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**Effect of Experiencing
Economic Crisis on Risk
Perception and Risk Attitude:
The South Korean Case**

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1. Introduction

1.1 Background

South Korea has experienced several severe economic crises since the end of the 1990s, namely, the Asian economic crisis of 1997/1998, a global financial crisis in 2008 and the European economic crisis in 2010. At the same time, the South Korean market has become more liberalised and globalised. Experiencing those changes and shocks, market participants as well as lay people might have adjusted themselves to the new market environment. In particular, it is possible to expect that experiences of severe economic crises might have changed ordinary people's risk perception significantly and, hence, their economic decisions in the market. South Korea is thus an interesting case study to analyse the role of economic crises in individual risk behaviour and attitude.

An economic crisis or recession changes the economic environment rapidly. A government might introduce new institutions to adjust to a new economic environment and overcome a crisis, while the financial problems of states and firms are usually transferred to individuals by several routes such as inflation, reduced job opportunities and other processes. Those changes drive individuals to perceive their economic environment in a different way, quite possibly with respect to individual risk perception and risk attitudes¹. In those transitional periods, marketisation processes can thus be strongly influenced by the experience of economic crises, and risk perception and uncertainty in particular play a considerable role in such markets.

Malendier and Nagel (2011) have already noted that a generation which grows up during an economic depression display risk averse attitudes concerning investment decisions in the stock market compared to those who have not experienced an economic depression. On 18 March 2013 the Asahi Shimbun newspaper in Japan ran a story about the “Sato-

¹ After perceiving an issue as a risk, one might frame his/her own risk attitude such as risk averse, risk neutral, or risk seeking. This distinction will be discussed in the chapter 2 further.

ri generation” (*satori sedai*) which is the name given to the current young generation in Japan which has grown up during Japan’s economic recession. The word *satori* means Buddhist enlightenment implying that this generation is rather less interested in advancement and success, but is determined to live their own lives. This generation is significantly distinct from their parents’ generation, which grew up during the economic boom phase of the economic bubble in the 1980s (Asahi Shimbun, 2013; Namkyu Kang, 2013). In the same context, the South Korean young generation that grew up with the experience of economic crisis also displays a different tendency from their parent’s generation. They are called the “*Sam-Po generation (Sam-Po Saedae)*” which indicates that they have given up three things in their life, namely, weddings, dating and raising a baby. This is due to specific economic and social pressures such as high competition rates in the labour market, repaying loans for university tuition fees which they are expected to pay back when they gain a job but which are difficult to get, and high housing rents (Minyoung Choi, Yoonkyoung Song, Jungin Yoo, Jihwan Kim, & Eunha Park, 2011). These examples obviously reflect how the experience of economic crises or recessions result in differences in individual behaviour.

Compared to the economic crisis itself, research on individual risk perceptions and risk attitudes in relation to economic issues and decision making have been neglected. According to Wynne (1992), the risk perception is not constant but shaped by a filter of cultural and social structures. Since an economic crisis changes the social structure rapidly, it can be assumed that the changes in the social structure following an economic crisis strongly affect risk perception and risk attitude.

There are numerous studies regarding risk perception (Barnett & Breakwell, 2001; Beck, 1994; Sjöberg, 2000; Sjöberg, Wahlberg, & Kvist, 1998; Slovic, 2000). However, as the field of risk research is very broad, the definition of risk is not always congruent (Holton, 2004; Rosa, 2003; Yen & Tsai, 2007). Some literature is about climate risks (Böhm & Pfister, 2008; Turvey, Onyango, Cuite, & Hallman, 2010), some is about the risk with respect to natural hazards (Barnett & Breakwell, 2001; Plapp, Werner, Ammann, Dannenmann, & Vulliet, 2006), and some is related to technological risks (Brown & Groeger, 1988; Drottz-Sjöberg & Sjöberg, 1990). There are studies which are mainly concerned with financial aspects in terms of monetary outcomes and which apply mathematical analyses to calculate risks (Bosman & van Winden, 2006). However, regardless of the various definitions and various fields of risk re-

search, the word “risk” is widely used in daily life without an accurate definition but used instead intuitively (Holton, 2004).

Risk perception and risk attitude affect society in several ways. If risk perception and risk attitudes are biased, they might hinder the proper allocation of economic resources, for example capital and labour. Exaggerated risk perceptions and distorted risk attitudes can be alleviated through proper risk communication and suitable policies (Pidgeon, Kasperson, & Slovic, 2003). This study hopes to provide a better interpretation of the risk perception and risk attitudes and its influence on the decision making of individuals.

Normally, previous studies in this field have applied questionnaires and surveys to measure risk perception and risk attitudes (Böhm & Pfister, 2008; Kahneman, Slovic, & Tversky, 1982; Sahm, 2007; Sjöberg et al., 1998; Yen & Tsai, 2007). However, some studies began to conduct economic experiments to study risk attitudes (Anderson & Mellor, 2009; Holt & Laury, 2002). Referring to those studies, this book carries out a series of economic experiments to measure risk perception and risk attitudes in South Korea. The advantage of economic experiments is that, in the laboratory environment, controls for variables are easier to determine and the effect of a certain variable, namely, an economic crisis, is clearly observable. This approach will also help to map risk perception and risk attitudes in different countries and will serve as an example for subsequent studies in economic risk research.

Risk perception is decisive for an individual and a society to minimize the loss or maximize the utility in a risky or uncertain situation. The critical problem in decision making under risky circumstances is that our risk perception might not equally match the real value of the riskiness of the situation. Moreover it varies according to individuals. The risk in a situation can thus be perceived as exaggerated or underestimated. Risk averse attitudes are seen to hinder the proper progress of society, and Slovic et al. (1982) indicated that the public’s pursuit of a “zero-risk” society threatens the nation’s political and economic stability (Kahneman et al., 1982: 83), because extremely risk averse attitudes hinder (or slow down) the prosperity and progress of a society. On the other hand, underestimated risk perception and risk seeking attitudes can hinder the proper judgment of investment or the introduction of appropriate public safety regulations. Therefore it is important to achieve “balanced” risk perception and risk attitudes toward risks among the individuals for proper allo-

cation of economic resources and economic efficiency, leaving aside for the moment the question of how to “balance” them.

There are several factors influencing risk perception and risk attitudes of individuals and society: a specific culture, the accuracy or amount of information regarding a situation, the level of education, level of income, gender, previous experiences and so on (Gustafson, 1998; Sjöberg, 2000). Therefore, understanding one society’s risk perception and risk attitude requires understanding the society as a whole. Among all those factors, this book focuses on the effect of a particular previous experience, namely the previous experience of economic crisis, on individual risk perception and attitudes.

Very few researchers have studied the risk perception of South Koreans from an economic perspective, as most of the studies about risk perception of South Koreans are related to technology and industrial risks perceptions (Jasanoff & Sang-Hyun Kim, 2009; Ki Y Sohn, Jee W Yang, & Chang S Kang, 2001; Zhai & Suzuki, 2009). One exception is Suh (2007) who discussed the general risk attitudes of Koreans. He claims that South Koreans are known for their relatively less risk averse attitude compared to people in other countries, and that this feature has been formed through rapid economic development and frequent institutional changes in South Korea (Suh, 2007). In the process of this fast economic development, South Korea did not establish proper regulations and institutions for reducing the risks of society, because doing so takes time and incurs costs. Instead of spending time and money, South Koreans choose to keep costs low for fast economic developments by frequently applying changes to institutions and the social system. Therefore, individuals were exposed to the risk inherent in frequent change in society. During those rapid changes, South Korean people had to adapt to rapid social-economic changes which required them to develop risk taking attitudes. However, a recently released survey report from the insurance company “Swiss Re (May)”² argues that the risk attitude of South Koreans is not so simple, and that their risk attitudes are rather complex. They are therefore not deemed to be in all circumstances less risk averse than people from

² Swiss Re applied the Consumer Appetite for Risk Index (CAFRI) which they developed to study consumers’ risk attitudes. The report compares the Asian-Pacific countries’ risk preferences based on a survey among 13,800 subjects aged between 20 and 40 conducted from April to May 2011 in 11 Asian Pacific countries (Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, Singapore, South Korea, Taiwan, and Vietnam).

other Asian countries. Accordingly, South Koreans are seen to display the highest risk-seeking attitude towards health, while they present the most risk-averse attitude in job seeking. Most South Korean respondents wanted to work for a large and famous company rather than taking the risk of establishing their own business or working for a small-sized company. It is an interesting suggestion that cross-country differences in risk attitude and perception may be different in different spheres of life.

Based on the above considerations, this study explores individual risk perception and risk attitude changes in relation to the experience of economic crises. In particular, the following related questions of risk perception and risk attitudes will be addressed: Did a risk averse attitude in the labour market develop through the recent experiences of economic crisis? Is this risk averse attitude valid only in the labour market or in other domains as well? Overall, this research can help us to understand how experiencing an economic crisis affects the risk perception and attitudes of individuals. Moreover, by exploring individual risk propensities, this research addresses a fundamental issue of individual behaviour in markets, namely the effect of economic shocks on individual risk-related behaviours. This research might also offer some implications to policy makers as to what kind of social risk communication is needed and what kind of policies are necessary to support the development of balanced risk perceptions and risk attitudes. In the following section, specific research questions will be introduced.

1.2 Research Objective and Research Question

1.2.1 Does Experience of Economic Crises Change Individual Risk Perception and Risk Attitudes?

This thesis asks whether the experience of economic crises changes individual risk perception and risk attitudes. To answer this one must consider the several factors influencing risk perception and risk attitudes. Previous risk research noted that culture, education, and gender all matter (Gustafson, 1998; Sjöberg, 2000). Even the same individual shows different risk perception in different situations (Weber & Milliman, 1997). There are also studies exploring the effect of previous experience on risk perception and risk attitudes, but these usually focus on the experience of natural hazards (e.g. landslide, earthquake, and hurricane) (Plapp et al., 2006; Slovic & Weber, 2002) and health and environmental issues (e.g.

bird flu, genetically modified food, air pollution) (Bickerstaff, 2004; Semenza, Suk, & Manissero, 2008; Turvey et al., 2010). The first research question to be pursued is whether the experience of an economic crisis is a factor which influences risk perception and risk attitudes. To answer this question, this study applies economic experiments as a research method in chapter 3.

1.2.2 How Do Individual Risk Propensities Interact with Labour Market Development?

As noted above, individual risk perception influences the decision making process. Aggregated individuals' risk perception in a society and the behaviour following from it might influence market developments. In the recent decade, in South Korea, over-qualified job seekers have rushed to the government officer positions which promise lifelong job security. Considering that in South Korea the qualification necessary to obtain a 9th class government officer position³ is a high-school degree, the recent high competition for these officer positions among university degree holders is an unprecedented phenomenon. Are those individual decisions in the labour market related to the experience of the recent global economic crisis and an ensuing individual risk perception change? To answer this question, chapter 4 explores this specific labour market case in relation to individual risk perception and risk attitudes. The chapter explores individuals' cost of biased risk perception and its influence on the labour market. University degree holders who apply for the government officer job are supposed to incur extra costs compared to high school graduates. They pay for university tuition fees, the cost of preparing for the government officer job (e.g. books, average time to prepare and living cost as an unemployed person) and the opportunity costs of getting other jobs, while high school graduates incur none of these expenses. The accumulated costs met by university degree holders become part of the social costs incurred through a distorted risk perception of job security.

³ The 9th class government officer position is the lowest government officer position

1.2.3 How Do Individual Risk Propensities Interact with Financial Market Development?

South Korean investors witnessed how the stock market fluctuated during the economic crisis (the Asian economic crisis in 1997, the global financial crisis in 2008, and the European economic crisis in 2010), and derived from this experience how the investment market moves during economic crises. For instance, during the 1997 Asian economic crisis, the Korean Stock Price Index (KOSPI) decreased sharply by 53 percent within one month, however 54 percent of this drop was recovered within the following month. During the 2008 global financial crisis, the KOSPI sharply decreased by 40 percent, but 21 percent of the loss was recovered within 10 days. Recent developments due to the economic crisis in Europe increased risk and uncertainty in the global stock markets again in 2010. It is therefore useful to observe how individuals' accumulated their own experience of their investment decisions' outcomes and how this shaped risk perceptions, eventually determining their individual investment decisions, which as an aggregate ultimately shape the development of the entire investment market.

Therefore, chapter 5 of this study focuses on the stock market to answer the research question: "How do individual risk propensities interact with financial market development?" In a similar approach to chapter 4, which explores the labour market, chapter 5 will present a real-world case of how individual risk perception and risk attitudes develop in relation to the experience of several economic crises. Some studies imply that individual risk perception and attitudes differ between the labour market and investment market. For instance, Weber and Milliman (Weber & Milliman, 1997: 124) review several risk-related laboratory studies (MacCrimmon & Wehrung, 1990; MacCrimmon, Wehrung, & Stanbury, 1986; Payne, Laughhunn, & Crum, 1980; Schoemaker, 1990) and conclude that individuals' risk perception and risk attitude differ according to the respective situations. Weber and Milliman (Weber & Milliman, 1997: 124) explain the reason for different perceptions in different situations by stating that the perceived riskiness is dependent on a person's reference point which can be affected by several conditions including framing. In the same line, some argue that risk tolerance in the domain of investment cannot be predicted by simply referring to observed risk tolerance in other domains (Hanoch, Johnson, & Wilke, 2006; Nicholson, Soane, Fenton-O'Creevy, & Willman, 2005; Slovic & Weber, 2002).

Therefore, it can be assumed that individuals might not behave the same in the financial market as in the labour market. The case of the financial market is included to elicit differences in risk perception and attitude in different domains. By observing the changes in stock market indexes and investors' participation during economic crisis, chapter 5 tries to learn about risk perception and risk attitude changes in relation to the experience of economic crisis.

1.3 Organization of the Study

To answer the three research questions, the following steps will be taken. In a first step, the study reviews relevant theories from basic decision-making theory to recent development in risk theories in the field of economics and psychology. In a second step, it applies empirical methods such as economic experiments and case study approaches with statistical data. The details of each method will be explained in the respective chapter where the methods are applied. Empirical data is collected through a series of instances of field research in South Korea. The specific discussions in each chapter are as follows.

Chapter 2 discusses general theories on risk perception and individual choice. First, decision theory regarding uncertainty will be introduced which explains the general theory regarding individual economic decisions. Then, theoretical concepts such as prospect theory and bounded rationality will be discussed in relation to the decision-making process. Next, the concept of risk, risk perception and risk attitude will be more clearly defined. Also specific methods for measuring risk perception and risk attitudes will be introduced.

In Chapter 3, the first research question, whether the experience of the economic crisis plays a role affecting risk perception and risk attitudes, will be answered through economic experiments conducted in South Korea. By applying economic experiments in a controlled situation, the experimental subjects are asked to play an investment game and a lottery game after experiencing a hypothetical economic crisis. Using this economic experiment, the influence of experience of economic crisis on risk perception and risk attitude will be explored.

In Chapter 4, the second research question, how do risk perception and risk attitudes influence job seekers' decision making will be discussed using a real case from South Korea. Since job-seekers' decision

making influences the labour market structure, this case will discuss the interaction between individuals and the market during the transition period of an economic crisis. Specifically, the chapter describes the job market situation, over-education of young adults, and the high competition rate for the government officer job exam. The social costs of biased labour market job preferences which induced young adults' risk averse attitudes, will be described using cost and benefit analysis by calculating the costs incurred by university graduates applying for government officers' positions.

In Chapter 5, the third research question, the effect of risk perception on the investment market, will be investigated. Unlike the labour market, which requires long-term oriented decision making, investment in the stock market in South Korea is based on rather short-term oriented decision making, which changes according to the temporary economic and business cycles. By exploring investors' risk perception toward the stock market, this chapter adds another case of individual risk perception development in relation to economic crisis. This chapter explores whether individuals become used to economic crisis and whether accumulated experiences have a learning effect on decision making in investments. To answer this question, the chapter analyses statistical data related to the stock market and the number of stock market participants.

Final conclusions will be reached in chapter 6.