Improvement of the Japanese Earthquake Insurance System for Early Housing Reconstruction by Compensating Home Mortgage Balance: Comparison of System between CEA, TREIF and JEI

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ABSTRACT

Housing reconstruction of disaster affected households whose houses are collapsed by earthquake and left with home mortgage payment becomes recognized as a serious problem in Japan. Although there are a few support measures for housing reconstruction are implemented by the government like supporting system for livelihood recovery of disaster victims, subsidizing mortgage interest and leniency policy for disaster victims’ home mortgage, all of them cannot be considered as a permanent fundamental housing reconstruction support that strengthen the self-reliant efforts of the affected households due to a limited content of support in each system. In this study, with a perspective of achieving post-earthquake early housing reconstruction by utilizing earthquake insurance, two effective ways to promote potentially improvable uninsured households with mortgage payment and low-income to take out an earthquake insurance policy are discussed.

Introduction

The occurrences of large-scale earthquakes cause immense damage to life and property and afflict disaster-affected victims, communities and government for years. In the phase of recovery and reconstruction, livelihood rehabilitation and housing reconstruction are the most important and difficult task to achieve. Therefore, prompt and efficient efforts to pursue post-earthquake early housing reconstruction have always been a major issue. Among the earthquake prone countries including Japan, Taiwan and the United States (California), government-supported earthquake insurance program to mitigate the possible financial burdens on the government and to promote residents’ self-reliant efforts to rebuild houses destroyed in earthquakes has been established. In this study, improvement of the Japanese earthquake insurance system to enhance early housing reconstruction is suggested by comparing other similar non-compulsory earthquake insurance system such as California Earthquake Authority (CEA), Taiwan Residential Earthquake Insurance Fund (TREIF) and Japanese Earthquake Insurance (JEI).

Comparison of Earthquake Insurance System

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The main features of earthquake insurance system of CEA, TREIF and JEI are as follows:

In Taiwan, there used to be the private earthquake insurance without government assistance before TREIF. However, the penetration rate remained at a low level like 1.08% late in a system in 1998. Therefore, it caused immense financial burden on the government for supporting housing reconstruction in the case of the Chi-chi earthquake in 1999, and this post-earthquake governmental response served as a trigger to establish a new type of residential earthquake insurance under the joint effort of TREIF, academic, business, and government in 2002. Based upon the lessons learned from the past earthquake insurance system with low penetration, mandatory element of residential fire insurance for newly bought residential properties is incorporated into a new system, and its penetration rate is 30.5% in 2013 and going to improve to the point where fire insurance is penetrated through time. Furthermore, it’d promise a certain level of effect in improving disaster affected households’ housing reconstruction by self-reliant efforts.

Earthquake insurance market in California used to be very active that about 71~86% of nationwide allocated premiums was occupied by the state until the Northridge Earthquake in 1994. However the serious damage by the earthquake caused insurance crisis and created increased uninsured households due to the withdrawal of many insurance companies. As a solution to the problems, in 1996, a publicly managed with largely privately funded entity, the CEA was established to offer the ‘mini-policy’, a reduced-coverage insurance policy to protect policyholder’s dwelling excluding coverage for costly non-essential items such as swimming pools, patios, and detached structures. Similar to JEI, CEA is totally voluntary enrollment, and its penetration rate subsequently remains at a low level like 10.2% (2011). Following the stagnated penetration, CEA has been sparing no efforts to improve the system by offering more segmentalized and affordable options to achieve more insured households so that the penetration rate will be gradually enhanced in the future.

In Japan where the earthquake risk is higher than any other country, earthquake insurance is not even compulsory for all households who buy fire insurance like TREIF. If JEI can be implemented as compulsory insurance either on a nationwide basis or partially compulsory to fire insurance like TREIF, it will resolve the problem of unhealthy condition by adverse selection. However, as long as there are many regions like Chugoku and Kyushu region where earthquake risk is extremely-low, it is not possible to institutionalize compulsory earthquake insurance throughout the country. Hence, only way to enhance JEI penetration is to improve accessibility by offering more consumer-driven options like CEA.

**Research Methods, Findings and Proposals**

To explore the possibility of achieving post-earthquake early housing reconstruction by utilizing earthquake insurance, the study goes through the following steps: (1) analysis of current issues and trends in post-earthquake housing reconstruction, (2) implementation of an intention survey to identify actual issues of low earthquake insurance penetration, and (3) development and suggestion of a new framework for improving penetration.

In the case of the Great East Japan Earthquake (GEJE), disaster affected households
whose houses are completely collapsed are entitled to receive about US$61,500 by the government and charitable organizations. If disaster affected households were insured by JEI, the amount of US$152,500 will be paid to them. Taking the average cost of building a house in Japan (US$250,000) into consideration, post-earthquake housing reconstruction is greatly influenced by the presence or absence of earthquake insurance. Furthermore, given the fact that the average amount of housing debt in each household (US$159,000) and the total amount of uninsured outstanding housing loan (US$710 billion) in Japan, earthquake insurance is indispensable tool for uninsured households with mortgage payment to avoid multiple-debts. However, even after the GEJE, the penetration rate of JEI is only 27.9% in 2013.

For the purpose of initiating a drastic proposal of improving earthquake insurance system and achieving high penetration rate, a deeper understanding of actual problems in JEI is essential. As a means of exploring the main reasons of preventing households from taking out an insurance policy, an intention survey to propose a new earthquake insurance framework was conducted among the graduates of Kansai University. In this survey, 1,000 survey sheets were sent out according to the census of 2012 population distribution and its collection rate was 24.4%. The main results indicate as follows: (1) different intentions appears between insured/uninsured households, and main factor of dissatisfaction among insured households is its inadequate coverage, whereas high premium is the main factor of preventing households from taking out an insurance policy, (2) both insured and uninsured households prefer JEI coverage to be 100% replacement cost, and their preferred premium for that is US$202/year for US$101,000 coverage for insured households, whereas US$51/year for uninsured households, and (3) about two thirds of insured and uninsured households are in favor of the suggestion with respect to institutionalize earthquake insurance compulsory for all households with mortgage payment. On the basis of the intention survey, the provisional calculations were made: (1) the average individual premium will not be reduced significantly by just institutionalizing compulsory earthquake insurance for all households with mortgage payment unless the entire premium rate to be reviewed in more regional risk-based segmentalized approach and (2) the preferred premium from the intention survey was US$51/year~US$202/year for US$101,000 coverage whereas the average actual premium for each policyholder is US$193/year.

In consideration of the intention survey results and provisional calculations, institutionalizing compulsory earthquake insurance for all households with mortgage payment with more efficient insurance in moderate premium is the most appropriate concessions. Thus, a new framework for compensating home mortgage balance on building-part for all households with mortgage payment is developed. Since this new system complements existing earthquake insurance policy, the same insurance basic premium rate is utilized. The coverage is set based on the average amount of building-part mortgage balance and the premium is calculated according to the balance of building-part housing loans. By implementing this system, all households with mortgage payment stand to save about US$520 premium on average in 20 years, and the entire penetration rate of earthquake insurance will increase from 27.1% to 69% at the most. Since this system is compensating only the balance of building-part home mortgage with moderate premium, the policyholders will have a choice to apply for a new mortgage to rebuild houses so that it can prevent all households with mortgage payment to carry a great burden like multiple-debts. Furthermore, it also resolves the problem of separate insurance contract of joint and individual ownership space which often causes a serious delay in repairing condominium...
building under the present earthquake insurance system.

Although compulsory earthquake insurance for all households with mortgage payment resolves the issues of high premium, multiple-debts and uncollectible-housing loan, and reducing the number of households moving into public disaster restoration housing, there are still some issues to be improved such as (1) high premium and inadequate coverage and (2) no-mortgage and low-income households’ including elderly households involvement. These issues can be improved by setting up more diversified discount scheme. Since all types of earlier discount schemes with an ineffective outcome are designed to give individual households an incentive to take out an insurance policy, a new discount scheme involving mutual cooperation spirit of building community resilience against earthquake disaster in view of enhancing penetration is suggested. Although the main purpose of suggesting this scheme is to improve the penetration among the rest of uninsured households not applicable to compulsory earthquake insurance scheme including low-income and elderly households, it allows all insured households to put their effort into building community resilience with the aim of receiving premium discount. And discount scheme is set double-feature of community-based efforts and each prefectures’ penetration rate so as to enhance mutual interaction to ensure the effectiveness of scheme. To maintain a balance between the existing discount schemes, the maximum discount ratio is set to 52%. Discount rate of the 1st feature is determined by the penetration rate of each prefecture, and it reflects in basic premium rate. As for the 2nd feature, it is determined based on an assessment on the efforts of disaster management/prevention made by individual household, neighborhood community association and local authority respectively, and it reflects in individual policyholders’ premium. The provisional calculations of the actual average premium of the current policyholders, the premium can be reduced from US$193/year to US$93/year at the most. By taking the preferred premium (US$51-uninsured households, US$202-insured households) into consideration, the new discount scheme could provide reasonable premium. By implementing this scheme, the harder the involved parties work on their disaster management/prevention activity, the more premium reduction they can get. Furthermore, it also contribute not only to strengthen community bond and resilience but also to reduce financial burden of the government for post-earthquake housing reconstruction.

Conclusion

From the aspect of enhancing post-earthquake early housing reconstruction by utilizing earthquake insurance, two effective ways of improving JEI penetration are suggested in this study. However, there are still some issues remaining to improve the system such as (1) reviewing the current basic premium rate to ensure more affordable premium by segmentalizing more regional-based-risk approach and (2) setting up a kind of foundation separately from the earthquake insurance system with no legal constraint of the insurance coverage under the Act for Earthquake Insurance to support insured households’ housing reconstruction in addition to the earthquake insurance payment.

References