Chapter 94
Investigating the Economic Vulnerability Factors of Emerging Markets After the Global Financial Crisis of 2008 With a Hybrid Multi-Criteria Decision-Making Approach

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ABSTRACT

The latest global financial crisis and its effects on emerging economies engaged researchers' attention to the relationship between economic vulnerability factors and financial crisis. Especially, infrastructure and growth-based factors directly impact on the economic vulnerability of emerging economies. In this study, it is aimed to investigate the economic vulnerability factors indicating the infrastructure and growth of emerging markets after the global financial crisis of 2008 with a hybrid multi criteria decision making approach. To clarify the relationship between the subjective causality structures of the real world problems DEMATEL and PROMETHEE techniques have been employed in the hybrid model. The results illustrate that (1) Nigeria has the highest degree of the economic vulnerability in each year after the global financial crisis, and (2) Mexico for 2009, Turkey for 2012, and Korea for 2015 have the lowest degree of exogenous economic and environmental shocks among the selected emerging markets.

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INTRODUCTION

We all have concerns about using definite words because we find their meaning vague. For a decision maker "*vulnerability*" is not such a simple word as it has ties with economic, social, politic, cognitive, medical, cybernetic dimensions. Defining this confusing concept, for example "the inability of challenging with external environment" or "expressing the multi-dimensionality of problems in a social or economic situation in a combination with external parameters causing any significant disaster" do barely help scholars in understanding the conditional outcomes of human behaviors. Is the concept of "vulnerability" linked with our efforts of maximizing our economic interest or just a social issue in the external environment?

The man who wants to remove a mountain away, it begins carrying small stones away -Confucius

Understanding human consciousness on economic actions is simple but a complex issue for the future presumptions of environmental threats and disasters. In this context, policy makers should be aware of risks and threats in the external environment before taking an economic or social action as they have significant vulnerabilities of conditional changes.

It becomes meaningful when you look up the concept including economic and social dimensions. The concept of vulnerability referring to financial, economic or social means can be ponderous. But the definition should not be illuminating the subject

The complicacy of the actions including economic and social systems interaction could dominate likelihood to experience disaster due to exposure to a hazard or an unexpected condition.

The latest global financial crisis that rooted in the US mortgage system transformed into an economic crisis. During the period, vulnerable economies to external shocks struggled for recovery and sustainability. The fierce competition in the financial services industry of advanced economies also fostered the financial vulnerability factors for institutional actors.

In the existing literature, the relationship between economic vulnerability and financial crisis has been assessed by empirical researches. The volatility in the foreign capital flows, weak financial regulations, and asset price bubble with hyperinflation, insufficient import and export regimes, increase in unemployment and etc were some significant financial and economic factors of vulnerability.

Economic Vulnerability Index is officially used by the United Nations Committee for Development Policy in order to identify the least developed countries. In this study, the determinants of Economic Vulnerability Index (EVI) will be used as the criteria for the model. According to the UN Development Plan, EVI composes of eight determinants including i) population size, ii) remoteness, iii) merchandise export concentration, iv) share of agriculture, forestry and fisheries in gross domestic product, v) homelessness owing to natural disasters, vi) instability of agricultural production, and vii) instability of exports of goods and services, and finally viii) the share of population living in low elevated coastal zone.

The urbanization and investment strategies of the countries give rise to some issues on the economic growth and infrastructure planning by the rapid changes in the demographic, geologic, and economic parameters after the global crisis. Thus, it is possible to understand the meaningful sense of growth and infrastructure conditions by providing the essential criteria of the economic vulnerability for the emerging markets and measuring the economic vulnerability of the countries comparatively. Accordingly, popula-