A Study on Economic Shocks and Suicide

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Abstract

Korea's suicide rate is the highest in the world. The suicide rate, which rose sharply after the foreign exchange crisis in 1997, had some fluctuations, but overall steadily increased, reaching 30 per 100,000 population around 2010, and then began to decline, reaching a level of 25.2 as of 2022. Despite such decline, Korea has always been among the top-ranked OECD nations in terms of suicide rate. In fact, since 2018, Korea has consistently ranked first among OECD countries. As of 2022, the age-standardized suicide rates in OECD countries and Korea are 10.6 and 22.6, respectively, with Korea being twice higher than the OECD average.

Generally, suicidal death is known to be greatly influenced by an individual's social and cultural environment or personal attributes such as depression. In Korea, since the suicide rate increased sharply amid rapid environmental changes surrounding the economy and society, such as restructuring after the foreign exchange crisis, intensifying competition, and widening income inequality, economic difficulties have been identified as a major cause of Korea's high suicide mortality. However, despite the relatively abundant research findings, the work of accurately identifying factors affecting suicidal death is still not satisfactory due to the lack of appropriate data.

Accordingly, this study comprehensively and systematically analyzes how economic factors affect the suicide rate and suicidal death using both aggregate data and micro data. In addition, by analyzing the determinants of suicidal behaviors such as suicidal thoughts, suicidal attempts, and suicidal deaths, and comprehensively understanding the aspects of each type of suicidal behavior, this study aims to provide the basic evidence that can be used to understand Korea's suicide problems more accurately and establish effective measures. In addition, by confirming heterogeneity by demographic and socioeconomic characteristics, this study seeks to provide objective grounds for setting specific and detailed policy improvement directions.

The major findings of this study are summarized in the following sections.

1. Relationship Between Economic Fluctuations and the Suicide Rate

Chapter 2 analyzed the relationship between economic fluctuations and the suicide rate using a total of four economic indicators—unemployment rate, employment rate, ratio of regular workers, and ratio of non-regular workers. More specifically, this study constructed panel data by region and year and removed long-term trends to determine which direction the suicide rate moves according to short-

term economic fluctuations, and also examined whether the correlation between the two was heterogeneous by gender and age. The analysis results of this study are summarized as follows:

First, the results of estimating the relationship between short-term fluctuations in the suicide rate and short-term changes in economic indicators through regression analysis showed countercyclical characteristics in which the suicide rate increased when the economy worsened. Analyzing the relationship between each of the four economic indicators—unemployment rate, employment rate, ratio of regular workers, and ratio of non-regular workers—and the suicide rate showed that the suicide rate consistently rose as the economy deteriorated, and that the impact differed depending on age and gender.

Second, it is possible that the significant increase in the suicide rate of women in their 20s and 30s during the COVID-19 pandemic was due to an employment shock concentrated in the face-to-face service industry, which has a high ratio of female employees in their 20s and 30s and a high ratio of unstable employment such as non-regular jobs and temporary jobs. Accordingly, this study attempted to confirm whether the asymmetry of economic shocks leads to heterogeneity in the impact on suicide. As expected, the results showed that the asymmetry of the shock caused by the COVID-19 economic downturn had a heterogeneous impact on the suicide rate, likely increasing the suicide rate of young people, especially women in their 20s and 30s.

While previous studies have mainly reconfirmed the countercyclical nature of suicide mortality among the middle-aged and older people, this study is significant in that it confirms the previously unrecognized countercyclical nature of suicide mortality among young people, and shows the possibility that asymmetries in economic shocks lead to heterogeneity in the impact on suicide.

2. Analysis of Determinants of Suicidal Thoughts, Suicidal Attempts, and Suicidal Death

Suicidal behaviors should be understood as a continuum of thoughts, motivations, and actions about suicide, and can be divided into suicidal thoughts, suicidal plans, suicidal attempts, suicidal death, and parasuicidal behaviors. In general, suicidal death goes through the stages of suicidal thoughts and suicidal attempts, and in existing studies, suicidal thoughts and suicidal attempts are reported as major determinants of suicidal death. However, according to previous studies, the determinants of suicidal thoughts, suicidal attempts, and suicidal death are not necessarily the same. For this reason, there is a severe lack of objective evidence to accurately understand suicide problems in Korea.

Accordingly, this study identified the determinants of suicidal thoughts, suicidal attempts, and suicidal death and compared and analyzed the differences using micro big data including the Korea Community Health Survey (KCHS) provided by the Korea Disease Control and Prevention Agency (KDCA) and the National Sample Cohort (NHIS-NSC) DB provided by the National Health Insurance Service (NHIS). By doing so, it sought to present objective evidence for establishing a systematic and comprehensive suicide prevention policy. The analysis results of this study are summarized as follows:

First, health status was consistently found to be as a major determinant of suicidal thoughts,

attempts, and death, and among them, deterioration of mental health was found to be the major factor that most significantly increased the probability of all suicidal behaviors such as suicidal thoughts, attempts, and death.

Second, the probability of engaging in all suicidal behaviors, including suicidal thoughts, attempts, and death, was found to be statistically significantly higher among low-income individuals, those with low levels of educations, simple laborers, and unemployed people. In other words, there are consistent trends in suicidal behavior based on socioeconomic status.

Third, suicidal death was more frequent among men and older people, but their likelihood of considering suicide was lower. Suicidal death increased with age, while suicidal attempts decreased.

In short, consistent with foreign research findings, the Korean data also confirmed that the determinants of suicidal death, attempts or behaviors by socioeconomic characteristics were generally similar, while the determinants by demographic characteristics such as age and gender showed conflicting trends. Existing studies on suicidal behaviors such as suicidal thoughts and suicidal attempts are limited in that it is difficult to secure the reliability and validity of the estimation results due to sample size insufficiency, even leaving aside the problem of not being able to directly observe suicidal death. This study differs from existing studies in that it used micro big data to improve the reliability of the results, and by comprehensively understanding various aspects of suicidal behaviors, it confirmed that the influence of demographic characteristics on each suicidal behavior was heterogeneous.

3. Economic Shocks and Suicidal Death

Economic difficulties have been identified as a major cause of Korea's high suicide rate. However, due to limitations in data, it is difficult to find domestic studies that have rigorously analyzed what economic factors or what social and economic changes are related to an individual's suicidal death. Moreover, although attempts to identify high-risk groups from social and economic aspects and establish suicide prevention measures are ongoing, there is a clear shortage of objective evidence for such efforts.

Accordingly, this study sought to provide the basic data for setting effective policy directions by examining the relationship between economic shocks and individual suicidal death using micro panel data from the NHIS's National Sample Cohort (NHIS-NSC) DB. More specifically, the relationship between economic shocks, such as changes in income and job loss, and suicidal death was identified for different demographic characteristics such as gender and age. The results of the analysis are summarized as follows:

First, after analyzing the relationship between changes in income and suicidal death, it was observed that suicidal death increases when income decreases. However, the relationship between the two was different depending on demographic characteristics, which suggests that demographic characteristics have a heterogeneous effect not only on income level but also on income changes.

Additionally, the analysis results showed that the negative impact of income shock on suicide was relatively stronger for the self-employed than for wage workers.

Second, the result of estimating the relationship between job loss and suicidal death indicated that leaving a wage-earning job increases the probability of suicidal death, and the effect was strongly confirmed in middle-aged and older people and males. The result also suggested that the presence of a family that one can rely on economically or emotionally may have played a buffering role in alleviating to some extent the increase in suicidal deaths due to job loss.

This study is significant in that it not only confirmed the relationship between economic shocks such as changes in income and loss of paid employment and suicidal death for the first time using micro big data, but also identified the heterogeneity by demographic characteristics.

Suicide is an extreme behavior that occurs due to a variety of motivations, meanings, negative life events or stresses, and is difficult to explain by any one reason or single mechanism; it is the result of a complex interaction of psychological, socioeconomic, environmental, and cultural factors.

As suicide has emerged as a serious social problem, the central government, local governments, and private organizations are organically cooperating to promote various suicide prevention projects with an aim to actively respond to it. However, despite the continuous efforts of the government and other entities, there appears to be little progress in resolving Korea's suicide problems.

Suicide has a negative impact not only on individuals but also on society as a whole, and at the same time, it leaves a fatal outcome in the form of death so post-mortem intervention itself is not easy, and even if it is possible, it would be very limited. Therefore, prevention is the only and the best way to intervene in suicide problems. However, for preventive intervention, it is essential to accurately identify factors related to suicidal behaviors and to approach those factors in an appropriate way.

In order to prevent the socio-pathological phenomenon called suicide, a two-track approach is required, including medical response, such as improving mental health, and cause-specific response from the socioeconomic aspect. To this end, it is necessary to understand Korea's suicide problems accurately and consider them systematically and in depth based on objective evidence.

The results of this study suggest that support in the socioeconomic aspect, which has previously been evaluated as insufficient, should be urgently expanded as a suicide prevention measure, and that measures should be devised not only for the middle-aged and older people but also for young people with a weak socioeconomic status. Since this study confirmed the possibility that the asymmetry of the shock caused by the COVID-19 economic downturn had a heterogeneous effect on the suicide rate, it is urgently necessary to establish a system that can identify and monitor high-risk groups for suicide by comprehensively considering the macroeconomic situation and individual economic conditions, and to establish institutional mechanisms that can respond preemptively at the government-wide level.

In addition, the results of this study imply that, given the consistent tendency of suicidal behaviors according to health status and socioeconomic standing, it is necessary to set the vulnerable groups as

policy priorities and to build an integrated and accessible support system for them and to devise cause-specific support measures targeting groups that are vulnerable to socioeconomic shocks. It would also be necessary to design customized policies considering the heterogeneity according to demographic characteristics. Above all, this study once again confirms that the top priority task for suicide prevention is the expansion of the systematic, comprehensive, and preventive social safety net.

Suicide is not a problem that can be solved in a short time due to its complex causes and variability resulting from changes in the social environment. Suicide prevention measures should not be approached piecemeal, but require an integrated approach from various fields. It is essential to come up with sustainable and systematic support measures through organic linkage and cooperation across all ministries. In order to lower the suicide rate, suicide should be considered from a socioeconomic and environmental perspective rather than a personal problem. In addition to short-term measures for personal prevention, long-term measures including various policies from a socioeconomic perspective, ranging from expanding the social safety net to improving the dual structure of the labor market, will need to be implemented simultaneously.