countries: Belgium, France, Finland, Germany, New Zealand, Netherlands, and Sweden. Third, five countries, Australia, Japan, Luxembourg, Portugal, and the USA, are included in the cluster 3 group, where the level of social investment and compensatory social expenditure are both lower than the overall average. Finally, the cluster 4 group with a social investment expenditure level lower than the overall average and a compensatory social expenditure level higher than the overall average are including four countries: Denmark, Greece, Italy, and Spain.

The above results can be reinterpreted according to the typology of Esping-Andersen (1990) and Ferrera (1996). First of all, in the case of Sweden and Finland, which are social democratic countries, belong to cluster 2 and have high levels of social investment expenditure and compensatory social expenditure. However, in the case of Denmark, it can be seen that the compensatory social expenditure level is high, but the social investment expenditure level (3.9% of GDP) is lower than the average (6.5%), so it belongs to cluster 4. Second, in the case of conservative countries, they are scattered in various clusters. Switzerland belongs to cluster 1, Belgium, France, Germany and Netherlands belong to cluster 2, and Japan and Luxembourg belong to cluster 3. Third, in the case of liberal countries, Australia and USA belong to cluster 3, and Canada, Ireland, and the UK belong to cluster 1, so it can be seen that the level of compensatory social expenditure of these countries is relatively low. Finally, in the case of Southern European countries, most countries such as Greece, Italy, and Spain belong to cluster 4, and only Portugal belongs to cluster 3, so the overall level of social investment expenditure is lower and the level of compensatory social expenditure is higher than that of other countries.

Figure 1. Social investment expenditure and Compensatory social expenditure in 1990



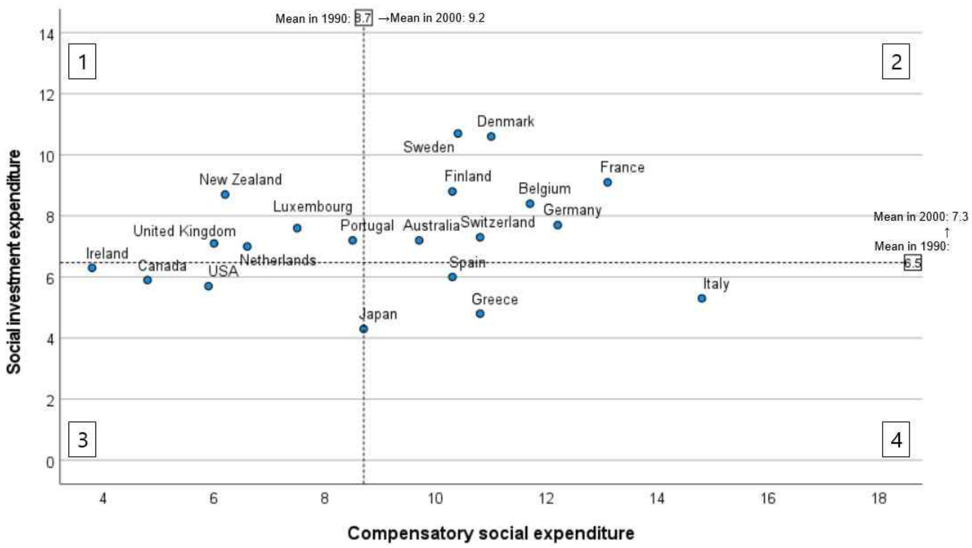
Source: OECD statistics

Social investment expenditure and compensatory social expenditure in 2000

There is a significant change in 2000 compared to 1990. Looking at Figure 2, first of all, the average social investment expenditure of 20 countries rose from 6.5% in 1990 to 7.3% in 2000. And the average compensatory social expenditure rose from 8.7% in 1990 to 9.2% in 2000. In this respect, countries in the scatterplot graph appear to be moving right upward compared with 1990. Accordingly, the number of countries n cluster 1(4→5 countries) and cluster 2(6→7 countries) increased, and the number of countries in cluster 3(5→4 countries) and cluster 4(4→3 countries) decreased. It is noteworthy that the minimum level of social investment expenditure among countries was 1-2% of GDP in 1990, but that in all countries exceeded 4% in 2000.

First of all, compared to 1990, social democratic countries appear to be relatively gathering with each other. Denmark's level of social investment expenditure, which was a low level of 3.9% in 1990, rapidly increased to 10.6% in 2010, and all social democratic countries gathered in cluster 2. Second, in the case of conservative countries, Japan’s compensatory social expenditure, which was the lowest level among the group in 1990, drastically increased from 5.3% in 1990 to 8.7% in 2000 and Luxembourg’s social investment expenditure level increased by more than three times from 2.1% in 1990 to 7.6% in 2000. In the case of liberal countries, they mainly belong to cluster 1 and cluster 3 similar to in 1990, but Australia shows a big increase both in social investment and compensatory social expenditure, which makes it belong to cluster 2. The distribution of South European countries in 2000 is quite similar to that in 1990. The difference is that Greece, Denmark, Spain, and Portugal all show an increase in social investment compared to 10 years ago, which makes them close to the average.

Figure 2. Social investment expenditure and Compensatory social expenditure in 2000



Source: OECD statistics

Social investment expenditure and compensatory social expenditure in 2010

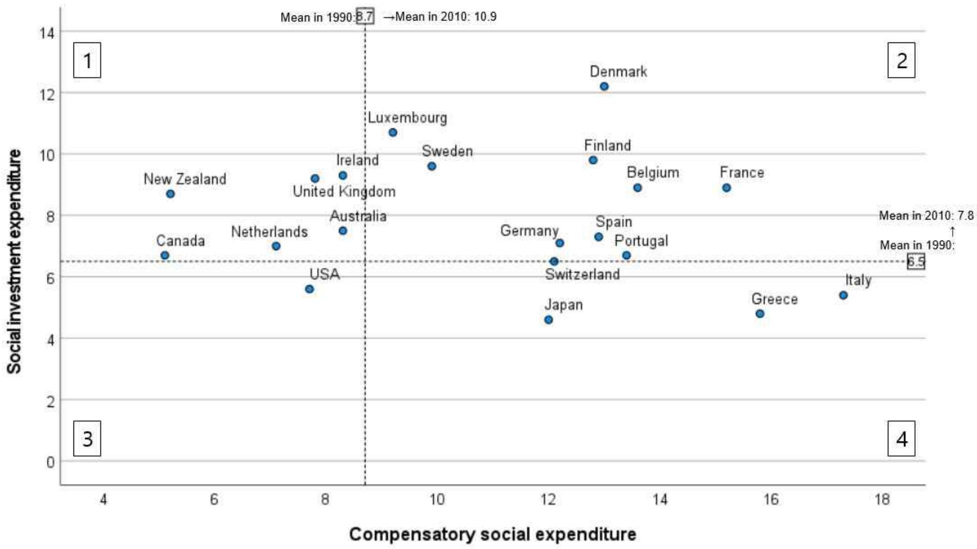
In 2010, the changes that occurred between 1990 and 2000 continue. The average social investment expenditure of 20 countries continues to rise to 6.5% in 1990, 7.3% in 2000, and 7.8% in 2010. In addition, the average compensatory social expenditure of all countries also rose by 2.2%p from 8.7% in 1990 to 10.9% in 2010, which is worth noting that it rose even more than the 1.3%p increase in social investment expenditure during the same period. Accordingly, most countries are intensively distributed in cluster 2. First of all, it can be seen that 6 countries are distributed in cluster 1 and 10 countries in cluster 2, which shows a high level of social investment. Only the USA is left in cluster 3, where both the social investment expenditure and the compensatory social expenditure are below average. In addition, only three countries, Japan, Greece, and Italy, remain in cluster 4, which has a low social expenditure and a high compensatory social expenditure. Accordingly, it can be judged that the social investment expenditure appears to increase significantly for 20 years after 1990.

Looking at the social democratic countries, it is worth noting that Sweden, Finland, and Denmark are located in cluster 1, as in 2000, with Denmark's social investment expenditure increasing, showing the highest rate of 12.2% among all countries. In the case of conservative countries, since all countries but Japan located in cluster 4 are located in cluster 2, it can be seen that both social investment expenditure and compensatory social expenditure increased overall compared to 1990. In the case of Liberal countries, Australia, Canada, Ireland, New Zealand, and the UK were all included in cluster 1, except the USA located in cluster 2, increasing the focus to the social expenditure rather than the compensatory social expenditure. Finally, Spain, Portugal, Greece, and Italy, which belong to the Southern European countries, show that the level of social investment expenditure is the overall average level, but the level of compensatory social expenditure has increased compared to 1990.

However, it should be noted that between 2008 and 2009, most countries recorded negative growth rates due to the global economic crisis. Among them, Germany (-5.7%), Finland (-8.1%), Ireland (-5.1%), Italy (-5.3%), and Japan

(-5.7%) showed a significant drop in growth rate in 2009, showing a tendency to increase in social expenditure ratio to GDP.

Figure 3. Social investment expenditure and Compensatory social expenditure in 2010



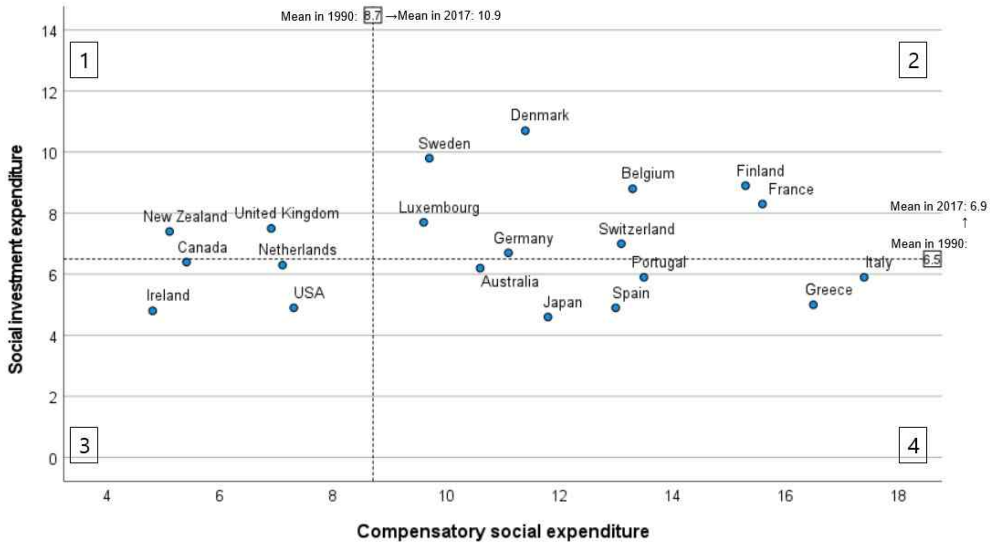
Source: OECD statistics

Social investment expenditure and compensatory social expenditure in 2017

From 1990 to 2010, both social investment expenditure and compensatory social expenditure showed a constant increase, but the change to 2017 was somewhat different from the previous period. In other words, the compensatory social expenditure in 2017 remained at an average of 10.9% in 2010, but the social investment expenditure decreased from an average of 7.8% in 2010 to 6.9% in 2017. In figure 4, the overall distribution of countries appears to be down compared to figure 3. Specifically, social investment expenditure in Canada, Ireland, and the Netherlands in cluster 1 decreased and moved to cluster 3, and social investment expenditure of Spain and Portugal, which were previously in cluster 2, also decreased and moved to cluster 4. To emphasize again, the peculiarity of this period is that the level of social investment expenditure decreased overall between 2010 and 2017.

In the case of social democratic countries, they are included in cluster 2, as same as in 2010. In this group, no significant change in the social investment expenditure is noticeable, whereas, in Finland, the compensatory social expenditure has increased significantly. In the case of conservative countries, Belgium, France, Netherlands, Luxembourg, and Switzerland are all characterized by a decrease in social investment expenditure compared to 2010. These features are also found among liberal countries, with Ireland, Canada, and Australia showing a decrease in social investment expenditure in 2017 compared to 2010, especially in Ireland, showing the lowest social investment expenditure of 4.8% during the analysis period from 1990 to 2017. Finally, in the case of Southern European countries, the social investment expenditure of both Portugal and Spain decreased compared to the previous period. In summary, in the case of 2017, social investment expenditure decreases in all groups overall.

Figure 4. Social investment expenditure and Compensatory social expenditure in 2017



Source: OECD statistics

Overall changes in social investment expenditure and compensatory social expenditure between 1990 and 2017

So far, the characteristics of each year's social investment expenditure and compensatory social expenditure have been described, and now the overall flow from 1990 to 2017 would be summarized for each welfare regime group. Referring to Table 2, the average social investment expenditure in all 20 countries continues to increase from 6.5% in 1990 to 7.9% in 2010 and then decreases again to 6.9% in 2017. During the same period, the coefficient variation of the social investment expenditure decreased from 0.43 in 1990 to

0.25 in 2017, and it can be said that convergence between countries is found. Looking at the compensatory social expenditure of all countries during the same period, it continues to increase from 8.7% in 1990 to 10.9% in 2017. However, during the same period, the coefficient variation of the compensatory social expenditure decreased from 0.29 in 1990 to 0.35 in 2010, and it can be said that divergence between countries is found. The gap between social investment expenditure and compensatory social expenditure from 1990 to 2010 is increasing from 2.2%p in 1990 to 4.0%p in 2017. However, since the compensatory social expenditure diverges between countries, it cannot be conclusively said that the entire country increases the compensatory social expenditure rather than the social investment expenditure.

In the case of social democratic countries, the group average of social investment expenditure and the group average of the compensatory social expenditure each year remain higher than the overall average, maintaining a high level of welfare expenditure as analyzed in relevant research (Santos and Simoes, 2021; Normann, Ronning and Norgaard, 2009; Andersen, Schoyen and Hvinden, 2017). The group average of social investment expenditure continued to increase from 8.6% in 1990 to 10.5% in 2000 and then slowed down to 9.8% in 2017. In particular, in the case of Denmark, it is notable that social investment expenditure more than doubled from 3.9% in 1990 to 10.7% in 2017. The group average of compensatory social expenditure continued to increase from 10.3% in 1990 to 12.1% in 2017. However, the coefficient variation of the compensatory social expenditure increased from 0.15 in 1990 to 0.19 in 2017 so cannot be said to converge between countries.

In the case of conservative countries, it can be seen that both the group average of social investment expenditure and the group average of compensatory social expenditure exceed the total average. The group average of the social investment expenditure increases from 6.5% in 1990 to 7.0% in 2017, and the coefficient variation decreased from 0.35 in 1990 to 0.18 in 2017, showing the convergence of conservative countries. The group average of the compensatory social expenditure also increased from 9.3% in 1990 to 11.7% in 2017, and the coefficient variation decreased during the same period, showing convergence between conservative countries. In particular, it is notable that Japan's compensatory social expenditure increased significantly from 5.3% in 1990 to 11.8% in 2017.

The group average of social investment expenditure and compensatory social expenditure of liberal countries stays below the total average expenditure as analyzed in relevant research (Garritzmann, Hausermann, and Palie, 2022; Bakker and Vliet, 2021). The group average of liberal countries' social investment expenditure decreased slightly from 6.8% in 1990 to 6.2% in 2017, but by country, Australia's social investment expenditure has more than tripled from 1.7% in 1990 to 6.2% in 2017. The group average of the compensatory social expenditure of liberal countries remained similar, with 6.5% in 1990, 6.1% in 2000, 7.1% in 2010, and 6.7% in 2017. However, by each country, in the case of Australia, the UK, and the USA, the compensatory social expenditure increased during the analysis period, and in the case of Canada, Ireland, and New Zealand, the compensatory social expenditure decreased during the analysis period, showing different appearances from country to country.

Finally, in the case of Southern European counties, the group average of social investment expenditure continued to increase from 4.4% in 1990 to 5.4% in 2017, but always remains lower than the average of all countries. In addition, the coefficient variation also decreased from 0.47 in 1990 to 0.09 in 2017, so convergence between countries was found. Among them, Spain has more than quadrupled from 1.1% in 1990 to 4.9% in 2017. Compensatory social expenditure is characterized by an increase in the group average from 9.7% in 1990 to 15.1% in 2017, always exceeding the total average. In addition, the coefficient variation also decreased from 0.29 in 1990 to 0.12 in 2017, which means that convergence between countries was found. Greece, Italy, Portugal, and Spain all showed an increase in compensatory social expenditure from 1990 to 2017.

In summary, social investment expenditure showed a gradual increase between 1990 and 2017 in all welfare regime groups except for the liberal countries. However, even in this case, it is worth noting that the increase in compensatory social expenditure during the same period is higher than the increase in social investment expenditure.

4. Analysis of the correlation between input and outcome of social investment

The framework of the analysis

In this chapter, the correlation between social investment input and outcome between 1990 and 2017 will be analyzed for 20 OECD countries to analyze how effective social investment was. In order to examine the correlations between inputs and outcomes of the social investment, Pearson's correlation coefficient will be calculated.

First, social expenditure for ALMP is set as an independent variable in the labor market, and the dependent variable accordingly is set as the unemployment rate. Secondly, social expenditure for a family is set as an independent variable in relation to family policy, and the women's employment rate is set as a dependent variable. Finally, social expenditure for education is set as an independent variable regarding education policy, and educational attainment is set as a dependent variable. In the case of educational attachment, the population ratio with tertiary education of 25-64 year-olds was used as a variable. As in the previous chapter, social expenditure was used, including a public social extension and a mandatory private extension. In addition, due to the data availability for educational attachment, the education part was analyzed from 2000 to 2017.

The correlation between social investment expenditure and outcomes

Referring to Table 3, the trend of social investment expenditure for ALMP and the unemployment rate between 1990 and 2007 in 20 countries can be seen. As a result of analyzing the correlation between social investment expenditure for ALMP and the unemployment rate in 1990 and 2007 respectively, and the correlation between the first differences of variables, there are no statistically significant correlations between inputs and outcomes. Specifically, Pearson's R between social investment expenditure for ALMP and the unemployment rate in 1990 is 0.09 with a p-value of 0.707 and Pearson's R between the same variables in 2017 is 0.001 with a p-value of 0.998. Lastly, Pearson's R between the first differences of variables from 1990 to 2017 is 0.206 with a p-value of 0.382.

This trend is found in social investment for family and education too. Referring to Table 4, Pearson's R between social investment expenditure for family and the women's employment rate in 1990 is 0.436 with a p-value of 0.054 and Pearson's R between the same variables in 2017 is 0.203 with a p-value of 0.391. Pearson's R between the first differences of variables from 1990 to 2017 is 0.200 with a p-value of 0.399. Lastly, referring to Table 5, Pearson's R between social investment expenditure for education and educational attainment in 2000 is 0.139 with a p-value of 0.571 and Pearson's R between the same variables in 2017 is 0.155 with a p-value of 0.526.

In summary, no statistically significant correlations between social investment expenditure for ALMP and the unemployment rate; social investment for family and the women's employment rate; social investment for education and educational attainment.

Table 2. Social investment expenditure and compensatory social expenditure between 1990 and 2017

(% of GDP)	1990		2000		2010		2017	
	Social investment expenditure	Compensatory social expenditure	Social investment expenditure	Compensatory social expenditure	Social investment expenditure	Compensatory social expenditure	Social investment expenditure	Compensatory social expenditure
Social Democratic countries								
Denmark	3.9	12.5	10.6	11.0	12.2	13.0	10.7	11.4
Finland	9.9	8.9	8.8	10.3	9.8	12.8	8.9	15.3
Sweden	12.0	9.4	10.7	10.4	9.6	9.9	9.8	9.7
Sub-Mean	8.6	10.3	10.1	10.6	10.5	11.9	9.8	12.1
Standard deviation	3.4	1.6	0.9	0.3	1.2	1.4	0.8	2.4
Coefficient variation	0.40	0.15	0.09	0.03	0.11	0.12	0.08	0.19
Conservative countries								
Belgium	8.6	11.9	8.4	11.7	8.9	13.6	8.8	13.3
France	8.6	12.2	9.1	13.1	8.9	15.2	8.3	15.6
Germany	6.7	10.3	7.7	12.2	7.1	12.2	6.7	11.1
Japan	4.6	5.3	4.3	8.7	4.6	12.0	4.6	11.8
Luxembourg	2.1	8.5	7.6	7.5	10.7	9.2	7.7	9.6
Netherlands	8.6	9.0	7.0	6.6	7.0	7.1	6.3	7.1
Switzerland	6.6	7.8	7.3	10.8	6.5	12.1	7.0	13.1
Sub-Mean	6.5	9.3	7.3	10.1	7.7	11.6	7.0	11.7
Standard deviation	2.3	2.2	1.4	2.3	1.8	2.5	1.3	2.6
Coefficient variation	0.35	0.24	0.19	0.23	0.24	0.22	0.18	0.22
Liberal countries								
Australia	1.7	4.8	7.2	9.7	7.5	8.3	6.2	10.6
Canada	7.8	6.0	5.9	4.8	6.7	5.1	6.4	5.4
Ireland	8.8	7.2	6.3	3.8	9.3	8.3	4.8	4.8
New Zealand	8.8	9.1	8.7	6.2	8.7	5.2	7.4	5.1
United Kingdom	7.4	5.6	7.1	6.0	9.2	7.8	7.5	6.9
USA	6.0	6.3	5.7	5.9	5.6	7.7	4.9	7.3
Sub-Mean	6.8	6.5	6.8	6.1	7.8	7.1	6.2	6.7
Standard deviation	2.4	1.4	1.0	1.8	1.4	1.4	1.1	2.0
Coefficient variation	0.36	0.21	0.14	0.30	0.18	0.20	0.17	0.30
Southern European countries								
Greece	4.2	9.9	4.8	10.8	4.8	15.8	5.0	16.5
Italy	6.1	13.0	5.3	14.8	5.4	17.3	5.9	17.4
Portugal	6.2	5.2	7.2	8.5	6.7	13.4	5.9	13.5
Spain	1.1	10.9	6.0	10.3	7.3	12.9	4.9	13.0
Sub-Mean	4.4	9.7	5.8	11.1	6.1	14.8	5.4	15.1
Standard deviation	2.1	2.9	0.9	2.3	1.0	1.8	0.5	1.9
Coefficient variation	0.47	0.29	0.16	0.21	0.17	0.12	0.09	0.12
Total-Mean	6.5	8.7	7.3	9.2	7.8	10.9	6.9	10.9
Standard deviation	2.8	2.5	1.7	2.9	2.0	3.4	1.7	3.8
Coefficient variation	0.43	0.29	0.23	0.31	0.25	0.31	0.25	0.35

Source: OECD statistics

Table 3. Correlation between social investment expenditure for ALMP and the unemployment rate

	Social expenditure for ALMP (% of GDP)			Unemployment rate (%)		
	1990	2017	First Difference	1990	2017	First Difference
Denmark	0.73	1.97	1.2	8.5	6.0	-2.5
Finland	0.83	0.98	0.1	3.1	8.8	5.7
Sweden	1.53	1.24	-0.3	1.8	6.8	5.0
Belgium	1.08	0.87	-0.2	7.3	7.1	-0.1
France	0.71	0.87	0.2	8.0	9.5	1.5
Germany	0.86	0.66	-0.2	4.9	3.8	-1.1
Japan	0.32	0.15	-0.2	2.2	3.0	0.8
Luxembourg	0.19	0.79	0.6	1.6	5.5	3.9
Netherlands	1.17	0.64	-0.5	7.4	4.9	-2.6
Switzerland	0.21	0.61	0.4	1.8	5.0	3.2
Australia	0.21	0.16	-0.1	7.0	5.8	-1.2
Canada	0.48	0.22	-0.3	8.2	6.4	-1.8
Ireland	1.03	0.40	-0.6	13.3	6.9	-6.4
New Zealand	0.26	0.24	-0.0	8.1	5.0	-3.1
United Kingdom	0.51	0.16	-0.4	6.8	4.5	-2.4
USA	0.21	0.10	-0.1	5.7	4.4	-1.3
Greece	0.18	0.18	0.0	7.2	21.7	14.5
Italy	0.22	0.55	0.3	11.5	11.4	-0.1
Portugal	0.46	0.40	-0.1	5.4	4.3	-1.1
Spain	0.76	0.68	-0.1	16.1	17.3	1.2

Note: For Switzerland, the data of 1991 used due to the availability Source: OECD statistics

		Social expenditure for ALMP in 1990	The unemployment rate in 1990
Social expenditure for ALMP in 1990	Pearson Correlation	1	0.090
	Sig. (2-tailed)		0.707
	N	20	20
The unemployment rate in 1990	Pearson Correlation	0.090	1
	Sig. (2-tailed)	0.707	
	N	20	20
		Social expenditure for ALMP in 2017	The unemployment rate in 2017
Social expenditure for ALMP in 2017	Pearson Correlation	1	0.001
	Sig. (2-tailed)		0.998
	N	20	20
The unemployment rate in 2017	Pearson Correlation	0.001	1
	Sig. (2-tailed)	0.998	
	N	20	20
		First difference in Social expenditure for ALMP between 1990 and 2017	First difference in the Unemployment rate between 1990 and 2017
First difference in Social expenditure for ALMP between 1990 and 2017	Pearson Correlation	1	0.207
	Sig. (2-tailed)		0.382
	N	20	
First difference in the Unemployment rate between 1990 and 2017	Pearson Correlation	0.207	1
	Sig. (2-tailed)	0.382	
	N		20

Table 4. Correlation between social investment expenditure for family and the women's employment rate

	Social expenditure for family (% of GDP)			Women's employment rate (%)		
	1990	2017	First Difference	1990	2017	First Difference
Denmark	3.19	3.40	0.2	70.6	70.5	-0.2
Finland	3.14	2.87	-0.3	71.5	68.5	-3.0
Sweden	3.98	3.39	-0.6	81.0	75.4	-5.6
Belgium	2.22	2.73	0.5	40.8	58.7	17.9
France	2.45	2.88	0.4	52.2	61.2	9.0
Germany	1.89	2.40	0.5	52.2	71.5	19.3
Japan	0.34	1.59	1.2	55.8	67.4	11.6
Luxembourg	1.87	3.30	1.4	41.4	62.5	21.2
Netherlands	1.54	1.49	-0.1	47.5	71.3	23.8
Switzerland	1.19	1.85	0.7	66.4	75.2	8.8
Australia	1.51	2.10	0.6	57.4	68.2	10.8
Canada	0.58	1.66	1.1	62.8	70.1	7.3
Ireland	1.91	1.56	-0.4	36.6	62.4	25.8
New Zealand	2.53	2.46	-0.1	58.2	72.0	13.8
United Kingdom	1.75	3.23	1.5	62.8	70.1	7.3
USA	0.46	0.63	0.2	64.0	64.9	0.9
Greece	0.65	1.65	1.0	37.5	44.4	7.0
Italy	0.87	1.98	1.1	36.2	48.9	12.7
Portugal	0.69	1.20	0.5	67.2	72.4	5.2
Spain	0.31	1.192	0.9	31.8	56.5	24.7

Note: For Switzerland, the data of 1991 used due to the availability Source: OECD statistics

		Social expenditure for family in 1990	Women's employment rate in 1990
Social expenditure for family in 1990	Pearson Correlation	1	0.436
	Sig. (2-tailed)		0.054
	N	20	20
Women's employment rate in 1990	Pearson Correlation	0.436	1
	Sig. (2-tailed)	0.054	
	N	20	20
		Social expenditure for family in 2017	Women's employment rate in 2017
Social expenditure for family in 2017	Pearson Correlation	1	0.203
	Sig. (2-tailed)		0.391
	N	20	20
Women's employment rate in 2017	Pearson Correlation	0.203	1
	Sig. (2-tailed)	0.391	
	N	20	20
		First difference in Social expenditure for family between 1990 and 2017	First difference in Women's employment rate between 1990 and 2017
First difference in Social expenditure for family between 1990 and 2017	Pearson Correlation	1	0.200
	Sig. (2-tailed)		0.399
	N	20	
First difference in Women's employment rate between 1990 and 2017	Pearson Correlation	0.200	1
	Sig. (2-tailed)	0.399	
	N		20

Table 5. Correlation between social investment expenditure for education and educational attainment (tertiary education rate of 25-64 year-olds)

	Social expenditure for education (% of GDP)			Educational attainment (%)		
	2000	2017	First Difference	2000	2017	First Difference
Denmark	5.40	5.37	0.0	25.8	38.9	13.1
Finland	5.05	5.03	0.0	32.6	44.3	11.7
Sweden	6.30	5.19	-1.1	30.1	41.9	11.8
Belgium	5.10	5.25	0.1	27.1	40.3	13.2
France	4.92	4.52	-0.4	21.6	35.2	13.6
Germany	4.30	3.63	-0.7	23.5	28.6	5.1
Japan	3.50	2.86	-0.6	33.6	51.4	17.8
Luxembourg	4.48	3.57	-0.9	18.3	40.3	22.0
Netherlands	4.30	4.16	-0.1	23.4	37.2	13.8
Switzerland	5.30	4.52	-0.8	24.2	42.6	18.4
Australia	3.89	3.95	0.1	27.5	45.4	17.9
Canada	4.68	4.51	-0.2	40.1	56.7	16.6
Ireland	3.82	2.85	-1.0	21.6	45.7	24.1
New Zealand	5.80	4.69	-1.1	-	-	-
United Kingdom	4.50	4.13	-0.4	25.7	45.7	20.1
USA	4.80	4.15	-0.6	36.5	46.4	9.9
Greece	3.70	3.14	-0.6	17.7	31.0	13.4
Italy	3.63	3.32	-0.3	9.4	18.7	9.3
Portugal	5.60	4.25	-1.4	8.8	24.0	15.2
Spain	4.28	3.00	-1.3	22.7	36.4	13.7

note: The population ratio with tertiary education of 25-64 year-olds used as educational attainment
ThedateforeducationalattainmentinNewZealandisnotavailable
Source:OECDstatistics

		Social expenditure for education in 2000	Educational attainment in 2000
Social expenditure for education in 2000	Pearson Correlation	1	0.139
	Sig. (2-tailed)		0.571
	N	19	19
Educational attainment in 2000	Pearson Correlation	0.139	1
	Sig. (2-tailed)	0.571	
	N	19	19
		Social expenditure for education in 2017	Educational attainment in 2017
Social expenditure for education in 2017	Pearson Correlation	1	0.155
	Sig. (2-tailed)		0.526
	N	19	19
Educational attainment in 2000	Pearson Correlation	0.155	1
	Sig. (2-tailed)	0.526	
	N	19	19
		First difference in Social expenditure for education between 2000 and 2017	First difference in educational attainment between 2000 and 2017
First difference in Social expenditure for education between 2000 and 2017	Pearson Correlation	1	-0.159
	Sig. (2-tailed)		0.517
	N	19	19
First difference in educational attainment between 2000 and 2017	Pearson Correlation	-0.159	1
	Sig. (2-tailed)	0.517	
	N		19

5. Conclusion for chapter II

Until now, it has been analyzed whether the social investment has actually increased empirically since the emergence of a new perspective of social investment in the late 1990s. As a result, it was confirmed that 20 OECD countries increased social investment expenditure on average from 1990 to 2000, but in 2017, social investment expenditure decreased, indicating that the trend slowed somewhat. On the other hand, it was confirmed that the increase in compensatory social expenditure was greater than the increase in social investment, and the flow continued from 1990 to 2017. In other words, social investment expenditure increased until 2000 and has slowed down in recent years, while compensatory social expenditure continues to increase. It was confirmed that even if countries increase social investment, interest in compensatory expenditure has not decreased.

And when checked by welfare regime groups, social democratic countries had the largest increase in social investment, followed by Southern European countries and conservative countries. In the case of liberal countries, social investment decreased in 2017 compared to 1990. In other words, it was confirmed that the flow of social investment by the welfare regime showed a different appearance.

In order to analyze the effectiveness of social investment, the correlation between social investment input and outcomes was analyzed by dividing it into fields of the labor market, family policy, and educational social policy. However, a statistically significant correlation between social investment expenditure for ALMP and the unemployment rate; social investment for family and the women's employment rate; social investment for education and educational attainment could not be found.

II. Analysis 2 : The impact of COVID-19 on families: A scoping review

1. Background

In March 2020, the World Health Organization (WHO) issued a compelling call to action, urging nations worldwide to respond promptly to the escalating threat of the coronavirus. Consequently, countries globally implemented swift and proactive policy interventions, resorting to drastic measures such as social isolation and lockdowns to curb the rapid spread of the virus. While these interventions sought to partially control disease transmission, their implementation brought about seismic shocks across various facets of human society, rippling through the economy, society, and culture. Amidst these disruptions, the cornerstone of human society—the family—found itself at the nexus of direct and indirect impacts stemming from the coronavirus and the ensuing response measures.

Directly, families were thrust into the vortex of potential financial hardships as disruptions in the labor market spawned unemployment, a direct consequence of the COVID-19 pandemic. Simultaneously, the widespread adoption of remote work induced transformative changes within the domestic sphere, reshaping the dynamics of family life. The convergence of traditional caregiving responsibilities and work duties within the home environment prompted a reevaluation of family members' roles, potentially leading to the emergence of gender-based disparities in the division of labor.

Moreover, the repercussions of social isolation on mental health have been profound. Families grappled with challenges related to the well-being of children, particularly in the context of school closures and the shift towards home-based education. This shift posed a myriad of challenges, ranging from issues related to social networking, developmental concerns, to emotional problems for children within the family unit. Thus, the impact of COVID-19 and the measures taken to mitigate its effects manifested in a complex, multifaceted array of ways within the fabric of families.

In this research endeavor, a scoping review was meticulously conducted to scrutinize and categorize the documented facts regarding the impact of COVID-19 on families. The process adhered to the methodological framework proposed by Arksey and O'Malley (2005), encompassing five integral stages: (1) Identifying the research question, (2) Identifying relevant studies, (3) Study selection, (4) Charting the data, and (5) Collating, summarizing, and reporting the results. Beyond the exploration of empirical evidence, this process endeavors to illuminate how scoping studies can be effectively applied in the development of informed policies, providing insights into the strengths and limitations inherent in the context of policy development within the realm of scoping studies.

2. A scoping review

2.1. How can scoping study methods be used in developing policy?

A scoping study, in its essence, can be construed as an expeditious exploration aimed at delineating the foundational concepts underpinning a particular research area while identifying the primary sources and various types of evidence available. This approach gains particular significance when dealing with intricate areas that have not undergone a comprehensive review in the past, thereby functioning as independent projects (Mays, Roberts, and Popay, 2001, as cited in Arksey and O'Malley, 2005). Delving into the definition of scoping studies, a discerning observation emerges, suggesting the potential application of scoping studies within the realm of policy development. This notion gains further traction when considering the insights provided by Munn et al. (2018), who identified several functions of scoping studies that bear substantial relevance to the nuanced and multifaceted process of policy development.

Primarily, scoping studies serve the crucial role of clarifying and scrutinizing definitions present in the existing literature. This function is immensely valuable in accurately defining the problem, a pivotal step in setting the agenda during the initial stages of policy development. By providing a comprehensive examination of existing definitions, scoping studies contribute to a more nuanced and informed understanding of the issues at hand, laying a solid foundation for the subsequent stages of policy formulation. Secondarily, scoping studies play a pivotal role in identifying specific types of evidence that are directly applicable to a particular policy area. In the context of policy development, where evidence-based decision-making is paramount, the ability of scoping studies to pinpoint relevant evidence proves instrumental. This function aids policymakers in the process of discerning the most pertinent and impactful evidence, aligning with the goals and objectives of the policy under consideration. Furthermore, scoping studies contribute significantly to gauging the extent of research progress within a given topic or area. This function is particularly relevant in the early stages of policy development, providing policymakers with insights into the existing body of knowledge, gaps in research, and potential areas that warrant further exploration. Understanding the landscape of existing research allows policymakers to make informed decisions and prioritize areas that require attention and intervention.

To elaborate, post-agenda setting, scoping studies continue to play a crucial role in the policy development process. These studies prove invaluable in swiftly searching for and acquiring relevant data, gathering diverse research results and evidence that can inform and guide policy formation. Policymakers, armed with the insights gleaned from scoping studies, can access prior research information related to the public policy under consideration. This not only expedites the policy development process but also ensures that decisions are rooted in a robust understanding of the existing knowledge landscape. In essence, the multifaceted functions of scoping studies, ranging from defining problems and identifying evidence to gauging research progress, position them as indispensable tools in the arsenal of policymakers. The ability of scoping studies to provide a comprehensive overview of a research area proves instrumental in shaping the trajectory of policy development, facilitating evidence-based decision-making, and ensuring that policies are rooted in a nuanced understanding of the complex issues they aim to address.

2.2. The strengths and limitations of scoping studies

The strengths and limitations of scoping studies can be explained more clearly by comparing the differences with systemic reviews. First of all, to briefly explain the systemic review, it can be broadly characterized as a form of research synthesis carried out by specialized review groups aiming to identify and collect international evidence relevant to specific questions. These reviews appraise and synthesize the results to inform practice, policy, and, in some instances, further research. Moreover, a systematic review is valuable in identifying gaps, deficiencies, and trends in existing evidence, serving as a foundation for future research in the field (Munn et al., 2018).

Comparing the difference between scoping study and systemic review, a notable strengths of the scoping study lies in its capacity to offer a robust method for mapping research areas, providing a quick overview compared to a comprehensive systematic review. In a relatively brief timeframe, reviewers can delineate the field of interest by examining the volume, nature, and characteristics of primary research. This analysis facilitates the identification of gaps in the evidence base and allows for the synthesis and dissemination of research findings (Arksey and O'Malley, 2005).

Regarding the limitation of the scoping studies, Arksey and O'Malley (2005) argued that these studies notably refrain from appraising the quality of evidence in primary research reports. The challenges arise from the substantial amount of generated data, necessitating decisions on the balance between breadth and depth. Additionally, scoping studies do not tackle the issue of 'synthesis,' which involves determining the relative weight of evidence favoring the effectiveness of a specific intervention. Consequently, scoping studies present a narrative or descriptive account of available research (Arksey and O'Malley, 2005).

2.3. Research question: What is known about the effect of COVID to families?

The lifestyle adjustments brought about by the COVID-19 pandemic, including lockdowns, social distancing, mask-wearing, and the shift to non-face-to-face remote education, have significantly transformed daily routines. Particularly, the dynamics within families, where both adults and children coexist, have experienced notable impacts. Many researches reveal a complex interplay of both positive and negative effects on family relationships. In regions like Asia, where long-term working practices were prevalent, a strengthening of family bonds has been observed as office workers return home, fostering increased quality time among family members (Kang et al., 2020). Conversely, other analyses suggest a general increase in the quantity of time spent within families during the pandemic (Lee et al., 2020).

The challenges posed by COVID-19 extend beyond simple lifestyle changes to impact family care and educational responsibilities. The heightened duration of children staying at home has escalated the caregiving burden on families. Furthermore, parents have found themselves tasked with guiding their children's learning in the context of non-face-to-face remote education. A nuanced examination suggests that the gender-based distribution of these burdens within the family may vary, emphasizing potential disparities between women and men in fulfilling these roles. Additionally, the pandemic-induced economic repercussions, such as unemployment and reduced working hours, have likely contributed to financial strains within families.

To synthesize the existing research landscape comprehensively, a scoping review approach is performed. Recognizing the diverse and multifaceted nature of COVID-19's impact on families, encompassing emotional relationships, gender roles, and financial effects, this review aims to consolidate the findings of various studies. The central research question guiding this endeavor is, "What is known about the effect of COVID-19 on families?" Through this, a holistic understanding of the pandemic's implications for family life is sought, acknowledging the breadth and depth of its consequences on various aspects of familial dynamics.

2.4. Search strategy and Search terms

To thoroughly investigate a broad range of relevant research findings regarding the impact of COVID-19 on families, the extensive search across electronic databases accessible through the internet is conducted. Specifically, three key databases are utilized: Web of Science (https://www.webofscience.com/), the Applied Social Sciences Index & Abstracts (ASSIA, http://www.proquest.com/assia/) and Scopus (https://www.scopus.com/). This selection of databases was intended to facilitate a comprehensive examination of the existing literature on the subject, capitalizing on the diverse and comprehensive content that each database provides. When conducting a database search, the same search term is used, and if an excessive amount of data is encountered, the search area is systematically narrowed down to include 'All field,' 'Topic,' and 'Title,' sequentially, in order to achieve a more refined and appropriate dataset.

The terms set for searching research results on the research question "What is known about the effect of COVID-19 on families?" are (1) 'COVID', (2) 'famil*' and (3) '"effect" or "affect" or "impact" or "difficult*"'. Initially, 'COVID' is an essential term to search for the impact of COVID-19, while 'famil*' is set to examine the impact on 'family' or 'families.' Finally, to comprehensively explore the effects, impacts, or difficulties experienced by families due to COVID-19, inclusive search terms ‘"effect" or "affect" or "impact" or "difficult*"' are employed. In addition, in consideration of the ease of translation, the language is limited to English, and the type of document was limited to articles.

Table 6. Search terms

Search terms
‘COVID’
‘famil*’
‘effect’ OR ’affect’ OR ‘impact’ OR ‘difficult*’

2.5. Study selection

Referring to Table 7, when searching by setting the range of each search word to All fields, 1,000 to as many as 100,000 search results were derived for each search engine (web of science: 12,652, ASSIA: 143,383, Scopus: 135,339). As a result, too much and unnecessary data were searched, and the search strategy was revised by reducing the search range to Topic (or article sentence, construction, keywords). In this case, 9,241 from web of science, 7,381 from ASSIA, and 11,974 from Scopus were derived, respectively. As the last search strategy, the search area was limited to Titles in order to derive more refined results. As a result, 279 from web of science, 45 from ASSIA, and 434 from Scopus were derived, respectively. Out of a total of 758 research results, a total of 593 research results were identified excluding 219 duplicates.

Table 7. Search results

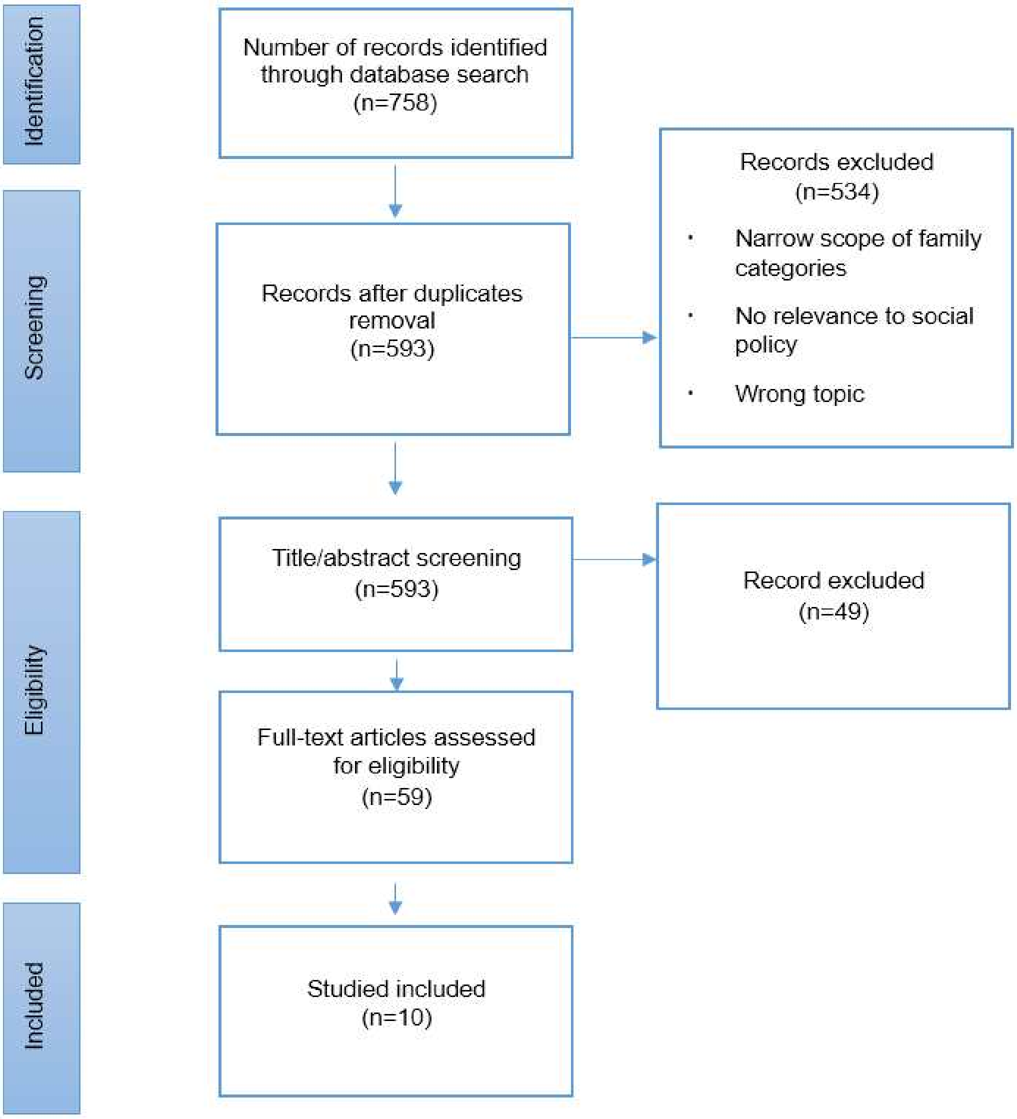
	Number of results		
	Web of science	ASSIA	Scopus
COVID(All fields) and famil*(Allfields)and“effect”or“affect”or“impact”or“difficult*”(Allfields)	12,652	143,383	135,339
COVID(Topic) and famil*(Topic)and“effect”or“affect”or“impact”or“difficult*”(Topic)	9,241	7,381	11,974
COVID(Title) and famil*(Title)and“effect”or“affect”or“impact”or“difficult*”(Title)	279	45	434

The comprehensive process involved scrutinizing the titles and abstracts of a total of 593 identified studies, with the exclusion of 534 studies demonstrating either no relevance or limited relevance to the research question. A significant portion of the excluded studies delved into the ramifications of COVID-19 on families, particularly focusing on specific subcategories such as those with dementia patients, families with disabled children, healthcare worker's families, families coping with chronic illnesses, or families with hospitalized children. The intricacies within these distinct family contexts made it challenging to extrapolate and generalize the overall impact of COVID-19 on families in broader categories. Consequently, these studies were systematically excluded through the process of title and abstract screening.

In addition to this, studies with marginal relevance to social policy were also subject to exclusion through the same title and abstract screening procedure. Exemplary instances of such studies involved an exploration of the influence of COVID-19 on children's dietary habits within families, the medical implications of COVID-19 on family health, and the effects of COVID-19 on food wastage within family dynamics.

Following the completion of the title and abstract screening, a subset of 59 studies remained under consideration for further assessment through a comprehensive evaluation of full-text articles for eligibility. These 59 studies predominantly explored the impact of COVID-19 on various facets of family life, including family planning, the intricate interplay of remote work on work-family conflict, gender-specific disparities in the effects of COVID-19 within families, the influence of the pandemic on family financial situations, and its repercussions on the mental health of family members. A review of the full texts ultimately led to the selection of 10 studies, chosen for their profound relevance to the research question and their capacity to encompass a diverse array of topics within the broader context of the impact of COVID-19 on families.

Figure 5. PRISMA flow diagram for the scoping review process



3. Results

3.1. Overall

The 10 selected studies offer a comprehensive exploration into the multifaceted impact of COVID-19 on families. The repercussions of factors such as school closures, shutdowns of care facilities, and the heightened burden of caregiving and educational responsibilities within households have amplified the myriad challenges faced by families. Furthermore, the intricate interplay between remote work demands and traditional family roles has given rise to nuanced consequences. Categorizing the impact of COVID-19 on families in the selected studies unveils a spectrum of effects falling into four distinct categories: gender-based inequality, mental health implications, financial hardships, and the pervasive conflict between work and family life.

The first salient category that emerges is the manifestation of gender-based inequalities within families. A study by Gragam et al. (2021) scrutinized Austrian families, illuminating the hardships faced by women exacerbated by traditional household chores, remote education resulting from school closures, and heightened caregiving responsibilities due to the closure of care facilities, in stark contrast to their male counterparts. The entrenched role of women within the family has been further intensified by the impacts of COVID-19, leading to a disproportionally higher burden and a more profound experience of hardship compared to men. A parallel analysis by Elhinnawy et al. (2023) on British families underscored that women, traditionally engaged in household chores, grappled with increased caregiving and educational burdens. However, it is noteworthy that positive cases also revealed an increase in family cohesion and an improved quality of life during the pandemic-induced lockdown measures.

The second category delves into the intricate realm of the impact of COVID-19 on family mental health. The study by Feinberg et al. (2022) delved into the United States context, revealing that the pandemic heightened parental stress and triggered externalization and internalization issues in children. Families with lower education levels or significant conflicts in shared parenting experienced a higher incidence of parental depression even before the pandemic. In the Italian context, Marzilli et al.'s (2021) examination of the psychological impact on parents due to COVID-19 shed light on its influence on their children. Families with parents experiencing trauma due to COVID-19 were found to be more likely to cause psychological difficulties in their children. The analysis highlighted that lower parental resilience contributed to increased stress for parents, further exacerbating the psychological difficulties faced by children. Examining Jordanian families, Al Gharaibeh et al. (2022) found that social isolation resulted in family members experiencing depression, anxiety, sleep disorders, and even physical and psychological abuse within the family due to socio-environmental conditions. Larsen et al.'s study (2022) on children's mental health issues unveiled problems in somatic and cognitive responses, emphasizing the heightened sensitivity of older children to family stress.

The third category casts a spotlight on the financial hardships within families. O'Connor et al.'s study (2022) revealed findings from Australian families, indicating that one-third of the respondents expressed economic challenges due to COVID-19. The study underscored the intricate relationship between economic shocks and socio-economic factors within families, such as parental education levels and occupations. Additionally, Steiber et al. (2022) analyzed the financial difficulties experienced by many families in Australia, despite government subsidies and short-term job provisions, leading to wage reductions.

The final category addresses the pervasive issue of work-family conflict, primarily examining the impact of remote work on families. Barriga Medina et al.'s study (2021) analyzed Ecuadorian families, revealing that remote work due to COVID-19 led to a high level of work-family conflict closely linked to burnout. Mazzucchelli et al. (2020) delved into Italian families and found that women primarily engaged in remote work experienced significant caregiving burdens, resulting in the occurrence of work-family conflict.

In conclusion, the insights derived from this comprehensive exploration shed light on the multifaceted and intricate impact of COVID-19 on families, encompassing gender-based challenges, mental health complexities, financial hardships, and the intricate interplay between work and family life. These findings are pivotal for policymakers, healthcare professionals, and support services to develop targeted interventions and support mechanisms that address the diverse challenges faced by families in the wake of the ongoing pandemic.

3.2. *Method*

The final selection of 10 studies employed diverse methods for their research. Primarily focusing on cross-sectional or longitudinal studies related to the impact of COVID-19, many studies adopted the longitudinal approach to observe changes over time by dividing the period into pre and post-COVID phases. Consequently, studies such as those by Feinberg et al. (2022), Larsen et al. (2022), O'Connor et al. (2022), Steiber et al. (2022), and Mazzucchelli et al. (2020) embraced the longitudinal research method. These studies found advantages in exploring changes in family life before and after COVID-19 within specific sampled families. Studies like Marzilli et al. (2021) and Barriga Medina et al. (2021), on the other hand, conducted cross-sectional research, allowing them to capture changes experienced by families at specific points after the onset of COVID-19. However, it is acknowledged that such cross-sectional studies gain more significance when followed by continuous research.

In terms of quantitative and qualitative analysis, among the 10 selected studies, two employed qualitative research methods (Elhinnawy et al., 2023; Al Gharaibeh et al., 2022), while the remaining eight studies opted for quantitative research methods. The majority of studies utilized quantitative analyses such as regression analysis and Pearson's correlation to generalize sample characteristics and analyze significant correlations between variables. This approach aimed at quantifying topics such as the correlation between COVID-19 and family mental health deterioration, gender differences in family role distribution, highlighting the relevance of the chosen topics.

On the other hand, studies employing qualitative research methods, through in-depth interviews, gained the advantage of understanding specific experiences within families affected by COVID-19. However, relying on interviews from specific families poses a challenge to generalization.

Table 8. Characteristic of included studies which explore the impact of COVID-19 on families

Gender Inequality	Graham et al. (2021)	Working at home: The impact of COVID-19 on health, family-work-life conflict, gender, and parental responsibilities	Quantitative method -Regression Cross-sectional study	Australia	As a result of the disproportionate burden of household chores on women compared to men, they experienced musculoskeletal pain. Additionally, women with children were more likely to experience work-family conflict
Gender Inequality	Elhinnawy et al. (2023)	From public to private: the gendered impact of COVID-19 pandemic on work-life balance and work-family balance	Qualitative method - Narrative-informed method	United Kingdom	Working women have experienced increased childcare and homeschooling burdens in addition to traditional household duties due to school closures. However, some have also mentioned positive effects, including increased family cohesion, improved quality of life, and so on.
Mental health	Feinberg et al. (2022)	Impact of the COVID-19 pandemic on parent, child, and family functioning	Quantitative method - T-test - Hierarchical Linear Model Longitudinal study	United States	After the onset of COVID-19, parental stress and children's externalizing and internalizing issues have increased compared to before. Parents who previously had low conflict in co-parenting or high education level experienced a significantly higher level of depression than before COVID-19 era.
Mental health	Marzilli et al. (2021)	The COVID-19 pandemic and its impact on families' mental health: The role played by parenting stress, parents' past trauma, and resilience	Quantitative method - Pearson's correlation analysis - Regression - Two sequential mediation analysis Cross-sectional study	Italy	The trauma experienced by parents due to COVID-19 is closely related to psychological difficulties in their children. Moreover, higher parental resilience is associated with lower parental stress and reduced psychological challenges in their children
Mental health	Al Gharaibeh et al. (2022)	The impact of COVID-19 quarantine measures on the mental health of families	Qualitative method Narrative-informed method	Jordan	Families have struggled with mental health issues such as depression, anxiety, and sleep disorders due to social isolation and lack of physical activity. Additionally, there were psychological and physical abuse within the family.

Mental health	Larsen et al. (2022)	The impact of school closure and social isolation on children in vulnerable families during COVID-19: a focus on children’s reactions	Quantitative method - Regression Longitudinal study	Norway	Children exhibited issues in somatic and cognitive responses. Furthermore, older children were more vulnerable to reacting sensitively to family stress.
Financial difficulties	O’Connor et al. (2022)	Inequalities in the distribution of COVID-19 related financial difficulties for Australian families with young children	Quantitative method - Regression Longitudinal study	Australia	One-third of the survey respondents reported experiencing economic difficulties due to COVID-19. This economic impact was found to be correlated with socio-economic factors such as family education level and occupation
Financial difficulties	Steiber et al. (2022)	The impact of the COVID-19 pandemic on the employment situation and financial well-being of families with children in Austria: Evidence from the first ten months of the crisis	Quantitative method - Descriptive narration Longitudinal study	Austria	Due to COVID-19, 34-43% of respondents experienced unemployment or short-term job loss, and approximately one-third of them encountered a decrease in income as a result. This indicates that despite government aid and short-term job provisions, many families faced financial difficulties.
Work-family conflict	Barriga Medina et al. (2021)	The influence of work-family conflict on burnout during the COVID-19 pandemic: The effect of teleworking overload	Quantitative method - Confirmatory factor analysis - Structural equation model Cross-sectional study	Ecuador	The remote work due to the COVID-19 pandemic led to a high level of work-family conflict, and this was significantly correlated with burnout. Particularly, there were occurrences of physical fatigue and emotional exhaustion.
Work-family conflict	Mazzucchelli et al. (2020)	The impact of COVID-19 on family relationships in Italy: Withdrawal on the nuclear family	Quantitative method - ANOVA - T-test - Regression Longitudinal study	Italy	The increase in childcare burden due to COVID-19 has been particularly pronounced for working women, older parents who cannot rely on assistance from grandparents, and families with multiple children.

3.3 The main findings of each study

(1) Working at home: The impacts of COVID-19 on health, family-work-life conflict, gender, and parental responsibilities (Graham et al., 2021)

Objectives of the study

This research examines the impact of mandatory remote work implemented by the government in response to the COVID-19 pandemic on the overall well-being, stress levels, and work-life balance of family members, taking into account factors such as gender and parental status. In Australia, the initial COVID-19 lockdown in March 2020 led to a strong recommendation for remote work, compounding to the challenges faced by families as schools and care institutions closed. The research specifically analyzes how these pandemic-related measures affected family dynamics, work-family conflicts, and the physical and mental health of family members, with a focus on gender and parental status differences.

Methods

This research conducted an analysis using a quantitative method based on a survey of 658 adults aged 18 and above residing in the Victoria region of Australia. The main outcomes examined include general health, musculoskeletal pain, stress, and work-family conflict, with each quantified based on the survey responses. To explore the impact and relationship of gender and parental status on these key outcomes, regression analysis was employed. Specifically, ordinal regression models were used to analyze the influence on general health, logistic regression models for pain presence, and a generalized linear model for stress and work-family conflict.

Findings

To begin with, a notable observation emerged regarding the increased prevalence and severity of musculoskeletal pain among women in households during the COVID-19 pandemic, irrespective of the presence of children, as a consequence of the widespread adoption of telecommuting. Put simply, women were found to experience this pain at a higher rate compared to men (odds ratio: 2.06), and the pain intensity was also more pronounced (β: 0.24). Interestingly, a noteworthy reduction in this pain was observed when household chores were shared more equitably. Graham et al. assert that the heightened occurrence of pain could be attributed to the nature of various household tasks, such as cleaning and laundry, which often involve specific and repetitive activities. This suggests that the traditionally uneven distribution of household responsibilities between men and women in Australia, as in many other countries, was not only perpetuated but exacerbated during the COVID-19 lockdown. Consequently, this uneven distribution amplified the likelihood of women within families experiencing heightened levels of pain.

Furthermore, the analysis revealed a significant correlation between the presence or absence of children and the extent of work-family conflict triggered by the COVID-19 pandemic (β: -0.59). Notably, women without children were found to experience less work-family conflict compared to men with children. This outcome can be understood as a natural consequence, considering that women without children typically face fewer obligations to align their caregiving or family responsibilities with work demands.

To summarize, the lockdown imposed by the COVID-19 pandemic inevitably ushered in an era of widespread remote work. Throughout this period, it becomes evident that women, burdened with relatively heavier household responsibilities, experienced an exacerbation of their challenges. In particular, the pivotal role of the presence or absence of children emerged as a determining factor in shaping the landscape of work-family conflict.

(2) From public to private: the gendered impact of COVID-19 pandemic on work-life balance and work-family balance (Elhinnawy et al., 2023)

Objectives of the study

The repercussions of COVID-19 on families encompass various aspects, including the physical and mental well-being of family members. Among them, a pivotal transformation emerged with the shift from office to home as a consequence of the pandemic. In particular, this research hones in on the ramifications of the COVID-19 pandemic, with a specific focus on working women. While the transition to remote work affects both men and women significantly, this study delves into the awareness of the challenges faced by women who bear the amplified responsibilities of education and caregiving due to school and care facility closures. Conversely, the study's objective is to explore the positive facets that women may perceive in their increased time spent within their families.

Methods

The research delved into the effects of remote work during the COVID-19 pandemic on the work-life balance (WLB) and work-family balance (WFB) of 10 working women in the UK. The study opted for a qualitative approach, particularly leveraging a narrative-informed research method, as it was deemed suitable for exploring individual transformations. Ten participants, aged between 31 and 62, were recruited via social media, and substantive interviews were conducted through video meetings.

These interviews aimed to comprehensively elucidate how COVID-19 had influenced the participants' lives and work within their families. The questions were structured around distinct phases: pre-COVID, during the pandemic, and post-COVID. Participants were encouraged to freely articulate their experiences, responding to queries like 'describe your life before COVID,' 'What impact did the COVID pandemic and lockdown have on you?' and 'What measures would be necessary to alleviate these effects?'.

Findings

In examining the transformations in daily family life amidst the COVID-19 lockdown, the research delves into interviews with various participants, underscoring the reinforced role of women within the familial structure. Notably, one participant highlighted the escalation of women's responsibilities in childcare and homeschooling, while another noted a heightened load in fundamental household tasks like cooking and cleaning compared to the pre-COVID-19 era. Despite these challenges, some interviews showcased a positive dimension, revealing an augmented familial bond amid increased shared time during the lockdown. This indicates that amidst the hardships, there emerged a strengthening of relationships among family members. Additionally, several interviews underscored the potential for an enhanced quality of life and improved time management, as individuals found opportunities for self-reflection during the lockdown.

Conversely, post-COVID-19 lockdown, the study indicated that four out of ten interviews reflected a rise in the dual burdens of housework and professional responsibilities. This escalation was attributed to the heightened challenges faced by women, who, already burdened with traditional caregiving and child-rearing responsibilities during the lockdown, now confronted an additional workload upon returning to office-based work.

In essence, the research illuminated a nuanced reality, wherein individuals simultaneously experienced the negative consequences of increased traditional burdens on women during the COVID-19 lockdown and the positive outcomes of strengthened familial bonds through shared time. Paradoxically, post-lockdown, the study revealed an exacerbation of burdens, particularly for women, as the demands of office work compounded existing traditional care responsibilities.

(3) Impact of the COVID-19 pandemic on parent, child, and family functioning (Feinbergetal.,2022)

Objectives of the study

This study delves into the profound stress experienced by families during the COVID-19 pandemic—confronting isolation at home while being detached from society and contending with uncertainties related to health. Within this framework, the research scrutinizes alterations in mental and behavioral health, as well as shifts in family dynamics between parents and children in households with children. Moreover, it investigates variations in overall well-being and seeks to identify the types of families encountering the most challenges in this regard. The study also explores factors that either alleviate or exacerbate these difficulties. For instance, it posits that a synergistic co-parenting relationship might mitigate the challenges to family well-being arising from the pandemic. Additionally, the research considers how changes in well-being may be contingent upon factors such as the level of parental education or income.

Methods

This study undertook a comprehensive examination by sampling families in the regions of Pennsylvania, Delaware, and Texas within the United States. It sought to investigate the transformative effects of the COVID-19 pandemic on family functioning. Employing a quantitative approach, the study spanned the pre-pandemic period from 2017 to 2019 and the subsequent year of 2020 using t-tests and Hierarchical Linear Modeling (HLM). Through these statistical methods, the research aimed to precisely quantify the impact of the pandemic on various facets of family functioning. Furthermore, the study delved into the nuanced aspects of family life, considering variables such as parental gender, educational attainment, and the impact of conflicts related to co-parenting.

Findings

First and foremost, the most noteworthy finding is that depression, child externalizing, and internalizing problems have all significantly worsened after the onset of the pandemic compared to before. Specifically, for parents, the severity of depression has increased by 2.4 times compared to pre-pandemic levels, while child externalizing and internalizing problems have increased by 2.5 and 4.0 times, respectively. In the context of child externalizing problems, a primary example is children expressing anger, while internalizing behavior problems manifest as increased tearfulness or unhappiness. Although it is relatively small compared to the level of depression of parents and the deterioration of children's externalizing and internalizing, it was found that the quality of family relationships such as co-parenting also deteriorated.

Additionally, through this study, it has been observed that families with higher education levels and lower conflict in co-parenting before the pandemic experienced a greater increase in depression levels after the pandemic. However, it is crucial to interpret these results recognizing that families with these characteristics had lower levels of depression even before the pandemic. Lastly, concerning gender, the study indicates that mothers within families experienced a more pronounced worsening of depression after the pandemic compared to fathers.

(4) The COVID-19 pandemic and its impact on families' mental health: The role played by parenting stress, parents' past trauma, and resilience (Marzilli et al., 2021)

Objectives of the study

This study analyzes the impact of COVID-19 on the mental health of family members, exploring how this influence varies depending on parents' previous traumas and mental states. Especially, the study sought to investigate the potential mediating roles of parents' peritraumatic distress related to COVID-19 and parenting stress in the relationship between parents' previous exposure to trauma and parental resilience and the emergence of psychopathological difficulties in children. The study's hypotheses were as follows: (a) Parental resilience may play a mitigating role in counteracting the adverse effects of the psychopathological impact of COVID-19 on parents and parenting stress; (b) Elevated levels of parents' past traumas may introduce an additional risk factor in these dynamics.

Methods

The study, conducted from October 2020 to January 2021 with 487 Italian parents of children aged 2 to 16, explored the impact of COVID-19 on family life and parental well-being. The online survey gathered sociodemographic data and assessed changes in family dynamics, including increased caregiving and educational responsibilities. The study also examined factors influencing psychological adaptation to COVID-19, such as past parental trauma and resilience abilities. Stress in parent-child relationships was assessed. Utilizing survey data, the research employed Pearson’s correlation analyses to identify significant correlations. Hierarchical multiple regression analyses were then conducted to understand the impacts of parents' peritraumatic distress, past trauma, and parenting stress on children's psychological challenges, adjusting for relevant covariates. Two sequential mediation analyses investigated whether parent distress and stress, prompted by COVID-19, mediate the connection between parental past trauma and resilience, influencing the development of psychopathological difficulties in children.

Findings

The results of calculating Pearson's correlation coefficient indicate a significant correlation between parental trauma experiences due to COVID-19 and psychological difficulties in children. Additionally, the regression analysis results show that parental peritraumatic distress, past traumas, and stress related to COVID-19 contribute to a higher level of psychological difficulties in children. Finally, the results of the two sequential mediation analysis suggest that parental resilience has an impact on reducing parental stress and COVID-19-related peritraumatic distress, and higher levels of parental stress and COVID-19-related peritraumatic distress are associated with increased psychological difficulties in children. One distinctive aspect of this study, compared to previous research on psychological difficulties within families due to COVID-19, is that it precisely analyzes the relationship between parental mental states and children's psychological difficulties.

(5) The impact of COVID-19 quarantine measures on the mental health of families (Al Gharaibeh et al., 2022)

Objectives of the study

This study examines the impact of the COVID-19 lockdown on family mental health, with a specific focus on analyzing the detailed effects such as intra-family tension, discord, domestic violence, digital media addiction, and depression. The distinctive feature of this research lies in its comprehensive analysis, considering not only the short-term but also the long-term consequences of the pandemic on family mental health. Unlike other studies that have predominantly analyzed the immediate effects of COVID-19 on family mental health, this research delves into the enduring repercussions. An additional noteworthy aspect is the choice of Jordan, a developing country, as the analytical focus, providing a unique perspective on how the COVID-19 lockdown affects family mental health in developing nations.

Methods

This study conducted a qualitative analysis based on online interviews with 20 participants living in Jordan. All participants are between the ages of 30 and 51 and have school-aged children. Due to difficulties in recruiting participants during the COVID-19 period, samples were selected through snowball sampling, and the study was conducted in Irbid City, where the first lockdown in Jordan took place.

Findings

Firstly, according to the interview results conducted in this study, a majority of families reported experiencing issues stemming from mental health problems such as sleep pattern disorders, dietary changes, excessive digital media use, anxiety, depression, abdominal pain, and headaches. They attributed these problems to health issues among family members due to a lack of socialization and physical activity. Furthermore, respondents expressed anxiety about the health and future of family members, as well as concerns about education and employment. It is crucial to note that these phenomena ultimately had a negative impact on the relationships among family members. While there was a positive aspect during the COVID lockdown period, where family members could bond closely by spending time together, it also led to psychological and physical abuse. Moreover, many respondents mentioned that family relationships deteriorated due to psychological stress. Through interviews in actual developing countries, this study revealed a significant deterioration in the mental health of families due to COVID.

(6) The impact of school closure and social isolation on children in vulnerable families during COVID-19: a focus on children's reactions (Larsen et al., 2022)

Objectives of the study

The public health measures imposed due to the pandemic not only have a significant impact on vulnerable children, particularly those susceptible to shocks, but can also have long-term effects into adulthood. This study analyzes the effects of homeschooling and social isolation on children caused by the COVID-19 pandemic. Specifically, digital homeschooling resulting from school closures deprived children of opportunities for socialization processes learned in school, relationships with peers, and emotional support from teachers. Moreover, homeschooling occurred in strict social isolation conditions, leading children to experience loneliness and negative emotional effects. This study analyzes these phenomena from a longitudinal perspective.

Methods

This study collected data from the Norwegian Family Dynamics Study (FamiliesForSK). In the year 2020, when Norway implemented lockdown measures due to the COVID-19 pandemic, FamiliesForSK collected data on the experiences of families during these lockdown measures. This study utilized data from 442 children collected within this context. Hierarchical linear regression, controlling for variables such as the psychological vulnerability of children, was employed in the analysis.

Findings

In the analysis of this study, first of all, children exhibited minimal immediate reactions, while somatic and cognitive responses were pronounced. In other words, rather than emotional reactions such as sadness, fear, or anger, they experienced adverse effects on aspects related to sleep and concentration. This phenomenon was interpreted as potentially stemming from the increased attention children received within the family compared to before the pandemic. Additionally, due to homeschooling, children might have experienced less stress compared to what they encountered when being supervised at school.

Almost all COVID-related predictors were found to be associated with children's reactions, with the most robust predictor being the family stress and instability perceived by the child. Considering the influence children easily undergo based on the general family atmosphere, this outcome seemed quite natural. Moreover, the study observed that children who adapted well to homeschooling exhibited fewer somatic and cognitive reactions, suggesting that homeschooling acted as a buffer. The interpretation here was that children, by being more autonomous and having the opportunity to engage in self-directed learning, found homeschooling to be a mitigating factor.

Lastly, concerning the developmental aspect of children, the study analyzed the relationship between a child's age and their COVID-related reactions. It revealed that older children were more vulnerable to reacting to family stress and instability.

(7) Inequalities in the distribution of COVID-19-related financial difficulties for Australian families with young children (O’Connor et al., 2022)

Objectives of the study

The global economy continues to grapple with the repercussions of the COVID-19 pandemic, an enduring shock that has left an indelible mark. This study delves into the economic upheaval experienced by families amid this unprecedented global recession, with a focus on identifying which families bore the brunt of this shock. It specifically explores the intricate ways in which economic challenges within families reverberate, particularly impacting children through avenues such as heightened parental psychological stress, parenting complexities, and strained familial relationships.

This research employs a quantitative approach to meticulously scrutinize the financial hardships encountered by families due to the COVID-19 pandemic. Notably, the investigation delves into the pre-existing socioeconomic disadvantages within families, examining how these conditions predisposed them to exacerbated financial difficulties during the crisis. In essence, the study aims to unravel three key aspects: (1) the extent of economic struggles faced by families with children aged 0-8 throughout the pandemic, (2) the intricate relationship between pre-pandemic socioeconomic disadvantages in parents and the economic challenges experienced during the pandemic, and (3) whether the socioeconomic disadvantages of grandparents further compounded these economic difficulties.

Methods

This study conducted an online survey targeting 533 families residing in Australia, where at least one grandparent was alive. The sample aimed to explore the socioeconomic difficulties (SED) experienced by parents before the onset of the COVID-19 pandemic, quantifying higher scores based on parental educational levels and occupational statuses as indicative of elevated challenges. Economic hardships were measured through factors such as unemployment, changes in income levels, and difficulties in essential expenditures like mortgage, rent, food, and healthcare-related expenses.

To analyze the relationship between pre-pandemic SED of grandparents and parents and subsequent economic challenges, logistic regression models were employed. This statistical approach allowed for a nuanced examination of the intricate connections between the socioeconomic conditions of grandparents and parents before the pandemic and the ensuing financial difficulties experienced by families.

Findings

Following a comprehensive analysis of the study findings, it was observed that approximately one-third of respondents, during both the initial and mid-stages of the COVID-19 pandemic, reported facing economic adversities (34% initially and 32% mid-term). Notably, parents with elevated levels of socioeconomic difficulties (SED) prior to the onset of COVID-19 encountered economic challenges at a notably higher rate. Specifically, 20% of parents with high SEDs experienced multiple economic difficulties, while only 6% of those with lower scores encountered similar challenges.

Moreover, the research indicated that parents were more likely to undergo economic hardships due to COVID-19 if their grandparents had high SEDs before the pandemic. However, the extent of this association was comparatively lower than the correlation observed between the SED levels of parents and the economic challenges they faced.

In summary, the economic impact of COVID-19 on families is evident, underscoring the fact that pre-existing socio-economic disadvantages as measured via education and occupation played a substantial role in influencing families' vulnerabilities during this crisis.

(8) The impact of the COVID-19 pandemic on the employment situation and financial well-being of families with children in Austria: Evidence from the first ten months of the crisis. (Steiber et al., 2022)

Objectives of the study

The COVID-19 pandemic has exerted diverse socio-economic impacts, with substantial effects on the labor market being particularly noteworthy. Many individuals lost their jobs due to the pandemic, leading to the inevitable creation of short-term employment to alleviate the shock, consequently inducing structural changes in the labor market. This study analyzes the impact of the COVID-19 pandemic on the employment status of parents within families and subsequently examines its influence on the financial situation of families with children. Specifically, even accounting for government subsidies, job losses resulting from COVID-19 are anticipated to significantly impact households, while short-term employment is expected to lower wage levels for workers, adversely affecting the livelihoods of low-income families. This study delves into the familial employment and financial consequences brought about by COVID-19. Unlike some other studies, the analysis excludes the effects based on gender within the family.

Methods

This study utilized a survey of 2,000 respondents aged 20 to 64 residing in Austria as a sample for analysis. Of these, 80% participated in an online survey, while the remaining 20% were interviewed via telephone. The study investigated respondents' employment situations before and after the onset of the COVID-19 pandemic, as well as inquired about any instances of income reduction. To assess the financial situation, respondents' feelings about their household income were aggregated by comparing their responses before and during the pandemic. Based on this data, the study initially analyzed the risk of income reduction due to unemployment or short-term employment. Furthermore, it examined whether this risk varied depending on factors such as the number of breadwinners in the family, the age of children, and other relevant variables. Finally, the study delved into analyzing which types of family structures were experiencing financial difficulties.

Findings

According to the analysis of this study, regarding changes in unemployment and short-term employment due to COVID-19, 39% of male respondents and 34% of female respondents experienced short-term employment or unemployment in the first half of 2020. By the end of 2020, 43% of employed males and 37% of females had encountered short-term employment or unemployment. Secondly, concerning income reduction, approximately one-third of families experienced a decrease in income. Specifically, families with three or more children (40%) and single-parent families (42%) had a higher proportion of income reduction. Notably, among them, dual-income families with lower education levels and male breadwinner families had particularly high proportions of income reduction. The family type most significantly affected by income reduction due to unemployment and other factors was immigrant families without Australian citizenship. Despite government subsidies and the provision of short-term employment to mitigate the labor market impact of COVID-19, this study reveals that family financial crises were severe. Particularly, sole-breadwinner families and families with multiple children faced exacerbated financial difficulties due to both pre-existing economic challenges and the additional shocks from the COVID-19 employment market impact. It is evident that even dual-income families with children experienced significant hardships due to household income reductions.

(9) The influence of work-family conflict on burnout during the COVID-19 pandemic: The effect of teleworking overload (Barriga Medina et al., 2021)

Objectives of the study

During the COVID-19 pandemic, this study posits that the reduced commuting time resulting from telecommuting may paradoxically lead to extended working hours. Furthermore, attention is given to the potential consequences of these prolonged work hours, specifically exploring the correlation with work-family conflict and burnout. The research aims to investigate whether working alongside family members during the pandemic is associated with physical and emotional burnout.

Methods

This study conducted an analysis using data obtained from an online survey conducted in Ecuador in July 2020. A total of 1,044 respondents living in Ecuador were utilized as the sample for this research. Initially, to measure the relationship between work-family conflict and burnout, the study employed confirmatory factor analysis (CFA). Subsequently, utilizing work interference with family and family interference with work as independent variables and burnout as the dependent variable, the study conducted an analysis through a structural equation model (SEM).

Findings

The analysis revealed initially a high level of work-family conflict. This stemmed from the advantage of telecommuting in saving commuting time, which, in the context of Ecuador, translated into additional working hours, leading to conflicts within family dynamics. Moreover, a positive correlation was observed between work-family conflict and burnout. Specifically, work-family conflict significantly influenced physical fatigue and emotional exhaustion. This inference suggests the impact of stress resulting from the new work environment and the responsibilities emanating from both home and work. Notably, the findings of this study indicate that telecommuting due to the COVID-19 pandemic created a stressful situation, requiring individuals to manage both family responsibilities in the confined environment of home and the workload associated with remote work.

(10) The impact of COVID-19 on family relationships in Italy: Withdrawal on the nuclear family (Mazzucchelli et al., 2020)

Objectives of the study

This study explores how people's lives and relationships have changed in both family and work perspectives during the lockdown situation caused by the COVID-19 pandemic. Specifically, it investigates how Italian families have managed the balance between work and caregiving responsibilities. The study aims to examine strategies employed by working parents to simultaneously manage their careers and family caregiving. Consequently, the research focuses predominantly on working parents who navigate the equilibrium between caregiving and professional responsibilities while working remotely from home. Additionally, it analyzes the gender aspect, placing particular emphasis on women who primarily undertake caregiving roles.

Methods

In this study, data was collected from Italian families during the nationwide lockdown implemented in Italy from March to April 2020, prompted by the COVID-19 pandemic. An online survey was conducted targeting 1,391 adults aged 18 to 70 residing in Italy. Initially, childcare strategies were analyzed based on sociodemographic differences using the chi-square test. Sociodemographic variables included gender, age, education level, occupation, number of children, family income, and more. Subsequently, positive or negative coping levels were tested based on sociodemographic variables using ANOVA and t-tests. Finally, linear regression analysis was conducted through correlation analysis of variables to explore relationships among them.

Findings

Firstly, regarding childcare strategies and gender, the results indicated that men primarily entrust childcare responsibilities to their wives, leading to a greater burden on women compared to men. In terms of age, younger couples tended to rely on grandparents for childcare, suggesting a heavier burden for older couples to handle childcare themselves. In families with four or more members, it was observed that solving childcare within the family led to less reliance on external assistance. Testing the differences in positive coping levels based on sociodemographic variables revealed significant variations according to age. Specifically, parents aged 35 and below, as well as those between 36 and 45, exhibited higher coping levels compared to parents aged 56 and above. Additionally, parents without children showed higher coping levels than parents with children. In summary, the lockdown due to the COVID-19 pandemic has increased the burden of childcare within families. This burden is particularly pronounced for women and older couples. Furthermore, it was noted that coping levels are lower for couples with children, especially those who are older.

4. Discussion

In the course of conducting a scoping study to investigate the multifaceted impact of COVID-19 on families, this study primarily relied on electronic database searches to identify pertinent studies. Leveraging platforms such as Web of Science (https://www.webofscience.com/), the Applied Social Sciences Index & Abstracts (ASSIA, http://www.proquest.com/assia/), and Scopus (https://www.scopus.com/), among others, allowed for a comprehensive exploration of the available literature. The use of electronic databases offered the distinct advantage of expeditiously sifting through a plethora of studies by fine-tuning search terms and specifying categories. Furthermore, the accessibility to study abstracts and summaries streamlined the screening and selection process, facilitating the identification of studies highly relevant to the study's focus. However, it is crucial to acknowledge a drawback, namely the restricted accessibility to research data not encompassed within these databases.

To mitigate this limitation, alternative methods, as recommended by Arksey and O'Malley (2005), can be employed. These include hand-searching key journals, exploring relevant organizations, and delving into conference proceedings. By employing these alternative approaches, researchers can enhance the comprehensiveness of their search strategy and potentially uncover valuable studies that may not be captured by electronic database searches alone. While these alternative methods offer the advantage of a higher probability of uncovering studies directly pertinent to the topic, it is important to recognize that such an approach may necessitate a greater investment of time and effort compared to electronic database searching.

5. Conclusion for chapter III

This study embarked on a scoping study to delve into the multifaceted impacts of phenomena stemming from the onset of COVID-19, such as school closures, the shuttering of care facilities, unemployment, and remote work, on families. Among the closely scrutinized 10 studies, four predominant impacts on families surfaced in the wake of COVID-19, providing a nuanced understanding of the challenges faced by families during this unprecedented time.

Firstly, there was a conspicuous manifestation of gender inequality. Traditionally, women, who bore the responsibility of household chores and caregiving, found themselves grappling with additional burdens in educating and caring for children due to the closure of schools and care facilities. This underscored that in an environment where shared parenting is not fully entrenched, women experienced supplementary burdens and distress in comparison to men. The study highlighted the need for societal structures that support a more equitable distribution of caregiving responsibilities. Secondly, a discernible adverse impact on the mental health of family members was observed. The advent of COVID-19 resulted in heightened stress, depression, and sleep disorders for both parents and children. Notably, a significant correlation was discerned between parental stress and the psychological issues of children, underscoring the pivotal role of stress and trauma management in preserving children's mental health. Older children within the family were found to be more susceptible to family stress, emphasizing the importance of tailored mental health support for different age groups within families. Thirdly, financial predicaments within families came to the fore. The emergence of unemployment due to COVID-19 and government policies offering short-term employment culminated in diminished income levels for many families. This economic downturn was significantly influenced by socioeconomic factors such as the education level and occupational status of parents. The study shed light on the interconnectedness of economic policies and family well-being, emphasizing the need for targeted financial support for vulnerable families. Lastly, the aspect of work-family conflict emerged prominently. Remote work, an outcome of COVID-19, inevitably led to clashes between family life and work. Parents working from home grappled with fatigue and emotional exhaustion during this process. Particularly, older parent families encountering challenges in receiving external help in caregiving witnessed a more pronounced occurrence of work-family conflict. The study underscored the importance of flexible work policies and support systems for families navigating the complexities of remote work.

In conclusion, through this comprehensive scoping study, it was elucidated that COVID-19 had a nuanced and extensive impact on families, entailing financial challenges, mental health issues, and gender-related complexities. The findings provide valuable insights for policymakers, healthcare professionals, and support services to develop targeted interventions and support mechanisms for families facing the enduring consequences of the pandemic.

IV. Analysis 3 : Evaluating progress on the reduction of global poverty and Policy Proposal to Achieve SDG Goal 1.1 (by 2030, eradicate extreme poverty for all people everywhere)

1. Background

The COVID-19 pandemic, which has recently been suffering around the world, has damaged all sectors of human society, including the economy, society and culture, and the damage is still ongoing. In particular, the low-income class, which is relatively vulnerable to disease and has difficult economic conditions, suffered significant damage compared to the high-income class (Menon, 2020). In addition, the cost of living crisis significantly due to the recent Russia-Ukraine war is also causing great damage to the low-income class. In this regard, SDG Goal 1.1, ‘by 2030, eradicate extreme poverty for all people everywhere’, was also directly negatively affected. This report will examine the trend of the poverty rate from 1990 to 2019, and further analyze the poverty rate in 2020 and beyond by reflecting the impact of the recent COVID-19 pandemic. In addition, the report aims to analyze the effects and advantages and disadvantages of various policy alternatives affecting poverty, and to present policy priorities for achieving SDG goal 1.1 in 2030.

2. Evaluating progress on the reduction of global poverty since 1990.

Focusing on the absolute definition of poverty to set a specific goal

The concept of poverty in this report is set as an absolute definition because SDG goal 1.1 currently established is the elimination of extreme poverty. In other words, this report focuses on the concept of poverty defined by the world bank (1990), 'the inability to attack a minimum standard of living', and measures extreme poverty as the total number of poor people with a daily income of US $2.15 or less, the median poverty line in the world's 15 poorest countries. In addition, it was adjusted using the purchasing power parity in 2017. Of course, there are criticisms that this approach lacks consideration of the degree of poverty below the poverty line and that there is no policy consideration of the non-poor over the poverty line (Holden, 2014). However, in order to clarify the target of the policy, the report focuses on extreme poverty despite this criticism. Additionally, considering that the World Bank set a new target for SDG 1.1 at less than 3% of the global extreme poverty rate by 2030, the report also focuses on this target.

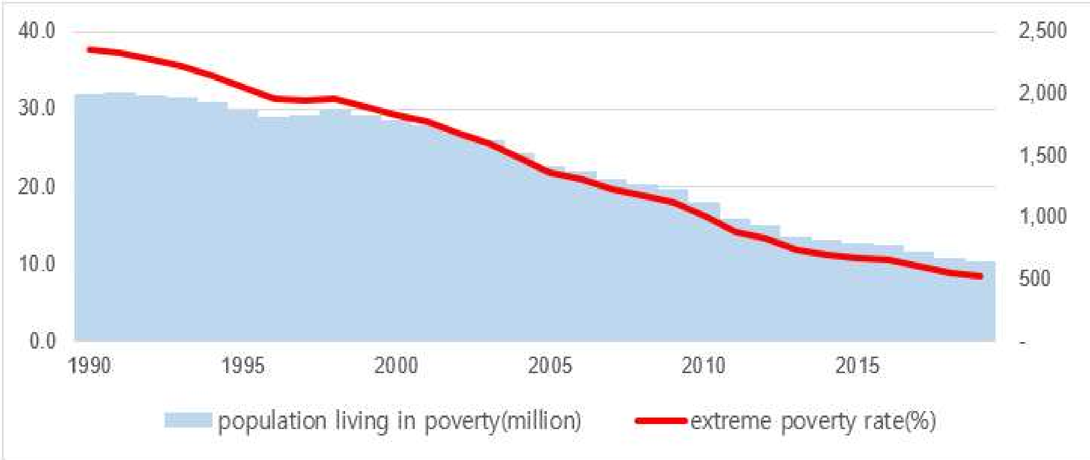
Global extreme poverty continued to decline from 1990 to 2019. However, poverty rate in Sub-Saharan Africa remains high

Figure 6 shows that the global extreme poverty rate and the population living in poverty are continuously decreasing. The pace of decline is gradually slowing, but it is encouraging that the downward trend continues. Specifically, the global poverty rate, which reached 37.8% in 1990, fell by half to 18.8% in 2008, and fell sharply to 8.4% in 2019. It can be seen that the population living in poverty also fell from 1,996 million in 1990 to 648 million by 2019.

Referring to the extreme poverty rate by region in Figure 7, except for the Middle East and northern Africa, the poverty rate in the rest of the region continued to decrease. Among them, it can be found that the poverty rate in East Asia and the Pacific fell the most rapidly and greatly contributed to lowering the overall global poverty rate. The biggest reason for this is that rapid economic growth due to China's pro-market policy since the 1980s has lowered the poverty rate (Holden, 2014). To describe one more thing, economic growth due to the high education investment in East Asia, including Singapore and Korea, contributed to the decline in the poverty rate in the 1970s and 1980s, although not shown on the graph (Awan et al., 2011). This is a good practice in the policy option discussion that will follow in that it suggests that boosting economic growth policies and education policies in developing countries can lower the poverty rate.

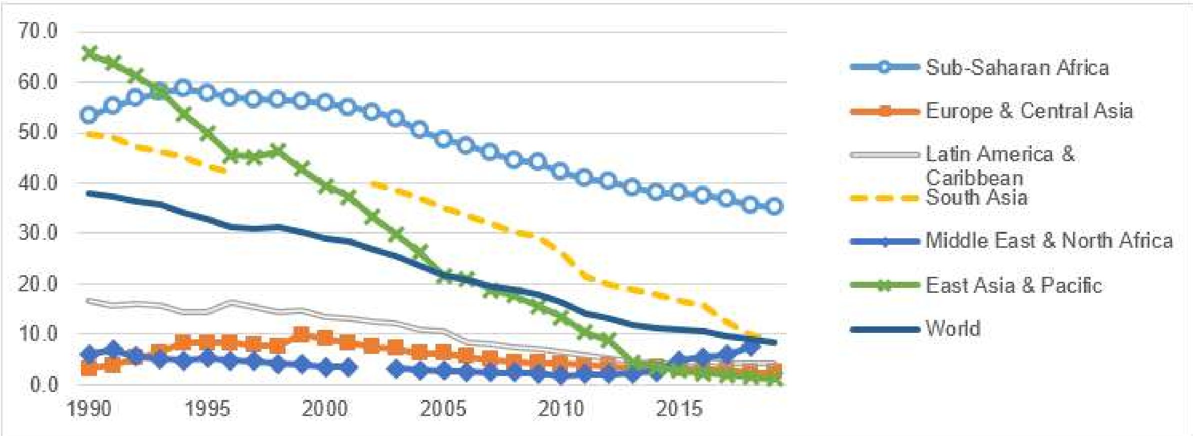
Another point to highlight is the Sub-Saharan Africa region. Although the poverty rate in this area fell from 53.3% in 1990 to 35.1% in 2019, it can be seen that it has still the highest poverty rate in 2019. In other words, it can be seen that it is one of the main areas to focus on to achieve the SDG 1.1 goal in 2030.

Figure 6. Global extreme poverty rate and number of extremely poor, 1990-2019



Source: World Bank, Poverty and Inequality Platform, http://pip.worldbank.org

Figure 7. Extreme poverty rate by region, 1990-2019

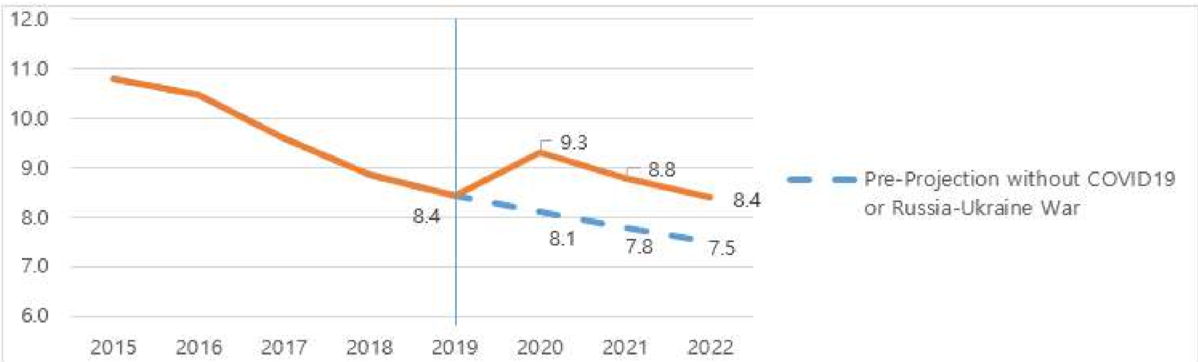


Source: World Bank, Poverty and Inequality Platform, http://pip.worldbank.org

COVID-19 and rising energy and food prices have had a direct impact on the low-income class, raising the poverty rate from the previous projection

World Bank (2020, 2022) recently re-projected the poverty rate by reflecting changes in the situation such as the outbreak of COVID-19 and the Russia-Ukraine war. First of all, referring to Figure 8, assuming that COVID-19 did not occur, the poverty rate in 2020 was expected to be 8.1%, lower than 8.4% in 2019, but the new projection for the poverty rate in 2020 reflecting the COVID-19 was 9.3%, which is higher than in the previous year. In other words, about 90 million people are expected to suffer from absolute poverty due to the COVID-19 outbreak. And the current projection of the poverty rate in 2021 and 2022 was also higher than the previous projection due to rising food and energy prices triggered by the Russia-Ukraine war. Initially, the poverty rate projection was 7.8% in 2021 and 7.5% in 2022, but the poverty rate is expected to rise due to rising costs of living, reaching 8.8% in 2021 and 8.4% in 2022. In other words, it can be confirmed that the damage to the low-income class due to COVID-19 and the rising cost of living directly adversely affects the poverty rate, which may not be just temporary. In conclusion, it is necessary to respond to these issues when seeking policy options to achieve SDG 1.1. In addition, the poverty rate in 2030 was expected to exceed the target of 3% even before the outbreak of COVID-19, and the poverty rate level in 2030 is expected to rise to 6.8% due to COVID-19 (World Bank, 2002). Accordingly, special measures are needed to alleviate the poverty rate.

Figure 8. Pre-projection without COVID-19 or Russian-Ukraine war and Current projection for the global extreme poverty rate in 2020-2022



Source: World Bank (2020, 2022)

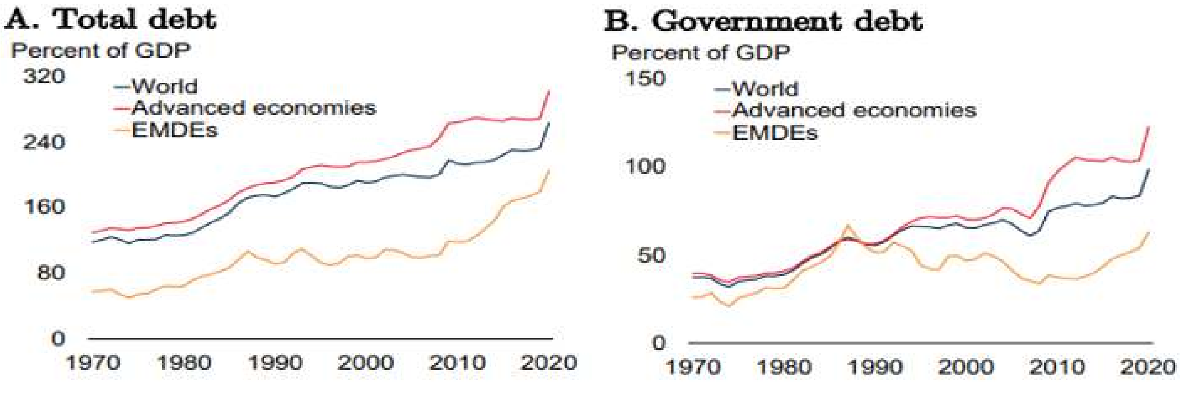
3. Evaluating Policy options to ensure SDG Goal 1.1

(1) Temporary cash benefits for the COVID-19 victims and low-income households targeted policies in response to the cost of living crisis

As explained in the previous poverty rate analysis, the recent COVID-19 outbreak and rising food and energy prices resulted in a rise in the poverty rate projection by about 1% compared to the previous projection. In order to achieve the SDG 1.1 target in 2030, policy options are needed to mitigate these shocks from acting as permanent damage rather than temporary shocks to the low-income class.

First of all, according to the OECD (2020), financial support policies for COVID-19 victims are already being implemented in many countries, and are effective policy options until the end of COVID-19. And the form of support is usually cash benefits. For example, Korea introduced Emergency support for low-income households to prevent households whose income has plummeted due to unemployment caused by COVID-19 from falling below the poverty line (MoEF Korea, 2021). The advantage of this fiscal policy is that it can achieve rapid effects by targeting the affected class directly. In other words, direct cash assistance to the poor can prevent them from falling below the poverty line in advance. In addition, it has the advantage that the effect works faster than tax policies (OECD, 2020). However, the disadvantage that fiscal policy should be temporarily used should be considered because it limits the capacity for future fiscal policy by increasing the national debt. In fact, referring to figure 9, it can be seen that the national debt of many countries has increased in the process of responding to COVID-19.

Figure 9. Debt developments during COVID



Source: Kose et al. (2021)

Second, it is possible to discuss policy options that reduce the burden of the cost of living, which is a factor that increases the poverty rate projection after 2021. As food and energy are essential goods, direct government intervention is needed because it has a large impact on low-income households. First of all, the government's intervention policy on prices can be considered. According to the IMF (2022), advanced countries commonly use price-cutting policies such as value-added tax cuts (for example, in Belgium and Italy) or excise taxes cuts (for example, in Korea and France) on energy-related products. In the case of developing countries, price subsidies were mainly used, and the reason why domestic energy prices rose less despite the rise in international energy prices in the Middle East and North Africa is the result of the use of these price subsidies. Additionally, it is argued that the temporary cash transfer policy for vulnerable households is the most effective (Amaglobeli et al., 2022). In the case of price control, the demand for energy is maintained, while the limited cash transfer policy for low-income households has the advantage of reducing the overall demand for energy and relieving the difficulties of low-income households.

(2) Official Development Assistance along with improved governance for economic growth in Sub-Saharan Africa

As analyzed in Chapter II, one of the main factors lowering the global extreme poverty rate since 1990 was rapid economic growth due to China's pro-market policy (Holden, 2014). Many studies have also proved that economic growth is one of the most effective means of alleviating poverty. One study argued that on average, if the economic growth rate rises by 10%p, the poverty rate decreases by about 25% (Adams, 2002). Policies that increase global economic growth rates are too broad and difficult to specify, so focusing on areas with high poverty rate will help with specific discussions. In particular, the discussion will be limited to the Sub-Saharan Africa region, which has the highest poverty rate of 35.1% in 2019.

First of all, it is very difficult in reality to increase the economic growth rate in the Sub-Saharan Africa region in a short period of time. Since Africa's own efforts alone have limitations, help through international cooperation is urgently needed. In particular, in the case of low-income countries in Sub-Saharan Africa, official development assistance (ODA) is so important that the proportion of ODA in the gross national income reaches up to 31.6%. In other words, one of the most effective means of improving growth and reducing poverty rates in Sub-Saharan Africa is ODA (Mahembe and Odhiambo, 2021).

However, referring to figure 10, as ODA in Sub-Saharan Africa has been gradually decreasing in recent years, international cooperation is needed.

Figure 10. Net ODA received in total Sub-Saharan Africa (% of GNI)

Source: https://data.worldbank.org

However, there are several preconditions for ODA to alleviate poverty in Sub-Saharan Africa. It is an improvement in governance that includes eradicating corruption in African countries and establishing the rule of law. In addition to life and property damage caused by civil wars in Africa, poverty increases due to immigration and unemployment in the region hinders economic growth. And corruption within the country distorts resource distribution and acts as a hindrance to economic growth (Luckham, 2001). In addition, when providing ODA, the absolute amount is important, but where the resources are distributed greatly influences the impact on poverty improvement. ODA donor countries should provide conditions so that resources are allocated to places for democratic development in Africa when providing aid, and ODA recipient countries should also try to redistribute so that the fruits of growth can be passed on to the poor (Mahembe and Odhiambo, 2021).

(3) Providing new economic and social opportunities by easing migration policies for the poor

If the country does not have the capacity to rescue the poor structurally below the poverty line, a policy that provides new opportunities through migration may be an option. Since the migration policy in this discussion is used as a means of poverty alleviation, it would be better to focus on ‘international migration’ rather than ‘internal migration’, and to limit the discussion to ‘voluntary migration’ rather than ‘forced migration’.

First of all, it is necessary to confirm whether migrants can actually benefit economically through migration. Related studies argue that migrants can get employment opportunities and thereby escape poverty by increasing income. (Mahmood, 2011). For example, there are studies showing that migrants from the Philippines or Indonesia earn four to five times more than they earn in their own country. (Firdausy, 2005). However, there are several preconditions for this migration policy. It should be noted that there are migrants who benefit economically from these migration policies, but if they do not get an opportunity, they may fall into worse poverty, which may trigger other social problems such as crime.

In other words, migration policy has a duality that can be a cause of poverty or a means of alleviating poverty. The government should predict the demand and supply of the job market in advance, predict the industrial areas in which migrants can get a job, and create social protections to prevent exploitation or social discrimination against migrants.

(4) International support for debt relief for poor countries to overcome poverty

One of the reasons why it is difficult for poor countries to get out of poverty is debt. Interest costs through debt make it difficult to make basic investments for the people, so efforts to reduce debt are needed for these countries. In this respect, in 1996, the IMF and the World Bank created the original Initiative for Heavenly Indebted Poor Counties (HIPCs) to lower their debt to a sustainable level for the world's most indebted countries, especially in Africa (Irving, 2001). Instead of receiving low-interest or interest-free loans from the World Bank or IMF, HIPC Initiative beneficiary countries should set the goals for the sustainable debt level which is set as a present value of debt to government revenue and export. Additionally, they should establish and report strategies to reduce poverty. This strategy was designed to help reduce poverty, including government expenditures for health, education, and social services for the poor (IMF, 2023). The recent slowdown in economic growth due to the COVID-19 pandemic, as well as a drop in exports and government revenues, further exacerbated the debt situation in low-income countries. Reflecting on this situation, the G20 launched the Debt Service Suspension Initiative (DSSI) in 2020. Similar to HIPC, this DSSI function to extend debt repayment deadlines in low-income countries (Essers, 2021).

In the cases of HIPC or DSSI, the participation of donor countries is important for sharing the burden. For HIPC, the main contributors are World Bank, IMF, African Development Bank, Inter-American Development Bank, and all Paris Club members. Since these contributions are currently voluntary, it is necessary to encourage advanced countries to participate in poverty alleviation led by international organizations such as World Bank.

(5) Human resource development through education for poverty alleviation

Human resource development through education has been used as part of the anti-poverty policy of international organizations, along with economic growth and minimum social safety net policies for the poor (Townsend and Gordon, 2000). In particular, as discussed earlier, in Singapore and Korea in the 1970s and 1980s, economic growth through high educational investment alleviated the poverty rate. According to the human resource development approach through education, there are two main ways in which education can alleviate poverty. First, the direct link to alleviating poverty is that knowledge and skills can be acquired through investment in education, and higher wages can be received through this. Second, education indirectly helps alleviate poverty because it indirectly enhances women's capacity to meet basic needs such as family planning, use of health facilities, and hygiene (Awan et al., 2011).

To discuss specific educational policies, there is a study that first of all, policies that improve access to children's education and policies that improve the quality of education should be combined (Van der Berg, 2008). In order to increase access to education first, policy alternatives such as exemption from admission fees or subsidies can be considered in terms of demand. In terms of supply, the provision of adequate school facilities and trained teachers is very important, along with policies to increase the supply of schools in places with poor accessibility such as rural areas. Not only children's education but also women's education is one of the important policies for poverty alleviation. In many developing countries, women have fewer educational opportunities than men, making it difficult to get out of poverty. In particular, in Sub-Saharan Africa, where poverty is severe, the gender educational gap is still serious, with the proportion of girls who cannot go to school in 2017 reaching 121 per 100 boys (UN, 2019). In this respect, providing educational opportunities for women is an urgent task.

(6) Transfers and Safety net for the poor people

Those who do not receive the fruits of the growth process or those who are vulnerable to shock even if they are working need a policy approach from transfers or social safety net. For people like the working poor, a transfer that guarantees a minimum livelihood would be appropriate, and for those who are vulnerable to danger, a variety of safety nets are needed (World Bank, 1990). In other words, the safety net has more to do with vulnerability than chronic poverty (Devereux, 2002).

To discuss the transfer policy, there are policies of food provision and public employment schemes (World Bank, 1990). First of all, the most effective and direct way to alleviate poverty is to protect the food security of the poor. In particular, in the case of the poor, the proportion of food purchase costs in income is large, so this can directly relieve their economic burden. These types of food assistance include general food price subsidies, food stamps, and food distribution, etc. In the case of general food price subsidy, although the rich receive some more subsidies than the poor, the share of subsidies in the total income is much larger for the poor, which helps the poor. For example, according to the world bank (1990), the general food subsidy implemented in Egypt in 1981 resulted in subsidizing 3% of the rich household expenditure, while subsidizing 10% of the total expenditure of the poor. This method has the disadvantage of not being able to target the poor directly, although the administrative cost is low. In this respect, food stamps policy has the advantage of more precise targeting of transfer. For example, food stamps, which were implemented in Jamaica in 1984, were provided to pregnant women and children under the age of five who registered with the primary healthcare clinic, and were able to identify their policy targets. Second, transfer through the public employment scheme is characterized by being provided in the form of wages to those who are willing to work but are in poverty because they cannot find a job. This scheme has the disadvantage of offsetting some effects if the poor quit other jobs, but it should be taken into account that they also benefit from the construction of infrastructure in rural areas by this scheme.

As for the social safety net, it functions to provide a social cushion that prevents poor people who are usually above the poverty line from falling below the poverty line due to social risks. In this respect, customized safety net policies for the elderly, the disabled, and the unemployed are required depending on the type of risk. If the old social risks were mainly the risk of aging and the risk of income reduction due to unemployment, the recent new social risks such as working poor and child care, are the risks that emerge as a result of the transition to the post-industrial era (Taylor-Gooby, 2004). In this respect, a safety net should also be designed in various aspects such as a pension, health services, and child or elderly care services for the poor.

4. Conclusion for chapter IV : Policy Recommendations

Various policy alternatives have been analyzed so far, and priorities need to be set in order to achieve effective SDG1.1. I would like to propose a priority policy priority by dividing it into short-term policy alternatives and long-term policy alternatives.

[Short-term policy recommendations]

1. Gradually reducing temporary cash benefits for the COVID-19 victims and using that resources for low-income households targeted policies such as cash transfers in response to the cost of living crisis
2. International support for debt relief for poor countries to overcome poverty

First of all, the short-term policy, which should be implemented first, is mainly focusing to lower the poverty rate, which is increasing from the original projection due to the COVID-19 pandemic and the cost of living crisis currently facing the world. Currently, many countries are already offering cash benefits to the poor to respond to COVID-19. However, considering that the recent COVID-19 situation is somewhat calming, this cash-benefit policy needs to be gradually reduced. This is because the government must provide financial resources to cope with the looming cost-of-living crisis, which is now a new shock to the poor. The financial resources prepared through the reduced COVID-19 cash benefit should be actively invested to reduce the burden of energy or food costs for low-income households. At this time, the cash transfer method that can directly ease the burden on the poor is preferable rather than price control that cannot control the demand for energy or food. Additionally, there is an urgent need for international cooperation to resolve the debt of poor countries. As discussed earlier, the government's debt soared worldwide in the process of responding to COVID-19. In the case of poor countries, the level of debt was high, so there was little room to respond to poverty, but the situation became more difficult due to COVID-19. The original Initiative for Heavenly Indebted Poor Counties (HIPCs) or the Debt Service Suspension Initiative (DSSI) organized to ease the burden on debtor countries should be used to relieve the poor countries of poverty.

[Long-term policy recommendations]

1. Official Development Assistance along with improved governance for economic growth in Sub-Saharan Africa
2. Transfers and Safety net for the poor people
3. Human resource development through education for poverty alleviation
4. Providing new economic and social opportunities by easing migration policies for the poor

If short-term responses are policies to overcome the crisis, long-term responses can be said to be fundamental approaches. Among the long-term policies, the top priority is the Official Development Assistance policy for improved governance and economic growth in Sub-Saharan Africa. Although the global extreme poverty rate continues to improve, the poverty rate in Sub-Saharan Africa is still very high at 35% in 2019. Therefore, the most urgent and effective targeting area to achieve SDG 1.1 is lowering the extreme poverty rate in Sub-Saharan Africa area. Especially, international aid is effective in this region because it is very difficult to improve the poverty rate only with its own efforts. For economic growth and poverty alleviation in Sub-Saharan Africa, governance improvement must be combined with ODA. And while the total amount of ODA is important, it should be put on the condition that it will be invested in areas that can directly help poverty improvement.

The second priority is ‘transfers and safety net policies’ for the poor people. The reason is that it is a generally applicable policy worldwide. The transfer has the advantage of creating a minimum environment for living, such as providing the most basic food for the poor or providing a minimum wage through public work projects. In addition, safety net policies that prevent the poor near the poverty line from falling under the poverty line due to the impact of unemployment and aging are also essential for the poverty rate to fall.

The next priority is human resource development through education policy. In fact, it may be surprising that the priority for this policy is somewhat low because the development of human resources through education is the most important policy to prevent the recurrence of poverty. Although the report focuses on policy proposals to achieve the 2030 poverty rate target, it is a field that needs to be steadily invested to prepare for a further future than 2030.

The last priority is the migration policy. Migration policy has the advantage of providing new opportunities in a new environment for poor people who have difficulty finding employment where they currently live. In addition, since the supply and demand of jobs between countries can be asymmetric, the allocation of human resources can also be more efficient. However, migration policy should be cautious because it has the disadvantage that it can cause poverty depending on various environments such as employment maintenance after immigration, living environment, and welfare policy for immigrants.

V. Analysis 4 : A proposal for policy transfer on pension reform for the sustainability of public pensions and the stability of retirement income

1. Background

In many countries, public pension systems have been introduced and developed along with various multi-layered income guarantee systems to guarantee the income of the elderly. However, due to the rapid aging and maturity of the public pension system, the financial situation of the public pension has been worse in most countries, and public pension reform has been continuously promoted to solve these problems. South Korea is facing the same problem. Korea's national pension was first introduced in 1988 and began to be applied to workplaces with more than 10 workers. Subsequently, in 1995, the application was expanded to rural areas and urban areas in 1999, and in 2006, the application was expanded to workplaces with more than one worker, effectively expanding to the entire population. Currently, Korean citizens aged 18 to 59 are required to join the National Pension Service. However, according to the Korean government's fiscal estimate released in March 2023, the Korean National Pension Fund is expected to turn into a deficit in 2041 due to aging and run out of funds by 2055 (The Ministry of Health and Welfare in Korea, 2023).

In this respect, it is necessary to seek policy transfer from other countries that have experienced the sustainability problem of public pensions due to aging. Rose's comment (1991) that lessons can be learned from other countries that have already experienced the same problem is in line with this.

> *“Every country has problems and each thinks that its problems are unique... However, problems that are unique to one country...are abnormal...... confronted with a common problem, policymakers in cities, regional governments and nations can learn from how their counterparts responded”* (Rose, 1991, p.3)

First of all, in selecting countries for policy transfer, it would be helpful to explore the pension systems of other countries to determine whether policy transfer to South Korea is desirable. When selecting a country for transfer policies, it would be desirable to choose in consideration of the spectrum of various welfare states. This is because policy transfer failure may occur if various cultural and institutional environments are not considered in implementing policy transfer. Dolowitz and Marsh (2000) noted that there are three main reasons for this policy transfer failure. The first is the insufficient transfer that occurs when policymakers have insufficient information about how well policies will work in borrowing countries. And the second is incomplete policy transfer, which does not have essential elements for the policy to work well when attempting policy transfer. Finally, inappropriate policy transfers occur when economic, social, and political contexts are not taken into account among countries. In view of this, it would be good to first explore the pension systems of countries with various policy environments and discuss whether they are applicable to Korea.

Subsequently, the cases of public pension reform in each country will be explored to find the elements of policy transfer to South Korea. In this process, two main aspects will be discussed. The first is the sustainability of public pension finances, which is the main goal of pension reform. This is because if public pension finances are not stabilized, it will lose the trust of society, making it difficult to perform its function as compulsory social insurance. It aims to explore the measures taken by each country for the sustainability of pension finances and focus on the process of achieving social consensus in the process. The second is the aspect of guaranteeing retirement income. In the process of promoting public pension reform, the pension amount of pension recipients may inevitably decrease. Even if public pension reform is promoted, policy alternatives to guarantee old-age income should be presented together because the retirement income of the people, which is the purpose of the pension's existence, must be guaranteed.

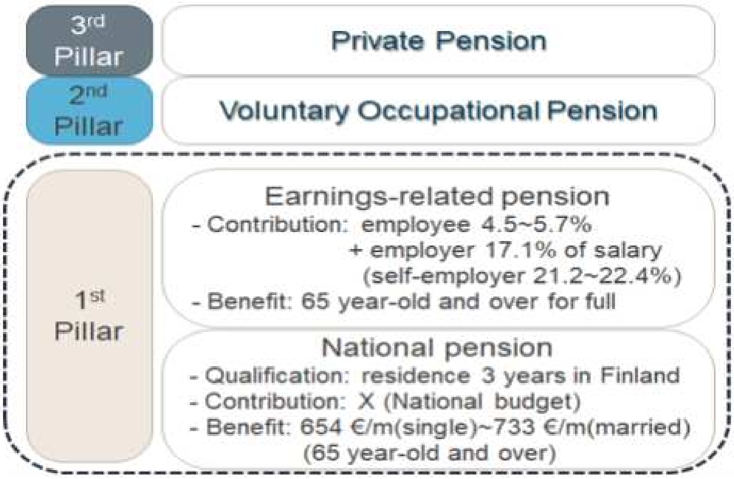
2. Exploring the strengths and weaknesses of policy transfer from other countries

First of all, four countries will be selected to explore the possibility of policy transfer in various policy environments, and the strengths and weaknesses in terms of policy transfer will be analyzed. In this process, four countries are selected using the welfare state typology of Esping-Andersen (1990) to discuss pension systems within various types of welfare states. Esping-Andersen (1990) classified the welfare state into three types: social democratic welfare regime, conservative welfare regime and liberal welfare regime based on de-commodification level, stratification level, etc. The social democratic welfare regime countries have a strong level of de-commodification and pursue the value of universal. Among these social democratic welfare regime countries, Finland is chosen to be discussed. Second, the conservative welfare regime countries maintain the labour market class through the welfare system and preserve the family system. Among these countries, Germany, which has a developed pension system, is selected. Third, Liberal regime countries implement public assistance-oriented welfare policies to meet only very partial needs and implement residual welfare as a safety net. The United States is selected among these countries. In addition to these three categories, Japan, one of the geographically closest countries to Korea, is chosen. In the case of Japan, it is meaningful to discuss policy transfer because there are many similar aspects not only in many social systems and welfare systems but also in cultural and national emotions.

(1) Overview of Finland's pension system & the strengths and weaknesses in terms of policy transfer

Referring to figure 11, Finland's retirement income guarantee system consists of three pillars. The first pillar is the public pension system, the second pillar is the voluntary occupational pension system, and the third pillar is the private pension system. Among them, the most important part is the public pension system which consists of a national pension that applies to all citizens and guarantees minimum income, and an earnings-related pension. Since the public pension system is linked to each other, the pension amount of the national pension varies depending on the earnings-related pension amount (Finnish Centre for Pensions, 2023).

Figure 11. Multi-pillar scheme for old-age income in Finland



Source: Referred to the homepage of the Finnish Centre for Pensions (https://www.etk.fi)

To first discuss the strengths of attempting to transfer policies from this Finnish public pension policy to Korea, there is an empirical aspect of experiencing population aging ahead of time and attempting pension reform accordingly. As of the end of 2020, Finland's total population was 5.53 million, of which 1.26 million were aged 65 or older, accounting for 22.7% of the elderly population (Statistics Finland's Database, 2023). This is higher than the EU average of 20.4%. In particular, Finland's aging population is characterized by a very early progression. Finland had a baby boom between 1946 and 1954 shortly after World War II, and as a result, it already entered a super-aged society in the mid-2010s. The rate and degree of population aging are significant, with the old-age dependency ratio increasing significantly from 20.1% in 1990 to 36.8% in 2020. Accordingly, it was obvious that pension reform due to aging was essential in Finland, and this is why pension policy responses due to aging began before the entry of the 21st century. This has considerable implications for attempting to transfer policies in the situation of the Republic of Korea. In Korea, the aging population is progressing very rapidly, with the proportion of the elderly population tripled from 5.1% in the 1990s to 15.7% in 2020. In particular, the social burden of aging has increased significantly, with the old-age dependency ratio, which represents the proportion of the elderly population aged 65 or older per 100 working-age population, increasing from 7.4% in 1990 to 21.8% in 2020. In this respect, Finland's case, which has already experienced difficulties in pension finance due to aging, has strength in attempting to transfer policies to reform the pension system due to Korea's aging population.

Table 9. Population structure and old-age dependency ratio in Finland and Korea: 1990-2020

		1990	1995	2000	2005	2010	2015	2020
Finland	Percentage of the elderly population (%)	13.5	14.3	15.0	16.0	17.5	20.5	22.7
	Old-age dependency ratio (%)	20.1	21.4	22.4	24.0	26.5	32.3	36.8
Korea	Percentage of the elderly population (%)	5.1	6.2	7.3	9.3	11.3	13.2	15.7
	Old-age dependency ratio (%)	7.4	8.3	10.1	12.5	14.8	17.5	21.8

Source: Statistics Finland’s Database (2023) & Korean Statistics Information Service (2023)

Next, there is a weakness in discussing the policy transfer of the Finnish pension policy to Korea. This is that from the perspective of the welfare state, Korea and Finland have different institutional environments. As already seen in Finland's multi-layered retirement income guarantee system, the public pension, which constitutes the first pillar of the retirement income guarantee system, basically consists of two pensions: the national pension that guarantees the minimum income and the earning-related pension. Referring to table 9, in the case of Finland, as a social democratic welfare regime country, the income replacement rate of public pensions is 56.6%, which is higher than that of liberal regime countries such as the US and the UK. Additionally, in Finland, private pension only plays an auxiliary role in the pension system while it plays an important role in liberal welfare regime countries. In the end, Finland has a high-income replacement rate for public pensions and a relatively small proportion of private pensions (OECD, 2021). On the other hand, in the case of Korea, although the composition of the public pension itself is similar to that of Finland, it can be seen that the income replacement rate of the national pension in Korea is only 31.2%, which is lower than that of the public pension in Finland, and rather has the characteristics of a liberal welfare regime countries such as the US and the UK. In summary, since the social role of public pensions in Korea and Finland is different, it should be carefully considered in attempting to transfer the pension reform policy.

Table 10. The total income replacement rate of the compulsory public pension system

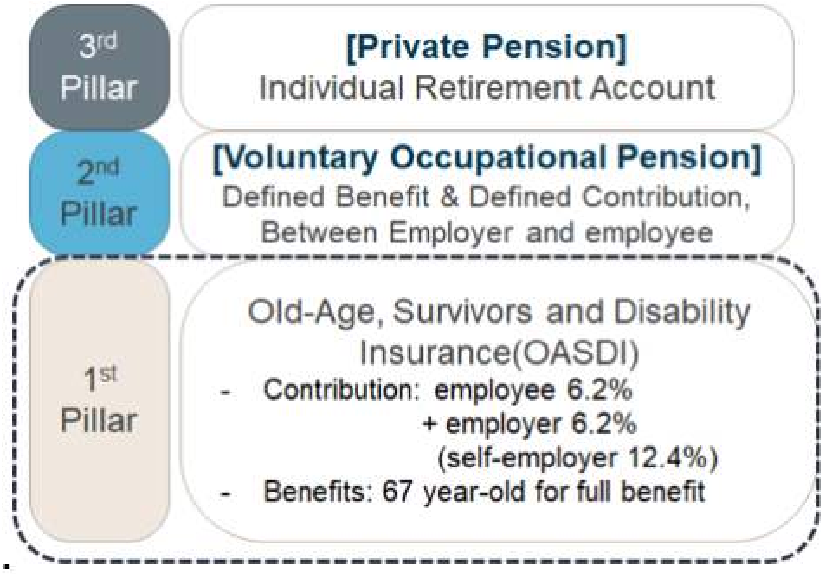
Finland	US	UK	France	Germany	Korea	OECD
56.6%	39.2%	21.6%	60.2%	41.5%	31.2%	42.2%

Source: Referred to OECD (2021).

(2) Overview of the United States pension system & the strengths and weaknesses in terms of policy transfer

Referring to figure 12, the old-age income guarantee system in the United States consists of three pillars. The first pillar is the social security pension as a public pension, the second pillar is the voluntary occupational pension, and the last third is the private pension. Among them, the social security pension, which constitutes the first pillar, is largely composed of two pillars: Old Age and Survivor Insurance (OASI) and Disability Insurance (DI). These two are referred to as the OASDI program. As of 2022, 70 million people are receiving social security pensions, and the average monthly allowance for old-age pension per person is around $1,600 (SSA, 2022).

Figure 12. Multi-pillar scheme for old-age income in the United States



Source: Referred to OECD (2021).

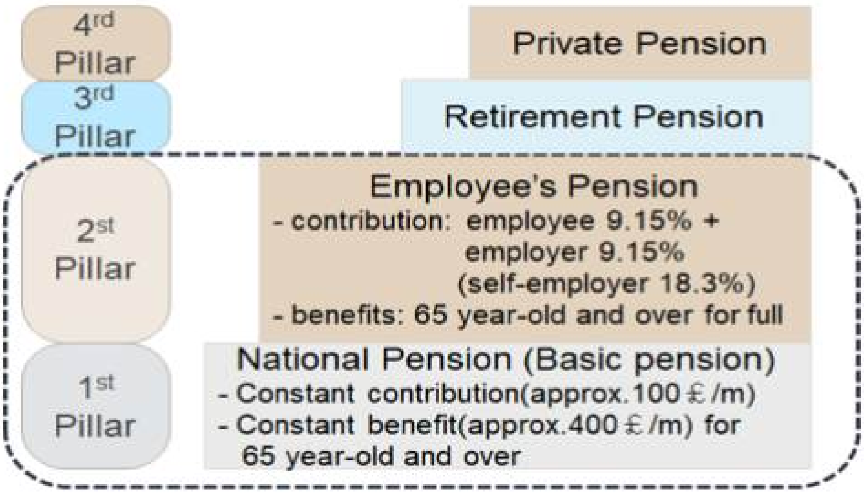
There are also strengths and weaknesses in attempting to transfer the U.S. pension policy to Korea. First of all, in the United States as a liberal welfare regime country, the function of public pensions is relatively weak. The income replacement rate of the U.S. public pension is 39.2%, higher than that of the United Kingdom (21.6%), but lower than that of Finland (56.6%) and France (60.2%) (OECD, 2021). In the United States, where the market-oriented model has developed, the dependence on private pensions such as retirement pensions is relatively higher than on public pensions. It should be noted that the relatively weak function of the public pension can be a strength and a weakness in policy transfer to Korea. Considering the weaknesses, it may not be feasible to transfer the U.S. pension reform method to policy because the institutional environment in Korea is different, such as the relatively less developed private pension market. On the other hand, this feature may be a strength. Recently, OECD countries have generally been pursuing the balanced development of public and private pensions by reducing the function of public pensions and strengthening private pensions (OECD, 2021). Therefore, Korea will be able to get implications for future pension policy directions from the U.S. private pension reinforcement policy.

Another strength in discussing the transfer of pension policies from the United States to Korea is the recent trend of political discussions on the U.S. pension system. Until the early 2000s, the U.S. social security pension generated a surplus every year and accumulated reserves, but as the retirement of baby boomers began in earnest in the late 2000s, the method of financing changed to compensate for the deficit with the accumulated social security fund (Pattison, 2015). And the Congressional Budget Office (CBO) predicted that the labor market would shrink due to the COVID-19 epidemic in 2020, accelerating the depletion of funds to 2031 (CBO, 2020). As a result, political interest in pension reform has increased very much in the United States, which is similar to the situation in Korea. In this regard, the direction of pension reform in the United States and the process of reaching social consensus will be a good reference for policy transfer to Korea in the future.

(3) Overview of Japan's pension system & the strengths and weaknesses in terms of policy transfer

Referring to figure 13, Japan's retirement income guarantee system consists of a four-pillar structure. The first pillar is the national pension (basic pension), and which is a system that pays Japanese residents aged 20 or older at a fixed rate regardless of their income. This basic pension supports the elderly to make a minimum living. And the second pillar is the employee's pension. The employee pension is a system that pays an income-proportional pension for private workers and public officials supplementing the basic pension. Japan's public pension system consists of two types: the national pension (basic pension) and the welfare pension. In addition, Japan's private pension is a retirement benefit system that guarantees workers' retirement income, consisting of the retirement pension as a third pillar and the private pension as a fourth pillar (OECD, 2021). Japan's public pension system seems similar to Finland's in that it consists of basic pensions and income-proportional pensions, but it is worth noting that the structure of basic pensions is somewhat different. In the case of Finland, the national pension provided as a basic pension has no contribution and has a structure in which the amount of basic pension benefits decreases as the income-proportional pension increases. However, in the case of Japan, there is a difference that a monthly contribution to receive a basic pension exists, and a fixed amount is paid regardless of the income-proportional pension.

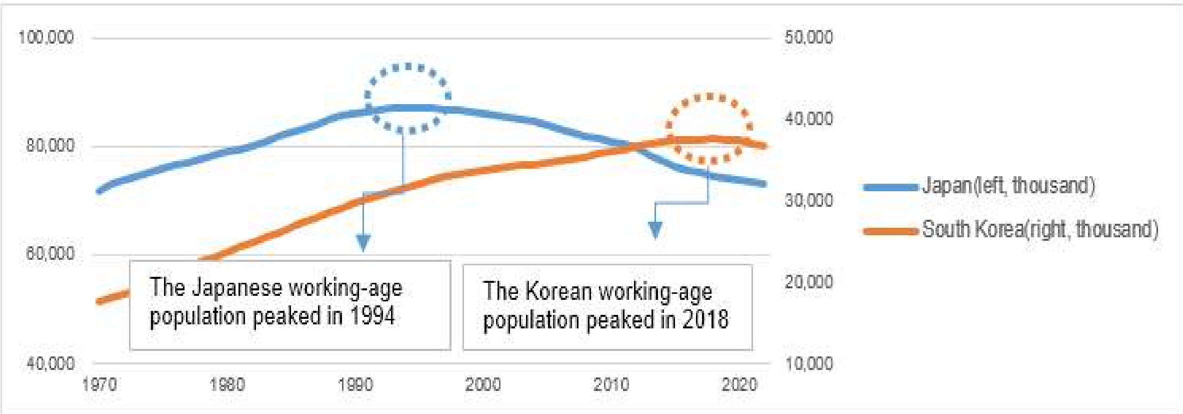
Figure 13. Multi-pillar scheme for old-age income in Japan



Source: Referred to OECD (2021).

To discuss the strengths and weaknesses of the Japanese pension policy's transfer to Korea, the strength is that it has a very large demographic similarity. After World War II, Japan experienced a baby boom, and the working-age population increased, but it has continued to decline since its peak in 1994. In addition, as the baby boomer generation born immediately after World War II flows into the elderly, the elderly population increases rapidly, and the social burden to guarantee retirement income such as pensions is rapidly increasing. In Korea, the time is later than in Japan, but as the rapid aging progresses, the working-age population reached its highest in 2018 and turned to a decline. Changes in the demographic structure are proceeding similarly with a difference of about 20 years from Japan. As the demographic structure is an important variable that determines the long-term impact of pension finances, the case of reform of the pension system in response to Japan's aging population is likely to be very useful when trying transfer policy.

Figure 14. The working-age population in Japan and Korea



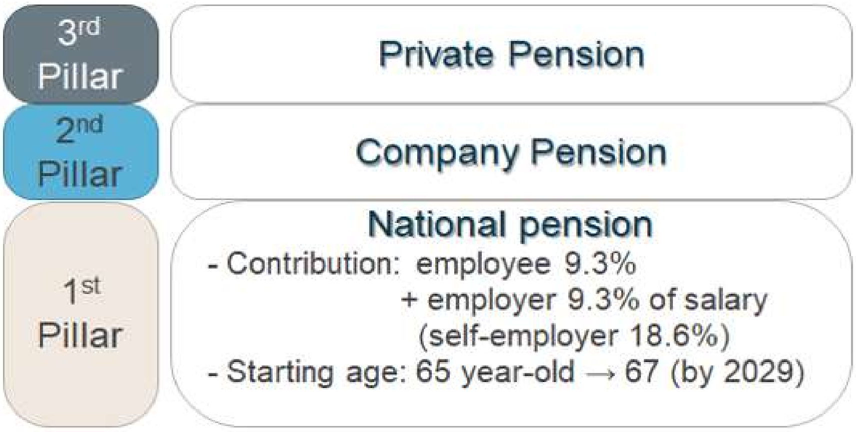
Source: OECD statistics (2023)

There are also disadvantages in attempting to transfer pension policies from Japan to Korea. The first is the institutional difference between the pension system in Korea and Japan. In the case of Korea, there is a separate occupational pension for special occupational services such as public officials, private school teachers, and soldiers. In the past, a relatively generous pension system was designed for this special job, so the issue of equity with the job pension is raised whenever the national pension reform is pursued. This part can be the most obstacle to national pension reform. On the other hand, in the case of Japan, a separate pension system was implemented for special occupations such as public officials and soldiers in the past, but in 2015, all occupational pensions were integrated into the employee’s pension (Lee, 2023). Accordingly, Japan does not have to consider equity with the direct pension when reforming the pension system, but in Korea, equity between the pension systems is a major factor, so differences from Japan should be considered when attempting to transfer policies. The second weakness is the possibility of whether Japan's pension system reform was a policy failure. Since the introduction of the basic pension in 1985, Japan has continuously implemented pension reform every five years, including 1989, 1994, 2000, and 2004. However, the financial problem of the pension fund has not been solved yet, so the need for reform has been raised again recently. This Japanese experience may be a good example of Korea's national pension reform, but it may be inappropriate for policy transfer in that the sustainability problem of pensions is still unresolved. However, it is necessary to look at the case of Japan in the following discussions in that policy learning can be done from policy failures (Dunlop, 2020).

(4) Overview of Germany's pension system & the strengths and weaknesses in terms of policy transfer

Germany's retirement income guarantee system consists of three pillars. The first pillar is the public pension system, the second pillar is the company pension system, and the last third pillar is the private pension. Referring to figure 15, it is possible to find out the retirement income guarantee system consisting of these three pillars. However, it should be noted that pensions for special occupations were omitted here to simplify the discussion. Among them, 75% of Germany's retirement income guarantee expenditure is supported through the national pension, indicating that most of the income of the elderly in Germany depends on the national pension (OECD, 2021).

Figure 15. Multi-pillar scheme for old-age income in Germany



Source: Referred to OECD (2021).

There are strengths and weaknesses in attempting to transfer the German pension policy to Korea. The strength is that Germany is the first country in the world to introduce a pension system, and has accumulated various experiences. Germany's pension system was first introduced in the world by Bismarck in 1889 and has been maintained smoothly through world wars, economic depression, and unification for the past 130 years. In this process, pension reforms such as lowering the benefit level, raising the starting age of benefits, and promoting private pensions have been continuously promoted since the 1990s to stabilize the financial stability of the public pension system. In the long run, pension reform is evaluated to have been successful as the contribution rate and income replacement rate remain generally stable (Börsch-Supan and Wilke, 2004). Such a case in Germany is a best practice in pension reform, and there is a high need to explore whether there are elements of policy transfer. In particular, there will be policy lessons in that pension reform was successfully achieved through social consensus in the process of promoting German pension reform.

However, there are also weaknesses in attempting to transfer the German pension policy to Korea. Even if the German pension system has a significant impact on other countries, and even if the German pension system reform is a best practice, policy transfer is likely to fail as it could be inappropriate if the institutional environment is different between countries (Dolowitz and Marsh, 2000). In the case of Germany, the pension system was designed with the aim of guaranteeing income earned during work even after retirement. Accordingly, the public pension is designed to be proportional to labor income, and the redistribution device is not strong. Accordingly, the income replacement rate of the German public pension is 41.5%, which is higher than that of the Korean public pension (31.2%) (OECD, 2021). This can be maintained because Germany's contribution rate is 18.6%, which is twice that of Korea (9%). In other words, since the Korean public pension's retirement income guarantee function is relatively weak compared to Germany, there is a possibility that the Korean pension's retirement income guarantee function will be excessively weakened if the German pension reform policy is transferred without adjustment. These points should be carefully considered when attempting to transfer policies from Germany to Korea.

3. The Korean Pension System and Its Challenges

Korea's retirement income guarantee system is largely composed of a four-pillars of public assistance, public pension, and private pension.

In order to understand the problems facing the Korean pension system, it is first necessary to understand Korea's retirement income guarantee system. Korea's retirement income guarantee system is largely composed of public assistance, public pension, and private pension. First of all, public assistance as the first pillar consists of the National Basic Living Security System and the Basic Old-age Pension. The National Basic Living Security System is a social security system that provides a certain amount of subsidies to people in the bottom 30% of the standard income so that they can continue their minimum livelihood. Based on single-person households, 370 pounds per month is paid in 2023. On top of that, a Basic Old-age Pension of around 190 pounds per month is paid to the bottom 70% of the 65-year-old elderly. However, the Basic Old-age Pension payment is designed to decrease as the amount of national pension benefits increases (The Ministry of Health and Welfare in Korea, 2023). This characteristic is an important point in discussing the relationship between the national pension and the basic pension later.

The second pillar is the public pension system. The public pension is largely composed of the National Pension and the Special Occupational Pension applied to specific jobs such as public officials and soldiers, and this discussion will focus on the discussion of the National Pension applied to the majority of people. Korea's National Pension is mandatory for all citizens aged 18 to 59 years old, who are not subscribed to other occupational pensions. To briefly explain the structure of the National Pension in Korea, the contribution is determined by multiplying the standard monthly income by the contribution rate, which consists of 4.5% of employers and 4.5% of employees. For individual insured persons, the contribution rate is determined to be 9%. In addition, after 10 years of the national pension subscription period and more than a certain age, the old-age pension can be received. The starting age of pension benefits is being gradually raised from 60 to 65 years old (The National Pension Service Investment Management, 2023).

Table 11. The eligibility age for access to old-age pension in Korea

Year of Birth	Before 1952	1953-1956	1957-1960	1961-1964	1965-1968	1969 and beyond
Age of access to old-age pension	60	61	62	63	64	65

Source: The National Pension Service Investment Management (2023).

The third pillar is retirement pension in which companies set aside severance pay to financial institutions to guarantee retirement income for retired workers and pay them as pensions or lump sum when workers retire.

The last fourth pillar is a private pension system. Retirement income levels that are not filled with public assistance and public pensions are inevitably supplemented through individual voluntary pension subscriptions. Although individual pensions are voluntary, it is necessary to consider this personal pension pillar as well because it is difficult for the government to support all the necessary retirement income.

Figure 16. Multi-pillar Scheme for old-age income in Korea

Pillar	Coverage			Main Criteria		
	Life-time poor	Infor-mal sector	Formal sector	Characteristics	Participation	Funding
0	X	X	x	Basic old-age pension(2007) National Basic Living Security Scheme	Residuary	Govt's general funding
1			X	National Pension Scheme and Special Public Pension Schemes (DB)	Mandatory	Contributions
2			X	Legal Retirement Payment Scheme (to be converted into a Retirement Pension) (DB or DC)	Mandatory	Employer contributions
3		X	X	Individual Pension Scheme	Voluntary	Individual contributions

Source: Kim (2007)

The national pension in Korea is expected to run out in 2055, which requires reform of the national pension, and at the same time, a policy that guarantees the income of the elderly is needed.

In March 2023, the Ministry of Health and Welfare announced the results of the national pension fiscal estimates. As a result, the fund deficit is expected from 2041, and the fund is expected to be exhausted by 2055, due to the low birth rate, deepening aging, and slowing economy (The Ministry of Health and Welfare in Korea, 2023). In this respect, social controversy over the sustainability of the national pension fund is expected to continue without long-term reform of the national pension system. What is more difficult for policymakers is that Korea's elderly income conditions are worse than those of major OECD countries. Referring to table 12, the average income of the elderly population aged 65 or older compared to the average income of the total population is 87.9% on the OECD average, while that of Korea is 65.8%, indicating that the income of the elderly population in Korea is very low (OECD, 2021). In this respect, policy alternatives for the stability of elderly income are also essential, along with pension reform for the sustainability of the national pension. Accordingly, it is necessary to transfer the policies of other countries to solve this dilemma situation.

Table 12. Incomes of older people in OECD countries (latest available year)

Average income by age group in percentage of average income of total population

	All aged over 65	Age 66-75	Aged over 75	All aged over 65: 2000 or earliest thereafter		All aged over 65	Age 66-75	Aged over 75	All aged over 65: 2000 or earliest thereafter
Australia	75.2	82.7	63.5	5.9	Latvia	67.1	75.1	58.8	-5.4
Austria	94.0	95.4	92.1	6.9	Lithuania	70.5	75.1	65.7	-2.7
Belgium	80.0	85.0	73.2		Luxembourg	107.8	111.4	101.9	
Canada	90.8	95.1	83.8	2.3	Mexico	92.2	97.9	83.1	6.0
Chile	93.5	95.8	90.0	-8.0	Netherlands	85.6	91.2	76.9	1.0
Colombia					New Zealand	86.2	95.4	71.1	5.5
Costa Rica	107.8	112.6	100.5		Norway	91.4	100.6	77.4	20.2
Czech Republic	73.3	76.2	68.2	-5.1	Poland	85.7	85.6	85.8	-10.0
Denmark	81.3	86.6	73.1	9.9	Portugal	99.1	106.9	90.2	18.7
Estonia	67.4	74.5	59.5		Slovak Republic	87.0	89.2	82.5	7.2
Finland	82.6	89.9	72.2	4.3	Slovenia	85.3	88.7	80.2	1.0
France	99.8	103.9	94.5	1.9	Spain	95.8	102.4	88.1	14.8
Germany	88.8	92.5	85.5	0.8	Sweden	86.3	97.5	70.8	8.2
Greece	95.0	101.2	87.8	13.4	Switzerland	82.8	87.9	76.5	1.1
Hungary	93.2	94.3	91.3	6.2	Turkey	97.6	101.5	91.3	7.4
Iceland	95.0	103.8	77.5	14.6	United Kingdom	81.3	86.4	74.3	8.3
Ireland	83.9	91.1	74.4	13.9	United States	93.8	102.1	80.9	10.7
Israel	103.4	110.9	91.6	21.9	**OECD**	**87.9**	**93.5**	**80.0**	**6.0**
Italy	100.0	109.3	90.6	14.5					
Japan	85.2	91.8	78.0	-4.5	Russian Federation	84.3	86.4	81.3	
Korea	65.8	73.1	56.0		South Africa	95.8	94.3	99.2	

Source: OECD (2021).

4. Exploring the transfer of pension reform policies

(1) Finland's pension reform policy and Implications

Since the 1990s, the reform of the Finnish pension system has been aimed at reflecting the factors of population aging in the pension system and allowing elderly workers to work longer.

From the introduction of the National Pension (basic pension) in 1957 and the introduction of the earning-related pension in 1962, Finnish pension reform until the 1970s continued to strengthen coverage, such as expanding the target to self-employed and farmers, etc. However, it is noteworthy that the direction of reform has changed since the 1990s when aging emerged as a major social issue. In other words, as the demand for pension expenditure increased rapidly due to aging, reforms that could reduce pension expenditure were pursued. In this regard, the contents of pension reform in 1996, 2005, and 2017 will be specifically covered.

First of all, in the 1996 pension reform, the National Pension (basic pension) system changed from providing the same level of benefit to the entire elderly to supplement earning-related pension benefits. In other words, it has changed from a universal allowance to a system that limits the target to low-pension elderly with a certain level or less through a pension income survey. Through this, the expenditure of the basic pension became efficient and the financial status became better. In other words, the pension reform in 1996 was a reform that changed the framework of the retirement income guarantee system by providing the basic pension system to the minimum extent for low-income senior citizens (Joo, 2021).

Subsequently, in the case of the 2005 reform, in response to the aging population, the goal was to delay the retirement age and promote the participation of the elderly in the labor market (Börsch-Supan, 2004). In the 2005 reform, there was a major change in the earning-related pension. First of all, for the sustainability of the pension system, a device was prepared to link the amount of the benefits to life expectancy. The total amount of benefits of recipients is automatically adjusted to changes in life expectancy, and the amount of the benefits is automatically reduced as the life expectancy adjustment coefficient is applied. The second measurement is to curb early retirement and induce employment for the elderly. Finnish Pension was designed to set a retirement age group between the ages of 63 and 68 to further increase pension receipts when retiring during this period and reverse incentives for early retirement. For example, before the reform, the earning-related pension applied an incentive rate of 1.5% until the age of 59 and 2.5% from 60 to 65, and after the reform, 1.5% until the age of 52 was applied, 1.9% to the age of 53 to 62, and 4.5% to the age of 63 to 68. Third, it is to prepare a device to induce long-term work. Prior to the reform, earning-related pensions were designed not to exceed 60% of the highest income, so there was no incentive to extend work any longer if the benefits reached the upper limit after retirement. However, after the reform, this upper limit was abolished so that elderly workers could work for a long time. The

2005 reform has great implications in that it was designed to lower the level of salary as the lifespan was extended and at the same time pursued another goal of enhancing the labor participation of the elderly.

In the 2017 Finnish pension reform, the pension starting age was adjusted. Due to the reform in 2017, the starting age of pension was delayed by three months every year until 2027, depending on the year of birth, and the starting age was adjusted to 65 years old after all. In addition, in 2030, the pension starting age will be adjusted again within a maximum of two months every year by linking it to life expectancy. Through these measures, it sought to stabilize the ratio of the expected economic activity period to the expected pension period even if the life is extended (Joo, 2021).

Table 13. The Finnish pension reform in 1996, 2005, and 2017

	Reform in 1996	Reform in 2005	Reform in 2017
Application of population factors	National Pension (BasicPension): entireelderly→ lowincomeelderly	Earning-related pension: link the amount of the benefits to lifeexpectancy	-
Strengthening of benefits	-	Earning-related pension: Eliminationofupperlimitforbenefits	-
Income guarantee through the employment of the elderly	-	Earning-related pension: Differentiation of pensionpaymentrate byage	Earning-related pension: The pension starting age has been adjusted to 65 by 2027. Link the pension starting age to life expectancyfrom2030

Source: Joo (2021).

The implications of Finland's pension reform for Korea are to reflect life expectancy factors in the pension system and to promote income guarantee by promoting the earned income of the elderly at the same time.

As discussed in the strengths of the Finnish pension policy transfer to Korea, Finland has already experienced pension finance difficulties due to rapid aging and promoted pension system reform to overcome them. In particular, in the 2005 and 2017 reforms of Finland, a device was prepared to reduce the amount of pension benefits as life expectancy increased, and the age at which pension benefits began was adjusted to be gradually delayed. In the case of Korea, it seems inevitable to reflect life expectancy in the pension system. As the aging population progresses rapidly in the future, the burden on pension finances will increase, so it is urgent to prepare a device to delay the starting age of pension receipt and automatically reduce pension benefits. However, there are factors to consider in this process. As discussed the weaknesses of the Finnish pension reform policy to Korea, the income replacement rate of the Korean public pension (31.2%) is far lower than that of Finland (56.6%) (OECD, 2021). Therefore, if the income replacement rate of pensions decreases due to public pension reform, a policy alternative is needed to supplement it. In the case of Finland, the upper limit on the benefit of the earning-related pension was eliminated, and a device was prepared to promote the employment of the elderly. When trying to transfer the Finnish pension reform policy to Korea, policy alternatives that supplement old-age income should be promoted at the same time. It may be an example of an adjustment of other basic pensions, or an increase in earned income for the elderly.

(2) The United States pension reform policy and Implications

Unlike other countries, pension reform in the United States needs to look at both aspects of public and private pension reform. As a liberal welfare regime state, the United States focused on revitalizing private pensions.

As discussed earlier in the U.S. pension system, the U.S. as a liberal welfare regime state is less dependent on public pensions than other countries, while private pensions are of great importance. Therefore, in order to discuss the reform of the U.S. pension system, it is necessary to look at both the reform direction of the public and private pensions. First, the characteristic of the public pension reform in the United States was to gradually reduce the benefits level and increase insurance premiums to stabilize finances. First, the characteristic of the public pension reform in the United States was to gradually reduce the benefits level and increase insurance premiums to stabilize finances. Discussions on reforming the U.S. public pension began in earnest in 1982 when the Social Security Fund recorded a deficit. In 1983, the National

Commission of Social Security Reform promoted public pension reform to reduce the benefits and increase the burden to solve financial problems. In this process, the social security tax rate was raised from 5.4% to 5.7%, and the pension age was gradually raised from 65 to 67. In addition, the early retirement pension (62 years old) was also reduced from 80% to 70% of the full old-age pension as an incentive to increase the working period of the elderly. As can be seen from the 1983 reform, in the United States, it was designed to further increase the working period of the elderly in the process of increasing the pension age and contribution rate. (Kang and Ryu, 2017). However, despite these reform measures, the financial situation of the pension fund in the United States is still difficult, and the need for reform has been raised from the 1990s to the present. Recently, the social security pension reform plan by raising the upper limit of payroll tax has received the most support (Program for Public Consultation, 2022). However, the importance of public pensions is relatively low in discussing the transfer of U.S. pension policies to Korea, so detailed discussions will be omitted.

Next, private pension reform in the United States can be characterized by the diversification of pension products, inducing pension subscriptions through tax benefits, and guaranteeing pension payments. It can be seen that the relatively weak public pension's income guarantee function is supplemented by activating private pensions. First, retirement pensions in the United States are designed to provide a variety of pension products, although they are subscribed by the voluntary will of employers and workers. Specifically, IRA (Individual Retirement Accounts) offers various types of products such as traditional IRA (insurance premiums are deducted from income and taxed on pension benefits when withdrawn), Roth IRA (insurance premiums are not deducted, but withdrawals are not taxed), and SEP IRA (allowing small self-employed people to join). In addition, the DC (defined contribution) retirement pension is also operated in various forms, such as a profit distribution system (providing a certain portion of operating income in addition to wages to employees), an employee holding system (allowing employees to own shares in the company), and 401k. Secondly, reforms were promoted to increase tax benefits for individual pensions. In the case of the United States, the Catch-up Plan was introduced in 2002 to provide additional tax benefits to the generation just before retirement in addition to income deductions for basic private pensions. Accordingly, additional tax benefits of about $6,500 per year are provided to subscribers aged 50 or older to strengthen the retirement income guarantee. The third is the introduction of a payment guarantee system for personal pensions. In the case of the defined benefits pension, the Pension Benefit Guarantee Corporation (PBGC) is established to legally guarantee pension payments. In addition, in the case of the defined contribution type, the right to receive pensions is strengthened by setting the limit of depositor protection for principal and interest guarantee products at around 100 million won. (Kang and Ryu, 2017).

The implications of the U.S. pension reform for Korea are that it is necessary to revitalize the private pension along with the public pension reform so that the retirement income guarantee system does not weaken.

The implications of the U.S. pension reform for Korea are significant due to the policy of revitalizing the private pension market. As discussed earlier, there is a weakness when attempting to transfer the U.S. pension policy to Korea. In the case of the United States, unlike Korea, it should be carefully considered that there is an institutional difference in that the dependence on public pensions is low and the dependence on private pensions is high. However, this difference can be reviewed as a good example of policy learning. Although it is difficult to implement a policy that rapidly increases dependence on private pensions along with the United States, Korea needs to supplement the weakening of retirement income due to public pension reform by diversifying private pension products. In addition, the introduction of the Catch-up Plan implemented in the United States is worth considering to strengthen the retirement income guarantee. For example, an alternative policy can be considered to modify the Korean tax credit system to provide an additional tax credit limit for people older than 50 years of age. In addition, it is necessary to prepare a practical payment guarantee device for DB-type retirement pensions like in the United States to induce people to subscribe to private pensions with confidence.

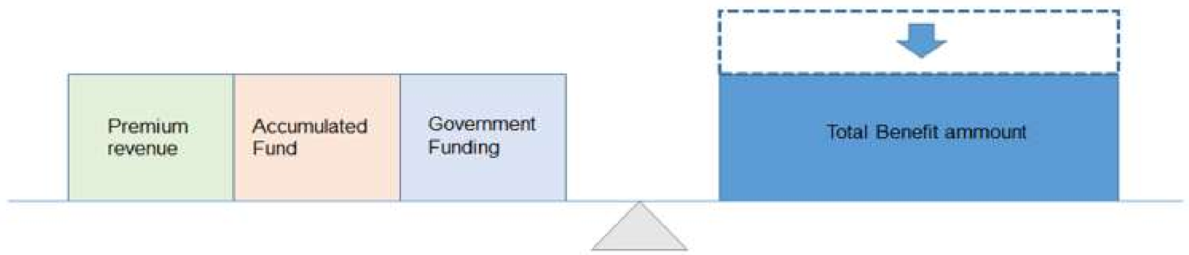
(3) Japan's pension reform policy and Implications

The characteristics of the 2004 Japanese pension reform are 'the fixing of insurance premium levels' and the establishment of an automatic adjustment system called 'macroeconomic slides'.

The contents of Japan's public pension reform will be dealt with focusing on the contents of the 2004 reform. Japan's 2004 pension reform is worth exploring as a policy option because it contains structural reforms that are different from existing ones. First, an insurance premium level fixing device was prepared to prevent the burden on the younger generation from becoming heavy in the future. At that time, it was difficult to reach a national consensus in pushing for further reform in Japan because insurance premiums continued to rise due to the rapid progress of aging. Accordingly, an insurance premium level fixing device was introduced to set the upper limit of the premium increase. For example, in the case of the employee's welfare pension, the premium rate of 13.58% was raised by 0.354% every year, so the premium rate was fixed at 18.3% from 2017. (Ministry of Health, Labour and Welfare in Japan, 2002)

The second important reform is the introduction of macroeconomic slide devices. Referring to Figure 17, Japan fixes pension fund income consisting of insurance premiums, reserves, and state support in advance and adjusts the pension amount accordingly. In order to balance the left income in Figure 17 when the premium is fixed, the total amount of pension on the right is automatically adjusted. Specifically, when determining the pension amount, it is calculated by subtracting the slide adjustment rate from the wage increase rate, which is calculated by adding the reduction rate of the number of insured and the average life expectancy increase rate. Assuming that the decrease in the number of insurers due to aging is 0.3%, and the average life expectancy increase is 0.3%, the slide adjustment rate is 0.6%. In this case, it is a structure that receives 0.6% less than the original pension amount. These macroeconomic slides are very meaningful in that the amount of pension can be adjusted without going through a political process by balancing the financial resources to come into the pension finance while fixing future insurance premiums. In addition, while the adjustment of the pension amount due to pension reform is usually applied only to new recipients, this automatic adjustment system is also applied to existing pension recipients, which is meaningful that the entire nation can automatically share the burden of pension reform. (Ministry of Health, Labour and Welfare in Japan, 2002).

Figure 17. Structure of the Japanese Pension Macroeconomic Slide



Source: Ministry of Health, Labour and Welfare in Japan (2002)

With the fixed premium rate and the introduction of macroeconomic slides, Japan's fiscal recalculation system, which had been repeated every five years, was abolished. Accordingly, as Japan set a marginal insurance premium of 18.3%, the premium burden rate was fixed. Therefore, even if aging progresses in the future, the structure can be maintained without revising the law if fiscal balance is secured by invoking a macroeconomic slide. However, one thing to point out is that macroeconomic slides have only been actually triggered twice so far. Due to the nature of the Japanese economy, deflation continued, and if the macroeconomic slide works in addition to the reduction in pension due to deflation, the reduction will be excessively large. Therefore, the macroeconomic slide was not applied to the year of deflation.

Even after the pension reform in 2004, Japan implemented reform measures to integrate special occupational pensions such as civil servants' pensions and military pensions into employee’s pensions in 2015. In addition, in April 2022, pension reform has been continuously implemented, such as adjusting the pensionable age from 60 to 70 to 60 to 75 in consideration of the increase in employment for the elderly. In addition, as the level of public pension benefits decreases, the function of guaranteeing retirement income of private pensions is also being strengthened. In 2022, the retirement pension subscription age conditions were eased by expanding the corporate DC retirement pension subscription age from under 65 to under 70. In addition, it is pursuing a policy to revitalize private pensions by expanding the limit on contributions to retirement pensions. (Lee, 2023).

As Japan has institutional and cultural similarities with Korea, the reform of the pension has great implications. In particular, the introduction of macroeconomic slides is noteworthy in that it can stabilize pension finances in the future.

The biggest implication of Japan's pension reform for Korea is the introduction of a macroeconomic slide, a device that automatically adjusts the amount of pension benefits according to future demographic changes. In all aging countries, pension reforms are repeatedly implemented, and each time they are implemented, they are repeating reforms that increase the premium rate and reduce the amount of benefits received. In this structure, the preparation of an automatic device that automatically cuts the pension benefits amount as the aging population intensifies is significant for Korea, which is rapidly aging. In the case of Korea, social controversy is repeated by going through the fiscal estimation of the national pension every five years and changing insurance premiums and pension benefits amounts every time. In order to prevent these problems, it will be necessary to prepare an automatic adjustment device such as a macroeconomic slide in Japan. In addition, the preparation of such a device has the advantage of reducing political risks in the future. The biggest difficulty in pension reform is that it has to go through a political dispute process in the process of deriving a national consensus. If these political risks can be reduced through automatic adjustment devices such as macroeconomic slides, the sustainability of the pension system can be further enhanced.

One more thing to note is that Japan integrated the special employment pension and welfare pension in 2015. Japan's reform is evaluated dramatically because Korea faced public resistance due to equity issues with other occupational pensions every time it implemented national pension reform. However, since the integration of the national pension and other occupational pensions is very difficult in terms of feasibility, it should be treated as a long-term task.

(4) Germany's pension reform policy and Implications

The German pension reform since 2001 is summarized as a reduction in expenditure, strengthening personal pensions, and internalizing the national pension to compensate for the resulting decrease in retirement income.

Since the 1980s, many reforms have been implemented due to the poor financial situation of the German public pension. However, the reforms at this time were focused on expanding the revenue base, such as raising insurance premiums and expanding government subsidies. On the contrary, there is a difference that reforms after 2001 mainly focused on reducing pension expenditure. First, the 2001 reform is called the ‘Riester reform’ after the name of the Minister of Employment and Labor in Germany, Walter Riester. There are three main contents of the 2001 reform. First, it was decided to stabilize the premium rate by keeping the premium rate below 22% until 2030. Second, the goal of stabilizing the pension income replacement rate from 70% to 67% by 2030 was set. The pension here includes the National Pension and the Riester Pension, which will be described later. Third, it was intended to revitalize private pensions and occupational pensions as a supplement to the lower income replacement rate due to the reform. The government provided tax credits and subsidies to individual pensions to encourage private pensions to supplement weakened public pensions. (Börsch-Supan and Wilke, 2004). In particular, accordingly, Germany introduced the Riester Pension, a private pension. The Riester Pension System is a system that provides a fixed amount of subsidies to individuals who have subscribed to a government-certified private pension. Specifically, subsidies of up to 154 euros can be received, and pensions can be received by paying insurance premiums up to 4% of the income. This Riester Pension can be subscribed to up to 4% of income by combining direct insurance premiums and government subsidies, so people with low incomes will have less self-pay from the total insurance premiums. Because of this structure, the Riester Pension has the function of protecting the low-income class thickly (Kim, 2018).

The following 2004 reforms were promoted in response to the worsening pension finances caused by Germany's severe economic recession between 2002 and 2003. First, the main contents of the 2004 reform are characterized by adding factors related to population aging to the pension formula. In other words, when the number of pension subscribers decreases due to the aging population, it was automatically reflected in the pension formula and the benefits were reduced. (Berner, 2006). Second, the starting age of pension benefits is gradually raised until 2034, and postponed to the final age of 67. What is noteworthy here is the expert committee formed when promoting pension reform. The committee was named after Bert Rürup, an economics professor who was then chairman of the committee, and named it the Rürup Committee. The Rürup Committee consists of 26 members, mainly central and local government officials, union and user representatives, academic experts, civic group representatives, local council members, private insurance company representatives, and management consultants. They were experts in theories and positions different from those of the German Pension Service, traditional pension experts advocating the social insurance system, and representatives of private insurance companies were included to create a plan to differentiate them from existing pension reform measures. Accordingly, it is evaluated that the consensus of society was easily formed (Lee et al., 2023).

The German case gives Korea the implication that it needs to strengthen the role of private pensions along with public pension reform. However, selective policy transfer is needed in consideration of the fact that the historical path is different.

What should not be forgotten when discussing the transfer of German pension reform policies to Korea is that the degree of development of Germany's elderly income guarantee system and pension system is very different from that of Korea. This stems from differences in historical path. In other words, even if Germany recently lowered the function of guaranteeing retirement income through the public pension, it was the first in the world to introduce a pension system, thereby lowering the poverty rate of the elderly below the poverty rate of the general public. On the other hand, in Korea, pension insurance premiums and income replacement rates are much lower than in Germany, so just following Germany's policies as they are can lead to policy transfer failures. In other words, in Korea, it is necessary to be careful because the goal of guaranteeing income for the elderly may be undermined if excessive benefits cut is promoted for the stability of pension finances.

Inaddition,thecaseofrevitalizingprivatepensionsinGermanyandthecaseofintroducingRiesterpensionsshowsthatactivemeasuressuchassubsidiesforsubscribingtoprivatepensionsareneeded.However,itshouldberecognizedthat the revitalization of private pensions in this process is difficult to achieve only with policies such as subsidies. In other words, the effectiveness of private pension revitalization policies such as in Germany will increase only when the financial market and financial management system surrounding the pension system are advanced.

5. Proposed reform policy for the National Pension in Korea

(1) Evaluation of policy alternatives

So far, the reform policies of Finland, the United States, Japan, and Germany and their implications for Korea have been discussed. In a situation where the economic, social, and institutional environments of the four countries are different, the contents of pension system reform policy are also very complicated, so it is necessary to select evaluative criteria to evaluate them. In particular, it is very helpful to set the principal objective (Bardach and Patashnik, 2019). As discussed earlier, the biggest goal of Korea's National Pension reform is the sustainability of pension finances, so this is set as the most important goal and criterion for judgment. And two more criteria are needed for policy transfer success. One is a device that will compensate for the weakening of the retirement income accompanying the public pension reform process, that is, a device for guaranteeing retirement income. This is because reforms that weaken the function of public pensions to guarantee retirement income for pension fiscal sustainability and do not have a mechanism to supplement them are difficult to achieve social consensus and weaken trust in the pension system. Another criterion for judgment is feasibility, in other words, whether social consensus is possible in the context of the discussion. In summary, in discussing the transfer of pension reform policies to Korea, it would be evaluated based on three criteria: first, pension finance sustainability, second, supplementary retirement income guarantees measures, and third, social consensus for pension reform.

Table 14. The evaluation of the main pension reform policies of four countries

	Sustainability ofpensionfinance	Stability of retirement income	Feasibility (Socialconsensus)
Finland	[Policy] Link the amount of the benefits to lifeexpectancy → A policy essential to Korea's fast-aging population	[Policy] The pension starting age has been adjusted to 65 by 2027. → Already implemented in Korea [Policy] Link the pension starting age to life expectancyfrom2030 → An desirable policy to transfer to Korea to promote the elderly labour income	[Overall] Social consensus on these policies is expected to be high. However, it is necessary to prepare additional retirement income guarantee devices
The U.S.	[Policy] Raising the social security tax rate → An essential policy to maintain the sustainability of the pension fund	[Policy] Diversification of private pension products, giving tax benefits for private pension, etc. → It could be a good case for policy learning from the U.S. to Korea	[Overall] An important policy direction of revitalizing private pensions can be learned. However, the transition from public pension to private pension is not easy to gain public consensus
Japan	[Policy] The introduction of macroeconomic slide devices → A policy that should be introduced for the sustainability of pensions in the future	[Policy] Expanding the corporate DC retirement pension subscription age from under 65 to under 70 → a desirable but minor policy	[Policy] Integrate special occupational pensions such as civil servants' pensions and military pensions → Feasibility is very low due to opposition from special employment pension subscribers
Germany	[Policy] Stabilizing the premium rate by keeping the premium rate below 22% until 2030. → Policies that can be transferred not only to stabilize pension finances but also to secure public trust	[Policy] Revitalizing private pensions and occupational pensions by tax credits and subsidies to individual pensions	[Policy] Rürup Committee → Lesson that it is important to form a committee in which various members of society participate in the promotion of pensions

Referring to Table 14, whether the major pension reform policies of the four countries are suitable for transferring to Korea were evaluated and summarized based on each criterion. Looking at the major policies of Finnish pension reform, first, the policy of preparing a device to link future pension benefits to the life expectancy level is considered an essential policy in Korea in terms of pension fiscal sustainability. As discussed earlier, in the case of Korea, which is rapidly aging like Finland, it is urgent to prepare a device that can automatically control the increase in pension spending due to aging. Second, Finland's policy of preparing a device to adjust the starting age of pension benefits in line with future life expectancy is also considered a desirable policy for Korea. This is because this policy can induce not only pension fiscal sustainability, but also the extension of retirement age due to aging, and the resulting increase in earned income of the elderly. For reference, a policy to delay the starting age of pension benefits implemented in Finland to 65 is already in effect in Korea. (The National Pension Service Investment Management, 2023). Lastly, the social consensus in Korea will be relatively easy in that these Finnish-style reform policies fundamentally involve inevitable changes in the pension system due to aging. However, it could be pointed out that additional guarantees are needed because Finnish-style reforms alone guarantee retirement income somewhat weak.

Looking at the U.S. reform policy, it can be learned that both parametric and structural reforms must be accompanied when reforming the public pension. First, the United States continued its basic parametric reform. For example, in the 1983 reform of the United States, the social security tax rate was raised from 5.4% to 5.7%, and the early retirement pension (62 years old) was also reduced from 80% to 70% of full old-age pension as an incentive to increase the working period of the elderly. Public pension reform basically requires parameter reform in response to changes in the economic environment. In the case of Korea, it is essential to raise the premium rate if the aging rate is faster than expected. Second, the U.S. private pension revitalization plan sought a structural transformation from public pension to private pension. As a liberal welfare regime state, the United States is relatively highly dependent on private pensions according to individuals' autonomous choices. However, it should be noted that the government's policy to revitalize private pensions was accompanied in this process. In other words, the United States encouraged individuals to subscribe to private pensions by diversifying private pension products, providing tax benefits for private pension subscriptions, and guaranteeing private pension payments. In the case of Korea, it is also necessary to transfer these policies to compensate for the weakening of retirement income due to public pension reform. However, considering the national consensus, it is difficult for the transition from public pension to private pension in Korea to take place rapidly. This policy will need to be implemented from a long-term perspective because it is difficult for people who have relied on public pensions in the past to switch to private pensions in a short period of time.

Looking at Japan's pension reform, there are policies that are significant in the Korean situation. First, the macroeconomic slide mechanism was created during the 2004 reform in Japan. As discussed earlier, such a macroeconomic slide device is a device that automatically adjusts the amount of the pension benefits accordingly when insurance premiums decrease due to the progress of aging in the future. Previously, if the discrepancy between pension revenue and expenditure had to be corrected through parameter reform every time, the introduction of macroeconomic slides has the advantage of stabilizing pension finances without reform depending on the macroeconomic situation. In the case of Korea, after the introduction of the National Pension system in 1988, reforms were implemented in 1998 and 2007, and controversy over the reform of the national pension parameters is repeated every five years. The introduction of such a macroeconomic slide device has the advantage of preventing repeated political controversies. Second, it is meaningful to look at the policy of integrating the special employment pension and the national pension in Japan in 2015. Such reform measures in Japan are said to have improved equity among the people by eliminating the benefits gap between the national pension and special employment pensions such as public officials and military pensions. In the case of Korea, civil servants' pension reforms have already been implemented four times in 1996, 2000, 2009, and 2015, and in this process, the gap with the national pension has been narrowed by increasing the premium rate and lowering the payment rate. Nevertheless, equity issues continue to be raised because the amount of benefits received is relatively higher than that of the national pension. However, it is necessary to be very careful about whether such pension unification can be applied to the Korean situation. In the process of promoting pension reform to stabilize the national pension fund, it is very unlikely to be realized due to opposition from other public officials, private school staff, and soldiers, and it is highly likely that an agreement on the national pension reform will not be reached.

Looking at the case of reform in Germany, the three reform policies have great significance. First, Germany's 2001 pension reform decided to fix pension insurance premiums below a certain level (22%) by 2030. The announcement to keep pension premiums below a certain level in the long run is significant in that it cannot only stabilize pension finances but also give people predictability about the level of pension premiums in the future. When promoting pension reform, the public will be dissatisfied with the continued rise in insurance premiums due to the continuous parameter reform, so public consensus will be gained by putting an upper limit on the level of increase. Second, Germany as well as the United States, a liberal welfare regime state, promoted the revitalization of private pensions through tax deductions or subsidies. Since the function of guaranteeing retirement income is weakened in the process of reforming the public pension, revitalizing the private pension to supplement it is considered an essential policy. Finally, the third lesson can be learned from the Rürup Committee, which played a pivotal role in the 2004 reform in Germany. The Rürup Committee, which was formed during the German pension reform in 2004, was composed of various members, including not only government officials but also academics, citizens, local residents, and private pension companies. Various and practical alternatives could be discussed in such a diverse committee of members, and it also played a major role in reaching a national consensus (Lee et al., 2023). When promoting pension reform in Korea in the future, forming a committee involving members of various social classes rather than gathering opinions through public hearings after creating a bureaucratic reform plan will help lead to national consensus.

6. Conclusion for chapter V: Proposed National Pension Reform Policy in Korea

Based on the previous policy alternative evaluation, the policy alternatives will be proposed to achieve the goals of sustainability of the Korean national pension finances and guaranteeing old-age income and at the same time gain public consensus. It starts with policy proposals for pension fiscal sustainability. First, it is necessary to prepare a device that automatically links pension benefits to the expected life expectancy of pensioners by applying Finland's policy to Korea. Considering the dependence on the past path that promoted national pension reform due to the difficulty of pension finance due to aging two times in 1998 and 2007, the need for reform is likely to continue to be raised according to the progress of aging in Korea. However, it is necessary to have an automatic adjustment system because political controversy inevitably arises whenever pension reform is promoted. It is necessary to design a system so that the amount of pension benefits automatically decreases as the life expectancy of pension subscribers increases. Second, it is necessary to introduce a macroeconomic slide by referring to Japan's policy. The structure is similar to the previous Finnish policy, but if the Finnish policy linked life expectancy and pension benefits, there is a difference in that macroeconomic slides link premium revenue with pension benefits. In other words, since aging not only increases the amount of pension benefits to be spent in the future but also creates a double burden of reducing pension revenue, it is necessary to link both with pension benefits. Third, referring to Germany's policy, a policy to set an upper limit on the extent of future pension premium hikes is needed. Parametric reform to a structure that receives more and less for pension fiscal sustainability is inevitable. However, in order to gain public consensus in the process, it will be necessary to set an upper limit on the extent of future insurance premium hikes. Pension finance should be operated by setting an upper limit on the increase in insurance premiums and adjusting the amount of pension benefits within it.

The following is the preparation of a supplementary device for retirement income following pension reform. First, a policy to revitalize private pensions is needed by referring to the policies of the United States and Germany. The private pension revitalization policy was promoted by most of the countries discussed earlier to guarantee retirement income along with pension reform. Private pension subscriptions should be expanded to compensate for the inevitable decrease in public pension income among retirement income when pushing for public pension reform. Unlike the United States, Korea does not have a well-developed private pension market, so it is necessary to first increase trust in the market through the private pension payment guarantee system. In addition, it will be helpful to diversify private pension products like the United States to expand consumers' choices. In this process, both the United States and Germany implemented policies to induce individual membership by providing subsidies and tax deductions for private pension subscriptions. It will be difficult to derive dependence on private pensions as much as a liberal welfare regime state such as the U.S. in a short period of time, but it will be necessary to compensate for a significant decrease in income from public pension reform by increasing private pension subscriptions. Second, a policy to expand earned income is needed to compensate for the decrease in pension income due to pension reform. In most of the countries discussed above, the pension starting age was delayed and a penalty device was prepared for early pension receipt. This is not only a policy to save pension finances, but also a policy with the extension of the working period in mind due to aging. In the case of Korea, reforms have already been promoted to delay the starting age of pension payments to 65 like in Finland and Japan, but policies to further delay the retirement age and pension age like in Germany should be considered in a timely manner.

Finally, one of the most important things in the process of promoting pension reform is the formation of a national consensus. It is difficult to gain public consensus on pension reform led by government officials. In this regard, German policy cases have great implications. Like Germany's Rürup Committee, efforts should be made to diversify the composition of members such as stakeholders, experts, bureaucrats, citizens, and private pension companies following the promotion of pension reform. This will not only increase the acceptability of pension reform but also lead to the diversification of pension reform policies.

VI. Conclusion

Four stages of analysis have been undergone to analyze and propose fiscal strategies for the post-COVID era. Initially, a global trend analysis of social investment in 20 OECD countries between 1990 and 2017 was conducted by us to understand the worldwide pre-COVID welfare investment trends. The analysis confirmed that social investment increased in all 20 countries from 1990 to 2000. However, a slight decrease in social investment was observed in 2017. The characteristics of compensatory social expenditure surpassing social investment from 1990 to 2017 were also identified. Social democratic countries led in social investment increases, followed by southern European and conservative nations. Surprisingly, liberal countries experienced a decrease in social investment in 2017 compared to 1990. This suggests that while social investment increased globally pre-COVID, distinct patterns emerged when analyzed based on welfare regime groups. Korea, too, needs a social consensus on welfare regime choices to shape future investment decisions.

The second analysis, a scoping study, was conducted by us to analyze micro-level impacts of COVID-19 on families. Through electronic database searches, 593 relevant studies were identified, and we summarized the most pertinent 10 findings. Closures of schools and care facilities during the pandemic increased caregiving and educational burdens within families. Changes in the labor market, including remote work and unemployment, altered family roles and financial circumstances. The study categorized the impacts into four areas: gender role disparities, mental health challenges, exacerbated financial struggles for vulnerable families, and heightened work-family conflicts due to remote work. Addressing these issues requires urgent relief for caregiving burdens, financial support, and mental health recovery for socioeconomically vulnerable families.

The third analysis focused on global poverty trends from 1990 to 2020, considering the impact of the COVID-19 pandemic. While global poverty consistently decreased until 2019, post-COVID estimates indicate a worsened situation. To overcome this, repurposing COVID-19 relief funds for low-income households' essential needs is crucial. Additionally, prioritizing poverty alleviation through education and human resource development, particularly in developing countries, requires policies such as fee exemptions and subsidies. Structural policies addressing poverty among immigrants in some developing nations are also vital.

In the final analysis, pension system reforms worldwide post-COVID were examined, drawing insights from Finland, Japan, and Germany. Proposed reforms include implementing automatic adjustments based on life expectancy, introducing macroeconomic slides, and setting upper limits on future premium hikes. The activation of private pensions was emphasized as a crucial post-reform supplement for income. As Korea faces the challenge of an aging population, these policy alternatives aim to ensure sustainability and income security in the post-COVID era.

In conclusion, a comprehensive analysis of the post-COVID landscape was provided, proposing policies to mitigate negative impacts and promote a sustainable future. The meticulous development and implementation of fiscal policies for the post-COVID era, particularly regarding the sustainability of national pensions and ensuring income security, are imperative.

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