

‘Ageing’ Baby Boomers’ Housing and Potential Poverty^{*}

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Abstract

Despite the growing interest and concern for elderly poverty, few studies have addressed ‘potential’ poverty of the post-independence baby boomers to enter the elderly group soon. The potential poverty of these so-called elderly boomers differs according to whether it is from urban or rural areas, because urbanised and rural baby boomers have resorted to different income or asset sources. For decades, in particular, housing has been the foremost asset in Korea as a fast-urbanized country and this ‘asset’ component can differently affect the post-retirement poverty of urban and rural baby boomers, holding all else constant. This article, especially with respect to housing, aims to figure out the probabilistic characteristics of baby-boomer poverty factors so that policy implications for urban and rural baby-boomer welfare can be formulated utilising panel logit analyses.

Keywords: potential poverty; baby boomers; population ageing; panel logit analysis

Introduction

Over the world where longevity increases and fertility decreases, population ageing is emerging as more and more critical social problem (Lee, 2008; Jones and Hull, 1997). In particular, it is more problematic in recently developed countries like South Korea (hereafter to be referred to as “Korea”)(Giles et al., 2011). As the post-independence (1945 –) baby boomers have massively contributed to economic growth in Korea, their

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mass retirement in few years is an economic opportunity cost (against their full employment before retirement) and social cost (to support the soon-to-be-elderly).

An increase in such social cost or burden in Korea is particularly contingent upon the post-subprime-mortgage disposal income (i.e., income after deducting household debts, taxes, or other mandatory charges) of ageing baby boomers as the ‘house poor.’ While young Korean baby boomers was expediting the nation’s unprecedented economic and urban growth, despite a burden of debts many of them used to invest more and more in owning high-rising and price-rising apartments whose limited floors are as double-decked as Korea’s overcrowded land became. The temporary margins from this home-buying pattern, however, were highly lucrative only during the ten years before the subprime mortgage crisis (i.e., 1998 – 2007, see Figure 1). Together with a recent decrease in housing demand according to population ageing, the post-subprime house price fall has made the ageing cohort experience the devaluation of housing as a ‘financially tied-up’ asset. To make matters worse, given the insufficient provision of public or private pensions most of this cohort is about to retire or has already entered (gradual) retirement.

The increasingly insecure ownership of more and more devalued housing has recently made many of the ageing baby boomers, who were born between the mid-1940s and 1960, financially unstable together with the overall decline in their physical strength and economic participation. If many ageing baby boomers without pensions have recently been or are experiencing greater housing price declines over the world, many of them can be in similar situations regardless of countries. In particular, since the subprime mortgage crisis the housing price boom in Korea has noticeably disappeared and it is widely known that over a third of the ‘financially tied-up’ Korean baby boomers are financially unstable and under the relative poverty line.

The present study, especially with a regional and housing perspective, began from the recognition that the qualities of ‘potential’ (i.e., unrealised but about to occur to the baby boomers) poverty to determine such financial unstableness differ from urban to rural because asset and income accumulations have been differently made by urban and rural baby boomers in Korea. Along with this ‘spatial’ or horizontal dimension of baby-boomer poverty potentials the present study analyses the ‘time-series’ or longitudinal dimension, utilising the panel data on the cohort whose individual ages range from 55 to 64. The results, which can be derived from the logit analysis of this panel data, are expected to formulate the implications for further welfare analysis and policy to address the probabilistic characteristics of the determinants of the baby boomers’ potential poverty. It is also expected that such findings can be considered with regard to the welfare policy and analysis in other regions or countries.

‘Ageing’ Korean Baby Boomers as the House Poor

In the midst of world-wide population ageing and post-subprime economic depression, the seriousness of Korea’s recent housing depression and poverty in older ages lies in Korean ‘housing boom and bust’ (Mankiw and Weil, 1989) coupled with ageing baby boomers’ lease deposit debts. To understand this particular ‘housing boom and bust’ as a cause of making ageing baby boomers, whose year of birth spans from the mid-1940s to 1960, the ‘house poor,’ their practical reasons for ‘highly-leveraged’ home owning need to be primarily considered.

Many Korean baby boomers’ recent (1998 – 2007) reasons to have purchased their (second-in-a-lifetime) homes despite a burden of (lease deposit) debts are three-folded (Han, 2013). First, their purchase was due to the need for their grown children’s individual rooms because Korean children, whose male and female mean ages at first marriage have been over 31 since 2011, tend to live with parents before their marriage

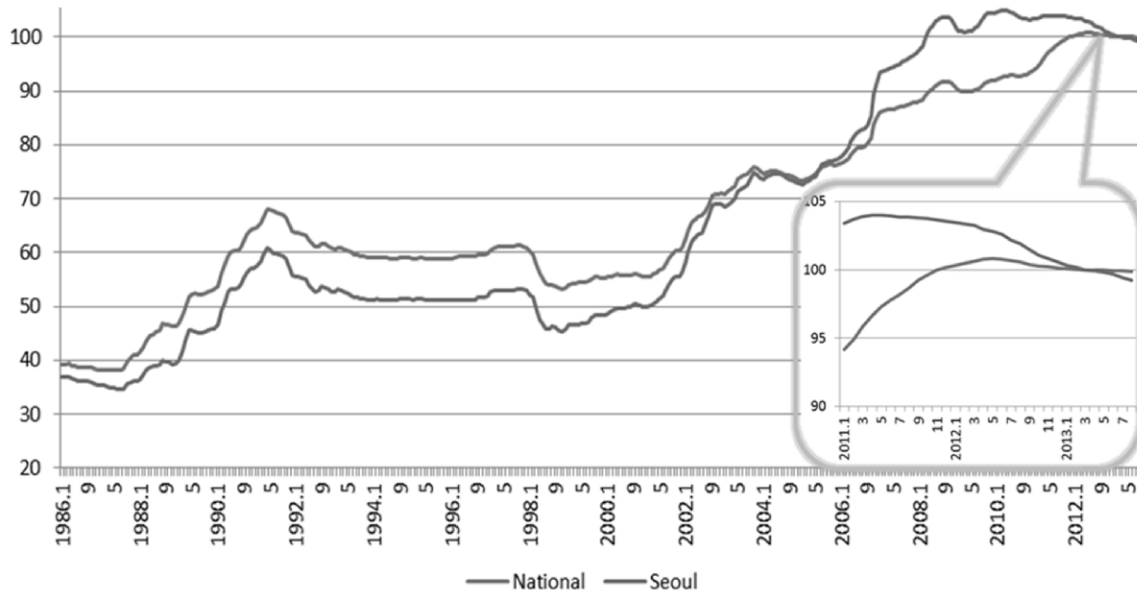
(KOSIS, 2013). Second, many older baby boomers have rapidly entered (gradual) retirement although their income had been accumulated and social positions had reached a zenith. The older baby boomers, thus, needed to provide for their abrupt income decrease, and during the housing price boom it was natural that many of them had resorted to housing as the primary and most profitable asset in their portfolios. Third, the housing price boom before the subprime mortgage crisis encouraged many baby boomers to invest in owning an additional or expensive house, which used to be not at all affordable with disposal income only, utilising the received ‘2-year lease deposit’² on their former house as a ‘leverage.’

Especially regarding the ‘highly-leveraged’ home owning utilising received lease deposits in the above third reason, Korea’s two-year-leasable housing system³ provided the condition where ageing baby boomers’ housing is burdened with increased debts. Over the two housing price ‘booms’ (1988 – 1991 as the first period of baby-boomer home buying and 1998 – 2007 as the second period) in Figure 1 effective was the lessee’s lump-sum deposit on the baby boomers’ (former) housing whose entire unit can be leased without monthly rent payment, provided the return of the ‘whole’ deposit after a 2-year renewable agreement. Since many baby boomers still could hold the ownership of their first-in-a-lifetime house despite their investment of the lessee’s ‘non-interest’ lump-sum deposit in obtaining additional ownership, the owner’s received lump-sum deposit on his or her two-year-leasable housing used to be utilised as a

²In this article, “lease deposit” refers to the lessee’s money paid to the lessor at the start of tenancy and supposed to be paid back ‘in whole’ at the end of it. In Korea, the term explicitly differs from “security deposit” or “rental bond,” because in a social-housing perspective it is not only in case of breaching the agreement but also for preserving the lessee’s right to use and live in at least 2 years against the lessor’s breaching the agreement (Ha, 2013).

³About 80% of rented or leased houses are transacted on the basis of two-year lump-sum deposits in Korea (MLTMA, 2012).

‘leverage’ for owning a more expensive secondary house (especially in cities) during the real estate boom.⁴



Note: March 2013 as a base (100); Indexed in the Laspeyres method on the data from KB Bank.

Figure 1. Average Monthly Housing Prices 1986 – 2013 and Their Two Booms

The leverage, however, has recently turned into a debt as house (especially ‘owned’ apartment) prices dropped (Figure 1). Like a stock boom and bust, excessive investment in housing despite the debt burden led to an abrupt increase in debts in the situation where ‘housing premiums’ (i.e., the homeowner’s expected benefits in sales) did not exceed bank interests.⁵ Consequently, in order to sustain their ownership many

⁴As long as over a 2-year period the annual growth rate of the housing price is higher than an annual interest rate, the owner whose first house is being rented can get some premium. When an owner even lacks the money to return, (s)he still can return the lump-sum deposit to an original lessee because it is possible to use a coming lessee’s lump-sum deposit in advance. The lump-sum deposit, whose level used to be under 60% of the sales price, has recently increased up to 70 % (KB Bank, 2013). Such a higher level of lump-sum deposit, which has been increasing since March 2009, suggests many owners’ lack of money to return or increase in lease deposit debts.

⁵On the contrary, owners can afford ‘highly leveraged’ housing utilising bank loans and received lease deposits together when bank interests are lower than housing premiums.

owners could not help but make an additional withdrawal when they returned 2-year lump-sum deposit to their lessees. In this low credit situation many owners have made loans from banks, provided their houses and other assets are securities pledged as collateral. An increase in securities loan for the fifties and the sixties, let alone a rise in their lease deposit debts, is apparently known from their mortgage- or securities-loan proportion that is over 50% of the total loan as of 2012 (National Statistical Office of Korea (NSOK), 2012). Especially in metropolitan cities like Seoul, this phenomenon is more noticeable in the post-subprime period because of the greater decrease in house prices (Figure 1).

As the average price of two-year lease deposits has been increasing close to 70% of the average sales price (KB Bank, 2013), many ageing baby boomers in their fifties or sixties as highly-leveraged homeowners have fallen into the dilemma of whether to sell their owned homes with the price that is merely 30% higher than the lease-deposit price. With this level of price their banking debts are usually not at all repayable, so the dilemma of the highly-leveraged baby boomers as the soon-to-be-retired is too serious. For these house poor, an abrupt decrease in income can potentially lead to ‘relative poverty,’ which means the state under 60% of median household income.

The Potentiality of Ageing Baby-Boomer Poverty in Urban or Rural Housing

Over the world the baby boomers’ home buying was the most effective demand in the housing market (Han, 2013; Mankiw and Weil, 1989), but many of them have also been the highly-leveraged homeowners whose physical or socioeconomic power and income have usually been declining (Dyran, 2012). In the U.S., the household mortgage debt over all cohorts had risen to 50% of the total housing value until 2007 (Bokhari et al., 2013). In Korea, so as to compare, the well-known ‘house poor’ phenomenon is particularly problematic to the ‘ageing’ baby boomers as a ‘potentially’ poor cohort. As

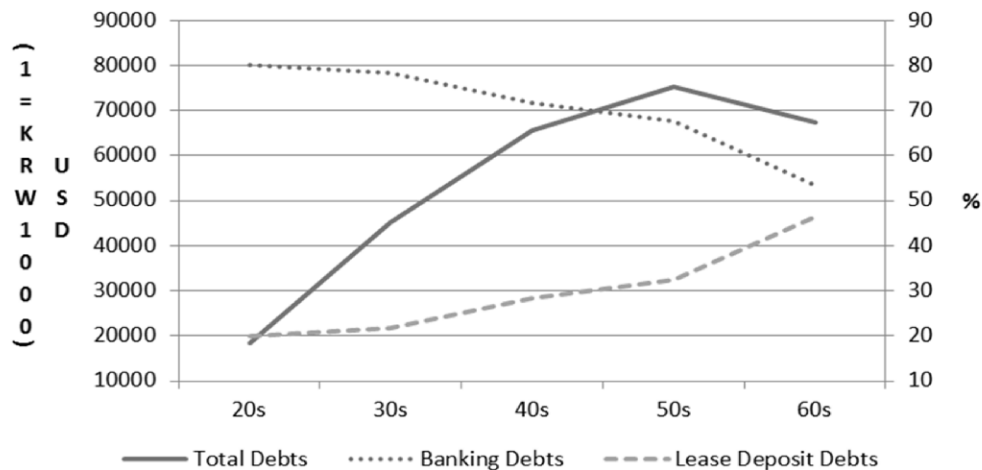
discussed in the previous section, it is problematic because many of the ‘soon-to-be-retired’ have also been the highly-leveraged homeowners who have utilised their two-year leasable housing as an ineffective leverage.

Together with the overall OECD housing depression after the global housing boom until 2006, many homes purchased after this period are continuously price-decreasing and are incurring increasingly more debts in Korea (Renaud and Kim, 2008). In particular, Figure 2 illustrates the increasing portion of ‘lease deposit debts’ in total debts in older ages.⁶ It is noticeable that ‘lease deposit debts’ have increased to 46.6% of total household debts while ‘banking debts’ have decreased close to 50%.

This convergent (to 50%-50%) trend, where decreasing banking debts are replaced with increasing lease deposit debts, suggests that the finance of the elder baby boomers and the elderly as the house poor has been increasingly tied up in the leverage or run short of the lump-sum deposit to return. For the sixties, whose cohort members had taken a risk of buying ‘highly-leveraged’ houses competitively during the second boom, almost 50% of household debts are lease deposit debts. In addition, Figure 2 shows the sixties’ lease deposit debts are 14.1% higher than the fifties’ (32.5%). To make matters worse, these old people’s mortgage- or securities-loan proportion is more than 50% of the total loan as of 2012 (NSOK, 2012), so in reality more than 50%, as a portion of lease deposit debts, can be housing-related debts⁷ when mortgage or housing-related loans are included.

⁶The data on the debt composition is from the Household Finance and Welfare Survey (HFWS) and the data on the total amount is from the 500-thousand-sample database in the Korea Credit Bureau (KCB). The annual HFWS on the 20-thousand-sample households was reported by the National Statistical Office of Korea in December 2012, in cooperation with the Bank of Korea and the Financial Supervisory Service Korea.

⁷According to the NSOK (2012), more than 50% of the total household loan is spent on paying (back) real estate property (debts).



Note: Total debts in 1 US dollar; Banking debts and lease deposit debts in % on the right axis; Over 50% of the total loan is mortgage or securities loan; Data from KCB and the NSOK.

Figure 2. Household Debts in 2012 by Cohort

The ‘accelerated’ increase in the sixties’ lease deposit debts is the potential factor of poverty in the situation where their total debts are decreasing but still second highest throughout the whole generations (Figure 2). Because of their purchasing houses during the second housing boom, which is facing a continued decline, the ‘potentiality’ of poverty for the ‘retiring’ baby boomers whose ages are currently between the fifties and the sixties needs to be considered and analysed in reference to accelerated lease deposit debts or housing price and (disposal) income decreases ‘throughout such old ages.’ Although many baby boomers are not in (relative) poverty yet, the ageing and retiring cohort’s income decrease along with a rapid increase in housing or lease deposit debts is the highly potential factor of their ‘post-retirement’ poverty.

Together with the time-series dimension of the potential poverty of the ageing baby boomers, there is a horizontally considerable dimension: urban to rural regions. Spatially, in the U.S., the ‘house poor’ phenomenon apparently began in urban areas and has recently led to the house poor’s gradual movement to the suburbs (Marietta, 2013).

In Korea, although the house poor's gradual movement to the nearby suburbs have not been verified through reliable statistics as in the U.S., at least an urban-to-rural gradient of housing variables can be found as well and needs to be considered and compared on the urban-to-rural cross-sections.⁸

The potentiality (being unrealised but about to occur) of the baby boomers' poverty, therefore, can be appropriately analysed when such an urban-to-rural difference is figured out in the 'spatial' dimension, because urbanised baby boomers have invested more in their 'dense and volatile' housing utilising their formerly-effective leverage. Along with this spatial dimension the ageing baby boomers' potential poverty, which is conditioned by disposal income and housing price decreases throughout old ages, can be considered and analysed more appropriately if their dynamic ageing change is operationalised in the 'cohort composition' of the older baby boomers. The detailed method to operationalise the change in this composition is to be introduced, so as to analyse the poverty probabilities of ageing baby boomers, in the following sections in this article.

The rest of this article is organised as follows. First, it explains the characteristics and construction of the panel data released by the Korea Institute for Health and Social Affairs (KIHASA) and the Social Welfare Research Center (SWRC) at Seoul National University, in order to test the given hypotheses. Second, applying a panel logit analysis to the data it examines and discusses the probabilistic characteristics of baby-boomer

⁸Korea's population density (491.7 per km² in 2006) is highest among the OECD countries and its metropolitan 'high-rise' (average 16 stories in the Seoul Metropolitan Region) apartments as the most popular housing are so dense that a dichotomy between urban density and rural sparseness can be easily observed in the presence of greenbelts (Park, 2012). This dichotomy, however, does not necessarily mean an urban-to-rural discontinuity. Rather, it means a cross-regional 'gradient' as the statistical difference between different levels of urban 'density,' not the 'gradual' movement between the central city and the suburbs (especially regions, unlike Korea, without strong interventions like greenbelts or urban containment programs). According to such levels of urban density the denser housing asset in more crowded cities is expected to be more responsive or susceptible to housing price changes than the sparser rural housing, whose ownerships are mostly full to each landlord or even most 'old' peasants.

poverty factors in order to formulate policy implications regarding the potential welfare need of urban and rural ageing babyboomers. Last, it summarises its analysis and discussion and concludes with policy recommendations for addressing present and potential baby-boomer poverty in urban and rural areas.

Factors on the Potential Poverty of the Ageing Baby Boomers

1. The Potentiality of Korean Baby Boomers' Poverty Conditioned by (Pension) Income and Housing Asset

In 'ageing' Korea, it is not until recent years that either public or private pension has emerged as a preferred source of the baby boomers' providing for elderly life. However, public pension beneficiaries (7% of the total population above 65) are still relatively small (15%) to the total 'eligible' beneficiaries and private pensions are often affordable to middle or higher income households only (NSOK, 2010).⁹ In addition, institutionally Korean tradition of children's supporting their old parents is steadily weakening. At present, the social consensus of this family duty is overall weakening and children's spontaneous care of their loving parents is not always sufficient and ensured for most of the elderly.

Second, in order to analyse the poverty probabilities of the 'ageing' post-independence baby boomers, who had purchased houses during the housing booms but are (about to be) retired with highly-leveraged housing, housing-related factors will be statistically tested as the most significant variables. Considering the urban-to-rural gradient, housing ownership and price are to be representatively analysed. Housing ownership and price as urban-to-rural gradient factors are related to the baby boomers'

⁹It was not until recently that the modernised national pension since 1988 began to be paid for the eligible-aged subscribers. Only 15% of the elderly are eligible to receive the benefit from the National Pension Service (NPS).

income whose ‘disposability’ depends on the proportion of taxes or debts in household income, especially because the subprime economic depression, house price declines have made much of home buyers’ or mortgage subscribers’ money tied up in compensating them.

2. *Other Factors on Korean Baby Boomers’ Poverty Probabilities*

Based on previous pioneering studies on elderly poverty, the poverty characteristics of baby boomers, as the ‘potential’ elderly, need to be ‘probabilistically’ considered and analysed from several critical points of view. First, in terms of households’ socio-economic and physical properties, e.g., job types, homeownership, work ability, health status, are key variables in determining baby-boomer poverty. (As of work ability, both socio-economic and physical properties can be expressed.) Many scholars argue that the poverty level of elderly people highly depends on their previous jobs and homeownership (Hong, 2007; Choi, 2009; Cho, 2012; Suk and Lim, 2007). As a poverty determinant, the previous-job-type variable is reasonable for analysing “the elderly poverty” because 45 % of the “fully-retired” elderly is in relative poverty while they are under a weaker social security system and with lower financial savings or cheaper real estate. The previous-job-type variable, however, is not appropriate for the poverty level of the “1948 – 1957 baby boomers” because many of them are still working in part-time or in gradual retirement (Choi, 2007; Cho, 2012). Instead of previous job types, therefore, current jobs, their work ability or health status should be simultaneously considered in addition to homeownership.

Second, previous studies also did not distinguish “rural from urban” households and “low-income from” general ones, even if their poverty characteristics are

different to each other. Therefore, the characteristics of baby-boomer poverty by regions and income levels were hard to be figured out if a distinguishing variable is adopted. According to regions and income levels baby boomers' housing prices can also be different, so they should be appropriately operationalised in an analytical model. The housing price variable is important because there is an observable difference between urban and rural housing prices and such a difference also represents the real-estate-to-income ratio when the variable of relative income or poverty is analysed as a dependent. The real-estate-to-income ratio is critical for the financial plan or the reverse mortgage of many baby boomers that still own their house but lacks a stable income source. When “disposable income” is adopted as the dependent variable, housing prices or the real-estate-to-income ratio can also reflect whether the homeownership or housing price of the individual household is ensured or real, compared to the “ordinary income,” which does not deduct the interest accruing to personal loans.

Third, in terms of gender effect on poverty in the household level, it needs to be tested whether the poverty level of baby boomers depends significantly on “the gender of household heads” controlling for other variables. The poverty rate of female household head is 1.5 times higher than one of the male households (Choi, 2009; Cho, 2012). In Choi (2009) and Choi (2012), however, there were no significant differences when the level of education and spouse death are controlled. It may come from the lower education of women and their longer life expectancy (NWLC, 2010, 2012). In terms of statistical significance, Suk and Lim (2007) showed that the female gender had a negative effect on the total income level when personal and household characteristics were controlled. On the other hand, Hong (2005) and Choi (2007) noted that there were no significant difference among the gender groups when personal and household

characteristics are controlled. There are still pros and cons of the significance of the gender effect, and it needs to be examined further.

Last, the overall limitation of the previous studies above is that most of them focused on examining the cross-sectional data in their regression analyses. Except Choi (2009, 2012), other studies centred on the “static” characteristics of poverty using cross-sectional data. The “probabilistic” coefficients also need to be identified since the potential welfare need of the baby boomers – which is expressed in the dependent variable – can vary according to the poverty properties whose variables are respectively defined in socio-economic, physical, regional, and gender aspects. In light of findings from previous studies, thus, this study is to analyse the probabilistic characteristics of baby-boomer poverty properties regarding the above poverty properties, using the 5-year welfare data of traced individuals.

Data and Analytical Approach

1. The Panel Data

This article uses the Korean Welfare Panel Data(KWPD), which is constructed and released by the KIHASA and the SWRC under the government’s support. Its household datasets from 2006 to 2010 have been integrated year by year in order to figure out the characteristics of baby-boomer household poverty. The KWPD datasets are composed of figures on household characteristics, economic activity, living cost, income and asset, housing and health, social insurance and basic life, workability, social welfare, and other family-related factors.

This article merges the 5-year datasets longitudinally using the KWPD-designated household merge-key. The datasets of the baby boomers(ages 55 – 64) are

extracted from these merged datasets. The merged dataset has 2,590 observations. These datasets are surveyed by tracing individual households nationwide. Utilising the data, this article examines the probabilistic characteristics of baby-boomer poverty properties in order to formulate implications for addressing the “(relative) poverty” of the low-income baby-boomer household – whose income is fall under 60% of the median income of households in the nation – as a widely-used criterion of “relative poverty” – after the IMF crisis (KOWEPS, 2013).

Methodologically, the KWPD panel data is very suitable for examining longitudinal and cross-sectional characteristics in a simultaneous framework. This analytical strength comes from that this type of data contains the “traceable” characteristics of each variable on the same (individual) household surveyed yearly by interviewers over a given period. This article adopts panel logit analysis so that probabilistic and actuarial characteristics of poverty properties can be appropriately captured for the interested dependent variable (e.g., relative poverty), which is binary.

2. Data Construction and Variable Specification

In this article, the 5-year welfare data of traced individuals are examined by panel data analysis for figuring out the likelihood of realisation of the baby boomers’ potential welfare need, given the following variables of poverty properties. The poverty properties are respectively defined as independent variables of socio-economic, physical, regional, and gender aspects and their “probabilistic” coefficients will express the influences on the potentiality of the welfare need of the baby boomers. The structure of the 5-year panel data can be described in Figure 3.

$j(hij)$	t (time)	y_{jt}	x_{jt1}	x_{jt2}
1	1	y_{11}	x_{111}	x_{112}
1	2	y_{12}	x_{121}	x_{122}
1	3	y_{13}	x_{131}	x_{132}
2	1	y_{21}	x_{211}	x_{212}
2	2	y_{22}	x_{221}	x_{222}
2	3	y_{23}	x_{231}	x_{232}
3	1	y_{31}	x_{311}	x_{312}
3	2	y_{32}	x_{321}	x_{322}
3	3	y_{33}	x_{331}	x_{332}
4	1	y_{41}	x_{411}	x_{412}
4	2	y_{42}	x_{421}	x_{422}

Note: $j=1, \dots, m$ (unit of sample: e.g., household), $i=1, \dots, n$ (survey area: e.g., school, class), $h=1, \dots, l$ (survey area; ex: region, city), $t=1 \dots T$ (year), y_{jt} =the value of response variable in time t , x_{jt} =the value of explanatory variables in time t .

Figure 3. The Structure of the Korean Welfare Panel Data

Since the response variable is binary, the logistic regression method is applied into the analysis of the KWPD panel data. Based on the review of previous studies in the last section, this paper chooses one response and 8 explanatory variables for defining socio-economic, physical, regional, gender properties according to the availability and year-by-year consistency of 5-year panel data which can be merged by the household key variable. The dependent variable is given 1 (general) if it is the household which does not receive basic living security services and 0 (low-income or relatively poor) if it is the household which receives from the government or other public agencies. Independent variables represent the general characteristics of households, including income, ownership, health status, work ability, region, gender, and age, as follows:

Dependent variable

- general: dummy variable (0=low-income household; 1=general household); and

Independent variables