# Non-Recourse Mortgage in South Korea : Risk and Opportunity

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# I. Introduction

## Background

- Mortgage borrower as a financial consumer
  - **Mortgage :** A debt instrument, secured by the collateral of specified real estate property, that the borrower is obliged to pay back with a predetermined set of payments.
  - **Mortgage borrower :** financial consumer

- Mortgage loans in South Korea are recourse loans.
  - **Recourse loan :** in case of default, a type of loan that allows the lender to go after the borrower's assets that were not used as loan collateral if the value of the underlying asset is not enough to cover it .
  - **Non-recourse loan :** in case of default, a type of loan that allows the lender to seize the collateral, but cannot seek out the borrower for any further compensation, even if the collateral does not cover the full value of the defaulted amount

# I. Introduction

## Background

- South Korea government (Ministry of Land, Infrastructure and Transportation) announced a plan to introduce a pilot non-recourse mortgage program in September 2014 (2014/09/01).

- The pilot non-recourse mortgage program is expected to activate in December 2015. (according to Ministry of Land, Infrastructure and Transportation)

- South Korean government expects the non-recourse mortgage to
  - ❖ protect the rights of financial consumers
  - ❖ enhance the responsibility of financial institutions

# I. Introduction

## Purpose of the study

- The purpose of the study:
  - ❖ to review the argument points of the non-recourse mortgage from the positive and negative aspects
  - ❖ to investigate the risk of the non-recourse mortgage in South Korea mortgage market
  - ❖ to examine how to share the risk of the non-recourse mortgage between the mortgage borrowers and lenders including financial institutions

# II. Literature

## Case-study (The United States)

- **The United States has the non-recourse mortgage programs.** (Harris, 2010; Zywicki et al., 2009)
  - ❖ Non-recourse mortgage states (10~15): AK, AZ, CA, CT, ID, MN, NC, ND, OR, TX, UT and WA
    - ✓ Prohibit to claim **deficiency judgement**
    - ✓ **Deficiency judgement**: A judgement levied against the borrower personally for the difference between the mortgage debt and the liquidation value of the property
  - ❖ Recourse mortgage states (40~35): AL, AR, CO, DE, DC, FL, GA, HI, IL, IA, IN, KS, KY, LA, ME, and etc.
    - ✓ Allow to claim deficiency judgement, but prefer **short sale** or **deed in lieu of foreclosure**
    - ✓ **Short sale**: the lender and borrower decide that selling the property and absorbing a moderate loss is preferable to having the borrower default on the loan.
    - ✓ **Deed in lieu of foreclosure**: A potential option taken by a borrower to avoid foreclosure under which the borrower deeds the collateral property back to the lender in exchange for the release of all obligations under the mortgage.
  - ❖ **FHA**, **VA**, or mortgages issued by public mortgage corporates (e.g. **Fannie Mae** and **Freddie Mac**) are **non-recourse** regardless of any state in the US. (Mixon, 2008; Cho, 2007)

# II. Literature

## Case-study (Others)

- **Canada** (Ghent and Kudlyak, 2011)
  - Recourse mortgage mostly, but some states including Alberta have the non-recourse mortgage programs (Jones, 1993; Ghent and Kudlyak, 2011)

- **European Countries:** Mortgage loans are **recourse** obligations in most European countries. (Lea, 2010)

  However, some countries try to make programs close to non-recourse, e.g.

  - **Spain**

    Datio in solutum : Some jurisdictions may provide that borrowers who cannot repay their mortgage loans are released in full from the underlying debt by handing their mortgaged property over to the lender. (London Economic, 2012)

  - **France**

    France has a number of different processes which consumers can use to prevent lenders launching an enforcement procedure. The most significant are Amicable process, debt moratorium, the over-indebtedness commission process. (London Economic, 2012)

  - **Island**

    A Central Bank Code of Conduct on Mortgage Arrears (CCMA) obliges mortgage lenders to consider a range of alternative repayment arrangements for borrowers in difficulty with the mortgage on their principal private residence . (London Economic, 2012)

# II. Literature

## Some issues in non-recourse mortgage

### 1. Arguments from the perspective of financial market stability

❖ Do non-recourse mortgages lead to increase in **strategic defaults** ?

Support

- ✓ Ghent and Kudlyak (2011): borrowers are 30% more likely to default in non-recourse states.
- ✓ Guiso, Sapienza and Zingales (2009): 26% of the existing defaults are strategic defaults.
- ✓ Ambrose, Capone and Deng (2001): non-recourse states have higher default rates.
- ✓ Hatchondo, Martinez and Sanchez (2013): the default rate of loans is lower in Europe (recourse) than the US (non-recourse).

Oppose

- ✓ Foote, Gerardi and Willen (2008): fewer than 10% of negative equity owners eventually lost their home to foreclosure.
- ✓ Bhutta, Dokko, and Shan (2010): the median borrower does not strategically default until equity falls to -62 percent of their home's value.
- ✓ Li and Oswald (2014): the deficiency law change state (Nevada) did not appear to have accepted mortgage default or house foreclosure outcomes.
- ✓ Mitman (2011), Harris and Meir (2012): overall default rates have not in fact been meaningfully higher in "non-recourse" states.

# II. Literature

## Some issues in non-recourse mortgage

### 1. Arguments from the perspective of financial market stability

- Does non-recourse law result in larger **bubbles in housing prices**?

Support

- ✓ Nam and Oh (2014): A state with non-recourse law creates a larger housing bubble during an economic expansion, and experiences a steeper decline in housing prices during an economic recession.
- ✓ Bao and Ding (2013): non-recourse states experience faster price growth during the boom period (2000-2006), a sharper price drop during the bust period (2006-2009). Moreover, the volatility of housing prices is higher in non-recourse states than in recourse states.

Oppose

- ✓ Mian and Sufi (2014): over liquidity could cause a housing market bubble.
- ✓ Li and Oswald (2014): the deficiency law change in Nevada contributes negatively and statistically significantly to lenders approval rate as well as mortgage loan size upon approval.
- ✓ Castilla (2011): the generalization of recourse mortgage has been a major booster of the Spanish real estate bubble (not non-recourse mortgage).

# II. Literature

## Some issues in non-recourse mortgage

### 2. Arguments from the perspective of protecting financial consumers

- Does non-recourse mortgage protect **financial consumers**?

  Support

  - ✓ London Economics (2011): the availability and use of personal bankruptcy and 'datio in solutum' solutions of mortgages as legal solutions to problems of 'over-indebtedness' faced by a number of consumers in the EU.
  - ✓ Non-recourse mortgage development association in Japan (2011): personal bankruptcy requires more social costs and non-recourse mortgage raise the chance of recovery.
  - ✓ HAFA (Home Affordable Foreclosure Alternatives) Program: provides homeowners the opportunity to exit their homes and be relieved of their remaining mortgage debt through a short sale or a deed-in-lieu of foreclosure (DIL) with $10,000 in relocation assistance. Provide a mortgage borrower with “peace of mind”.

- Does non-recourse mortgage enhance the responsibility of **financial institutions**?

  Support

  - ✓ Li and Oswald (2014):the deficiency law change in Nevada contributes negatively and statistically significantly to lenders approval rate as well as mortgage loan size upon approval.
  - ✓ Nam and Oh (2014): LTV ratios lower whereas mortgage interest rates and denial rates are higher in non-recourse states than in recourse states.
  - ✓ Castilla (2011) and Mixon (2008): They would be more cautious in the release of credit, rejecting overly optimistic valuations of the real estate collateral and decreasing the percentage of the appraised value of what they are willing to finance.

## Some issues in non-recourse mortgage

### 3. Arguments from the perspective of enhancing social welfare

- Does non-recourse mortgage enhance **social welfare**?

  Support

  - ✓ Mitman (2011): comparing the bankruptcy of mortgage default and credit default, non-recourse mortgages reduce the overall bankruptcy.
  - ✓ Meir and Harris (2011): financial institutions are more efficient to manage the risk of house price volatility due to their specialty and experience.
  - ✓ Mixon (2008): collection of recourse mortgage is difficult to be bent on gain. When Non-recourse mortgages require the financial institutions to take the default risk more carefully, which strengthen the social trust.

### 4. Arguments from the perspective of the Principle of Change of Circumstances

- Can non-recourse mortgage be regarded as **the principle of change of circumstances**?

  Support

  - ✓ Park, Jung-Ki (2011): When there is a time difference between contract formation and its final performance, it is sometimes difficult to adhere to initial contractual terms due to changes in circumstance.

# II. Literature

## Pros of non-recourse mortgage

### 1. Protecting financial consumers (society to enable a consolation match)

- Reduce the possibility of credit default and raise the chance of recovery
- Lower the social security costs
- Present a mortgage borrower with "**peace of mind**"

### 2. Enhancing the responsibility of financial institutions

- Lead financial institutions to strengthen the ability to evaluate collateral property.
- Induce financial institutions to suppress issuing the risky loans

### 3. Enhancing social welfare

- Financial institutions are more efficient to manage the risk of house price volatility due to their specialty and experience.

### 4. Others

- Reduce the period and cost of managing the non-performing loans
- Enhance the trust as social capital

# II. Literature

## Cons of non-recourse mortgage

1. **Increasing the strategic default when the housing price significantly falls**
   - Raise the instability of housing and capital markets
   - Solution: control the LTV under the certain level

2. **Enhancing the demand of mortgage and bubbles in housing prices**
   - Create a larger housing bubble during an economic expansion, and experiences a steeper decline in housing prices during an economic recession
   - Solution: let financial institutions have more strict and provide a risk premium to the mortgage interest

3. **Others**
   - Less motivation to manage the collateral properties due to the possibility of strategic default

# III. Data & Methodology

## Theory

- **Expected loss**

$$EL = \text{PD X LGD X EAD}$$

- ❖ PD (Probability of Default): a borrower may not fulfil her financial obligations
- ❖ LGD (Loss Given Default): a lender may lose money from her borrower who already defaulted
- ❖ EAD(Exposure at Default): a total value that a lender is exposed at the time of default

- **In order for economic evaluation of a new non-recourse mortgage system, we need two estimated values: 1) PD and 2) LGD**
  - ❖ They tend to assume EAD as an unity
  - ❖ Expected Loss Rate= PD XLGD

# III. Data & Methodology

## Two approach and Data

### 1. Estimation of EL

**1) PD**

- Korean mortgage market data from the Financial Supervisor Services
- Quarterly default rates from 2007 to 2014

**2) LGD**

- Previous research such as Park and Bank (2012), which studies LGD during the period of financial turbulence (2006-2009)
- Recovery rate: industry experience

**3) PD can be a function of mortgage systems**

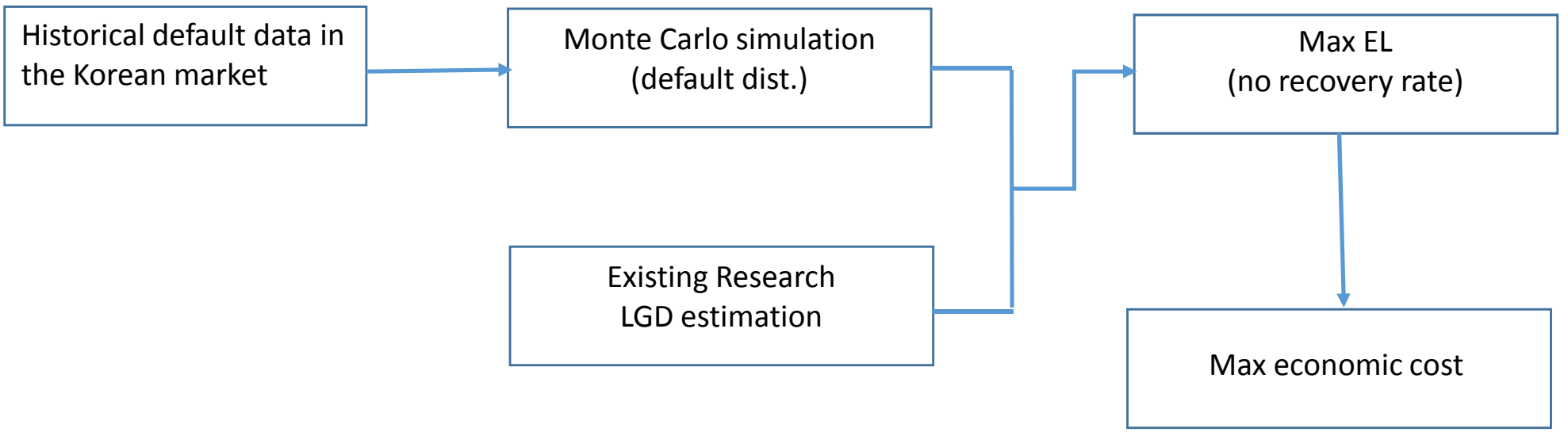
- Ghent and Kudlayk (2011): borrowers are "30% more likely to default in non-recourse states"

### 2. Myopic approach

- NHF: direct loss data from 2004 to 2008 (a loan level analysis is limited)

# III. Data & Methodology

## Procedures for EL estimation




- With no macro data available, we adopt very "cautious" approach
  - ❖**Historical default rates for the National Housing Fund are lower than those for general banks**
  - ❖**Data during the period of the Global Financial Crisis**
  - ❖**To evaluate economic cost of introducing the new non-recourse mortgage system, we assume that all the losses would be recovered**

# IV. Results

## Default rate

- Values at Risk using a Monte Carlo Simulation
  - ❖ Both symmetric and non symmetric distributions
  - ❖ Borrowers are “32%” more likely to default in non-recourse states (Ghent and Kudlayk, 2011)”

| | Monte Carlo Simulation (non symmetric dist.) | Monte Carlo Simulation (non symmetric dist.& 32% more default) |
|---|---|---|
| Mean | 0.527 | 0.696 |
| 95% VaR | 0.729 | 0.962 |
| 99% VaR | 0.816 | 1.077 |

# IV. Results

## Loss Given Default

- **Condominium 6.18% and house 7.92%**
  - Mortgages in a First Lien position from 2006-2009, as we analyze mortgages for NHF.
  - Park and Bank (2012)

## Maximum economic cost with the new non recourse system

- **All the losses would be recovered** by the current recourse system
  - Even in the current system, lenders have financial damage from mortgage defaults
- But, to recover loss from defaulted loans, lenders incur **recovery cost**
  - Maximum expected loss = expected loss *recovery rate, where **recovery rate= 100%**
  - Maximum economic cost = expected loss *recovery rate* (1-**recovery cost rate**), where recovery cost rate = 15% (from industry practice)

# IV. Results

## Expected Loss and Expected Cost(unit: bps=1/100%)

| | | Maximum Expected Loss (No Recovery Cost) | Maximum Economic Cost (15% Recovery Cost) |
|---|---|---|---|
| Condominium | | 4.30 | 3.66 |
| | 95% VaR | 5.95 | 5.05 |
| | 99% VaR | 6.66 | 5.66 |
| House | | 5.51 | 4.69 |
| | 95% VaR | 7.62 | 6.48 |
| | 99% VaR | 8.53 | 7.25 |

## Economic Cost for the National Housing Fund (unit: bps)

| | Average | 95% VaR | 99% VaR | 비고 |
|---|---|---|---|---|
| Market Data (maximum) | 3.66 | 5.05 | 5.66 | - Default rates are higher for non-recourse mortgage by 32%<br>- All the losses would be covered<br>- Recovery cost:15% |
| NHF Data | 1.70 | | | - Recovery cost:15%<br>- By the current recourse system, 26.49% of loss are covered.<br>- From 2004-2008. |

# V. Conclusions

## Need of non-recourse mortgage in South Korea

- **(Financial consumers)** Protecting financial consumers and making a society to enable a consolation match
- (**Financial institutions)** Enhancing responsibility of financial institutions
- **(Social welfare)** Financial institutions more efficient to manage the risk of house price volatility
- **(Control moral hazard)** possible to control borrowers' strategic default (moral hazard)
- **(Paradigm shift)** have given more weight to protect financial institution rather than financial consumers, but need to change

# V. Conclusions

## Suggestions to introduce non-recourse mortgage in South Korea

### 1). Restricted non-recourse mortgage

- Non-recourse mortgage should be lent to a owner-occupied house buyer with low income household
  - ❖ Borrowers of "housing and urban government fund" meet the conditions
  - ❖ Low income household has low possibility of strategic default
- Restricted LTV and risk premium reduce the moral hazard (strategic default)

### 2). Structure of non-recourse mortgage

- Make the clauses in mortgage contract to protect the non-recourse mortgage lender
  - ❖ In case of fraud and fake documentation, non-recourse does not validate.
  - ❖ In case of vandalism to reduce the value of the collateral property, non-recourse does not validate.
- Require the borrower to have insurance to compensate the loss of non-recourse mortgage.
  - ❖ Partial and total insurance
  - ❖ Credit insurance vs. guarantee insurance

# Thank you