The 13th International Convention of the East Asian Economic Association

■Date: 19-20 October 2012

■Venue：Singapore (Grand Copthorne Waterfront Hotel Singapore)

■Participants：

Toshihiko Hayashi (Directors for Research)
Kazuma Murakami (Senior Researcher)
Mitsuhiro Okano (Researcher)
Mampei Hayashi (Researcher)

■Chair of Session and Presentation：

○Chair of Session

・Chair：Toshihiko Hayashi：Session_ INSTITUTIONS AND POLITICS I
・Chair：Toshihiko Hayashi：Session_ GROWTH AND TRADE IN ASIA
・Chair：Toshihiko Hayashi：Session_ DISASTER ECONOMICS AND THE MANAGEMENT OF POWER MARKET

○Presentation

1. A Very Long-Term Prospect For The World Economy Until 2100 (Presented by Toshihiko Hayashi)
2. Determinants Of Natural Disaster Risk In Developing Regions: Evidence From Rural China (Presented by: Mampei Hayashi. Submitted by: Yang Liu and Mampei Hayashi)
3. Economic Damage Caused By Natural Disasters In Japan: An Empirical Analysis From The Perspective Of Social Vulnerability (Presented by: Mampei Hayashi)
4. Monetary Policy And Natural Disasters: An Extension And Simulation Analysis In The Framework Of New Keynesian Macroeconomic Model (Presented by: Mitsuhiro Okano
5. A Causal Analysis Of The Determinants Of Power-Saving Behavior At Home, And Supply-Demand Situation For Electricity In Japan (Presented by Kazuma Murakami)

■Abstract of Presentation：

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1. A Very Long-Term Prospect For The World Economy Until 2100

This work presents an estimate as to how major countries and regions in the world will fare in terms of real GDP and real GDP per capita through the year 2100. For such a very long-term forecast, sophisticated conventional methods known to economists are of no use, since there will be ‘megachanges’ in the fundamental conditions of any economy.

However, over a very long period, there is a fairly stable relationship between population and the economy for any country. We, therefore, estimate the elasticity of GDP with respect to population using the historical data compiled by Angus Maddison. We then apply the estimated elasticity to the United Nations World Population Prospect for countries and regions to obtain their GDP until 2100.

Our result is striking. In 2100, the United States will still be the largest and one of the richest economy in the world. The runner up will be France. ASEAN 5 and even India will lose their growth momentum somewhere around 2060. The heaviest blow will be dealt to Japan whose GDP will sink into oblivion. Korea and Japan, however, will hang on as a middle income country in terms of per capita GDP.

Based on our forecast, we will list up the world's 20 largest economies and the 20 richest economies in 2000, 2050, and 2100. We will also calculate the Gini coefficient for the world as a whole and show that global income disparity will rise toward 2100 after a short break in the early part of the 21st Century.

2. Determinants Of Natural Disaster Risk In Developing Regions: Evidence From Rural China

Since UNDP(2004) shows the conceptual framework of analyzing natural disasters damage, growing number of economic researches has investigated what social and economic factor are mitigating death toll and economic damage. Those researches found income level or education and institutional quality are the key for future mitigation, but they are using cross country level data to for the analysis. Usually, natural disasters occur locally except massive earthquake or Tsunami. We need at least prefecture level data for further investigation.

In this paper, we will implement prefecture level analysis in China which is one of the most natural disasters prone countries in the world for investigating social and economic factor which has an effect of disaster damage mitigation.

Main findings of this paper are below. 1) The extent of the death toll and economic damage brought by natural disasters are determined not only by disaster frequency but also by economic conditions. 2) GRP per capita and population density are the key for mitigation which means economic development and urbanization could be the implicit insurance. 3) Different from economic development and urbanization, stock accumulation increases the economic damage.

3. Economic Damage Caused By Natural Disasters In Japan: An Empirical Analysis From The Perspective Of Social Vulnerability

Catastrophic natural disasters always remind us the threats of nature and tell us that disasters could seriously harm our society and lives. These tragedy lessons us to respond and prepare for the future disasters. We should consider the social aspect of the affected regions as recent cross country analysis found that building resilient society is effective for disaster mitigation.

To build resilient society for natural disasters, well known fact is that the economic development is significant for disaster mitigation. (Kahn(2005), Kellenberg and Mobarak(2008), Padli and Habibullah(2009)) Another key for disaster mitigation is social vulnerability. (Kahn(2005), Toya and Skidmore(2007), Padli and Habibullah(2009)) Finding social vulnerability factors for disaster mitigation is an empirical question as Weichselgartner

(2001) points out. Though, these evidences show that improving the quality of the society could lead to disaster mitigation.

In this paper, we investigate the economic and social factors which contribute to disaster mitigation by cross prefecture analysis. We consider Japan as the best candidate because Japan is one of the most natural disasters prone countries and has experienced massive earthquake and Tsunami. Also, we deal with economic damage brought by natural disasters because economic damage is prominent in developed countries compared to developing countries.

Our conclusions are below. 1) We could not find the evidence of mitigation effect for economic loss by GDP per capita in Japan. 2) Accumulation of young households and capital stock are the key. 3) Government expenditure for disaster recovery or soil and water conservation has a significant effect, too.

4. Monetary Policy And Natural Disasters: An Extension And Simulation Analysis In The Framework Of New Keynesian Macroeconomic Model

In this paper, we show that how monetary policy should respond in the aftermath of a rare but large-scale natural disaster such as typhoons and earthquakes, using simulation analysis from the view of New Keynesian perspective.

Since the conditions for the simulation is different from previous studies, monetary tightening for inflation stabilization does not necessarily have better performance in the aftermath of a disaster shock.

5. A Causal Analysis Of The Determinants Of Power-Saving Behavior At Home And Supply-Demand Situation For Electricity In Japan

We design the new model concerning the power-saving intention-behavior-effect process of the individual in consideration of the influence from society, and the impact on society. The validity of the model is verified by structural equation modeling using a citizen survey result. In addition, the difference in the situation according to the area and time clarifies the difference in the influence on effect process by multiple group analysis.

We showed the results that the cognition of a power-saving target makes a power-saving intention and power-saving behavior awaken, and contributes to the power-saving effect, anxiety and fear to a power failure raise a power-saving intention, there is no significant difference in path coefficient of the cognition of a power-saving target and anxiety and the fear to a power failure in Tokyo.