

A Study on the Housing Market Segmentation using STP Strategy*

- Focused on the Korean Baby Boomer -
STP 전략을 이용한 주택시장 세분화에 관한 연구
- 한국의 베이비붐 세대를 중심으로 -

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국문초록

1. 내 용

(1) 연구목적

베이비붐 세대는 우리나라 부동산 시장에서 중요한 비중을 차지하고 있다. 최근 베이비붐 세대의 은퇴 등 생애주기의 변화로 베이비붐 세대를 목표(target)로 한 주택의 개발이나 정부정책의 수립이 요구됨에 따라 본 연구에서는 베이비붐 세대가 새로운 주택 유형 개발의 대상이나 정책의 대상이 될 수 있도록 다른 세대의 주택시장과 구분되는 세분시장(submarket)이 될 수 있는지 정량적으로 검증하고자 하였다.

(2) 연구방법

연구 방법은 마케팅 기법인 STP 전략기법 중 특히 시장세분화 기법을 활용하여 한국의 주택시장에서 베이비붐 세대가 다른 세대와 구분되는 세분시장이 될 수 있는지 정량적으로 검증하는 모델을 수립하였다. 분석을 위해서는

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베이비붐 세대의 주택지불능력을 구성하는 변수를 추출하고 one-way ANOVA를 이용하여 세대별로 집단 간 구분이 되는지 검증하고 베이비붐 세대 집단이 타 집단과 다른 특성을 도출하여 정리하였다.

(3) 연구결과

연구결과 베이비붐 세대를 중심으로 연령별 주택시장은 서로 집단 간 차이가 있는 것으로 분석되었다. 즉, 베이비붐 세대의 주택시장은 소득, 자산, 부채 수준도 높고 자기비율, 집값, 보증금, 임대료 모두 높으며 더불어 가족 수, 지출도 가장 높은 우리 사회 및 경제의 가장 주거지불능력이 높은 세대의 특성을 가지는 타 세대의 시장과 구분되는 세분시장으로 나타났다.

2. 결 과

베이비붐 세대는 다른 세대와 구분되는 주택세분시장으로서 이들의 주거지불능력은 다른 세대에 비해 가장 우수하다고 볼 수 있음에 따라, 향후 은퇴, 자녀의 결혼 등으로 이러한 특성에 변화가 생길 가능성이 있으나 타 세대에 비해 주거안정 정책과 같은 국가적 정책으로 배려할 필요가 있는 세대라고 보기는 어렵다. 그러나 주택시장에서 베이비붐 세대가 차지하는 역할이 크고 세분시장이 되는 만큼 본 연구결과는 베이비붐세대의 생애주기 변화 모니터링을 통해 적절한 주거 모델과 마케팅 기법의 개발이 요구되는데 시사점을 제공하고자 한다.

3. 핵심어

- 주택시장, 베이비붐 세대, 시장세분화 전략, 분산분석, 세분시장

ABSTRACT

As the Korean baby boomers are typical cohort group facing the retirement and aging problems, it could cause the problems such as increasing labor blank, welfare budget and other social problems. So, a hypothesis that the baby boomers are possible to be the submarket as a distinct target market for particular policy or commercial marketing about residential construction needs to be verified statistically. Analysis based on cohort effect on baby boomers found that baby boomers can be defined as distinct housing submarket for marketing strategy from housing demand. And the analysis using one-way ANOVA also found that there are existed the differences among generation groups. Accordingly, the baby boomers should be handled as independent submarket for establishing marketing strategy and public policy over housing.

KEY WORDS : Housing Market, Baby boomer, STP Strategy, ANOVA, Submarket

I. Introduction

The Korean baby boomers have been

defined to the generation who were born from 1955 to 1963 after Korean War, having similar social backgrounds and demographic structures.¹⁾ Thereby, they

1) Seo, S. "Retirement Migration Factors of Baby Boom Generation and Implication of Housing Policy", *Journal of Korea Planners Association*, 2010, vol. 45 no. 5, pp.93-104.

have constantly been taking a charge of development of themselves and Korea as the major and powerful group.²⁾ Especially, the housing demands were significantly increased, since the baby boomers having a huge demographic scale have faced on the particular period of their life as they have to start the economic activity and get married. Therefore, the housing constructions and household loans had increased dramatically, as announcement of the plans that have included the 2 million housing construction projects by Korean government. Recently, there is growing interest in the worries about problems which should occur to baby boomer's retirement, also there has been increasing the necessities of the preparations and alternatives regarding that problems.³⁾

To become a target market of these housing policy and marketing strategy as a distinct demander, however, baby boomers should be separated from other housing demanders. Therefore it is necessary to verify statistically a hypothesis whether housing market is possible to segment submarket on the basis of STP(Segmentation, Targeting, Positioning) strategy such as baby boomers in Korea.

The purpose of our study is both to define housing submarket and to verify the statistical differences of housing demand in Korea, considering

characteristics of baby boomers. If there are differences among submarkets, we can have also drawn the implications by comparing characteristics of submarket. For accomplishing goals, our analysis proceeds as follows. We have segmented as 6 generation submarket considering cohort effect by householder's age. We have drawn the criteria of housing demand by literature reviews. We have verified whether there are existed the differences among generations by using one-way analysis of variance(ANOVA) and labor panel data from KLI (Korea Labor Institute).

These findings have important implications as follows. First, in housing market, when constructors make the marketing strategies for promoting their housing merchandise, they can determine whether a submarket of baby boomers can be a target market. Thus they can make both distinguished housing development for baby boomers and systematic business plan. Second, in housing policy, this study provides basic information whether it is necessary to consider baby boomers as a target market which is distinguished to other submarkets. Last, we can find demand characteristics for housing of baby boomers as a separated submarket.

This study consists as follows. We begin in section II by documenting the facts and theories about baby boomers as a cohort group, housing demand and

2) Statistics Korea, "Korea Statistical Yearbook", Gyeonggi-Do, Korea, 2010. pp.1-1002.

3) Jeon, I. and Min, G., "Analysis on the Retiring Baby Boomers: Impact on the Real Estate Market and How the Financial Sector Should Respond to the Resulting Changes", *Journal of Communications and Networks*, 2011, vol.6 no.6, pp.921-928.

market segmentation. Through this section, we have established the differentiation from previous studies. In section III we have examined the theories and variables of traditional housing demand model, M-W model(Mankiw and Weil's housing demand model) and adjusted M-W model which is recently much used. Due to examination, we have established criteria and model for housing market segmentation by using STP Method. We have analysed in section IV to verify whether baby boomers can be a distinct submarket in Korea housing market by using selected criteria and one-way ANOVA. For the conclusion, in section V, we have summarized both the results of analysis and implications of this study. We have also pointed out the limitation of this study.

II. Literature Review

1. Korean Baby Boomers

In Korea, baby boomers are not only the generation who leads the housing market but also the major forces which possess most portion of real estate asset through energetic purchasing power and numerical majorities. They have

occupying 14.6% of total population.⁴⁾ Most studies about baby boomers have examined how baby boomer's retirement affects the asset and labour market or how the increasing of older people affects government financial situation and welfare.⁵⁾⁶⁾⁷⁾ Consequently they have suggested alternatives of housing policy which provide with baby boomer residential stability and complement their low income.

Therefore, we should have identified the preceding studies about housing market of baby boomers which have relevance to a subject of this study. For becoming the subject of housing policy and marketing strategy, the hypothesis should verify statistically, which the baby boom generation has been separated to the other generations for housing demand. This study has differentiation from other preceding studies according to above reasons.

2. STP Strategy for Housing Market Segmentation

The STP(segmentation, targeting and positioning) model of marketing strategy is consisted of 3 steps.⁸⁾ As the first step of STP strategy, market segmentation can be defined as a process

4) Statistics Korea, "Korea Statistical Yearbook", Gyeonggi-Do, Korea, 2010. pp.1-1002.

5) Kim, H., Leek, Y. and Yoon, H. "The Study on Housing Characteristics Preferred by Babyboomer After Retirement: Focusing on Apartment's Residents of Gangnam Region in Seoul", *Journal of Korea Housing Association*, 2010, vol. 21 no. 5, pp.83-92.

6) Lee, S., "The Variation of Baby Boomer's Income and Housing Market", *Korea Real Estate Society and Housing Studies Review*, 2010, pp.5-19.

7) Chun, H., Ha, S. and Lee, H., "Housing Policy Directions for the Retired Baby-Boom Generation in Korea", Korea Research Institute For Human Settlements(KRIHS), Gyeonggi-Do, Korea, 2011. pp.81-84.

8) Kotler, P., *Marketing Management*, The Millennium Edition. Upper Saddle, New Jersey: Prentice Hall, 2000. p.143.

which divide a broad market into subsets(submarkets) of consumers who have common needs and characteristic. And we use the first step of STP strategy for performing the purpose of this study.

Johnson, D. D.(1982)⁹⁾ identified housing submarket using housing market transaction data. And Goodman, A. C. et al.(1998)¹⁰⁾ have defined the housing submarket as a geographical area. In Korea, Won, J. et al.,(2009)¹¹⁾ have analysis on the price determining factors of housing focused on the commercial and residential complex. As the most notable research for this study, Kim, K. et al.(2005)¹²⁾ have examined whether there is a difference in the segmentation of housing submarkets and its determinants for Seoul and its neighbouring new town.

While these studies have aimed to find approaching method, our study has differentiations in approaching method which our study aims to segment the market based on the cohort effect and verify that statistically over the finding different characteristics. Additionally, for considering criteria of market segmentation, our study has approached based on the characteristics of

demanders not it of house price. Even the range of our study has used the data of whole country of Korea.

Furthermore, in this study, we considered the housing affordability as characteristic of demanders. Because housing affordability has as meaning the effective demand. Housing Affordability is used to call the ability of purchasing housing, ratio of affordability, or possibility of acquisition, moreover, definition and measurement method are more actively studying at abroad countries which take the house rental supplement system.¹³⁾

III. Model for Housing Market Segmentation

1. Market Segmentation

One of the most useful concepts in marketing is consumer segmentation. Numerous bases for segmentation can be advanced, each with its own set of advantages and disadvantages for particular types of product policy issues.¹⁴⁾ Market segmentation is

9) Johnson, D. D., "An Alternative Approach to Housing Market Segmentation using Hedonic Price Data", *Journal of Housing Economics*, 1982, vol. 11 no. 3, pp.311-332.

10) Goodman, A.C. and Thibodeau, T. G. "Housing Market Segmentation", *Journal of Housing Economics*, 1998, vol.7 no.2, pp.121-143.

11) Won, J., Jeong, G., Kim, S. and Beak, K., "The Analysis on the Price Determining Factors of the Housing in Commercial-Residential Complexes Using Market Segmentations", *Journal of Korea Planners Association*, 2009, vol. 44, no. 3, pp.137-146.

12) Kim, K. and Park, J. "Segmentation of the Housing Market and Its Determinants: Seoul and Its neighboring new town in Korea", *Australian Geographer*, 2005, vol. 36, no. 2, pp.221-232.

13) Jin M., "Identifying Households which need Housing Assistance through Housing Affordability Problems", *Housing Studies Review*, 2000, vol. 8 no. 2. pp.21-46.

14) Wind Y., "Issues and Advances in Segmentation Research", *Journal of Marketing Research*, 1978, vol. 15, no. 3,

defined the managerial relevance of a segmentation procedure that is related directly to its ability to partition the consumer population into relatively homogeneous groups that differ substantially in purchase behaviour.¹⁵⁾ Market segmentation is classified largely as customer-based approach and product/service based approach. Especially, customer-based method is able to distinguish to various methods depending on the feature of consumer and segmentation variables.¹⁶⁾

The definitions and methods of housing market segmentations depend on the use to which they are put.¹⁷⁾ Typically they are used for price prediction, Formulation of appropriate marketing strategy or for understanding housing market structure. One conventional approach is to categorize customers into uniform groups, using some known or

suspected relevant measure, and assume these groups will respond differently to their marketing efforts.¹⁸⁾ Among disaggregated bases, a hybrid approach-cohort segmentation-takes advantage both of the stability that age segmentation offers.¹⁹⁾ And of the insights into consumer motivations that value segmentation offers.²⁰⁾

In this study, we have assumed submarket of baby boom generation-the most cohort effect group differs from other submarkets in demographic factor. In other words, the baby boom generation is a independent submarket on the housing affordability,²¹⁾ and we have assumed that its characteristics are separated from others. If this hypothesis is true, baby boom generation is able to be an independent market which can be a target market of housing construction, and which can be a policy target of

pp.317-337.

- 15) Blattberg, R. Buesing, T. Peacock, P. and Sen, S. "Identifying the Deal Prone Segment", *Journal of Marketing Research*, 1978, vol. 15, no. 3, pp.369-377.

- 16) Market Segmentation according to Characteristics of Consumer and Measurement Method(Son, Y. et al., 2006)

Division		Characteristics of consumer	
		General	Situation specific
Measurement method	Objective	Demographic factor, socio economic factor, geographic factor	Consumption pattern, loyalty, Purchase situation
	Inferred	Personality feature, Life style	Attitude, Preference, Benefit

- 17) Bourassa, S. C., Hoesli, M. and Peng, V. S., "Do Housing Submarkets Really Matter?", *Journal of Housing Economics*, 2003, vol. 12, no. 1, pp.12 - 28.
- 18) Neal, W. D. and Wurst, J. "Advances in market segmentation", *Marketing Research*, vol.13, no. 1, Chicago, USA, 2001, pp.14-19.
- 19) Steenkamp, J. E. M. and Hofstede, F.T., "International Market Segmentation: Issues and Perspectives", *International Journal of Research in Marketing*, 2002, vol. 19, no. 3, pp.185-213.
- 20) Hung, K. H., Gu, F. F. and Yim, C. K., "A Social Institutional Approach to Identifying Generation Cohorts in China with a Comparison with American Consumers", *Journal of International Business Studies*, 2007, vol. 38, pp.836-853.
- 21) There are significant disagreements within the scholarly literature about the definition of a housing submarket. A submarket is defined as a set of dwellings that are reasonably close substitutes for another, but relatively poor substitutes for dwellings in other submarkets. Depending on the substitutes and the level of aggregation(or disaggregation), definition of housing submarket varies (Bourassa, S. C. et al., 1999; Kauko, T. et al., 2002).

government.

To verify this hypothesis, at first, we have separated population structure of Korea in around baby boom generation, is shown in <Table 1>. Based on the birth year, we have made 7 groups which divide in accordance with every 9 years old including before and after baby boomer(1955~1963).

<Table 1> Classification generations considering cohort effects of Korea

Generation	Years of birth (year)	Age interval (years old)	Population(Persons)	Ratio (%)
Before Baby Boom	After 1991	Less than 20	11,309,174	23.1
	1982~1990	20~29	6,833,807	14
	1973~1981	30~38	7,212,716	14.8
Baby boom	1964~1972	39~47	7,549,673	15.4
	1955~1963	48~56	6,882,827	14.1
After Baby Boom	1946~1954	57~65	4,084,200	8.4
	Before 1945	Over 65	5,002,142	10.2
Total			48,874,539	100

Reference: Statistics Korea, 2010 ²²⁾

The composition ratio of each cohort groups is similar as 14~15% except the generation after 1992(less than 20 years old), and the composition ratio of generation before 1946 is a little lower to 8.4% and 10.2%. For that reason, we should verify that baby boom generation has different quality of housing affordability except quantity of demand as a housing submarket.

2. Extracting Criteria

As most segmentation methods make the assumption that selected market variables should have a strong correlation with consumers' purchase behaviors, for example, one may partition a market by consumers' occupation, income, age, sex and so, yet such variables may not be truly related to the final purchase-decision.²³⁾ Therefore, we should extract the variables which affect the housing demand for identifying the criteria of market segmentation. According to the traditional theory for estimating demand, the core factors for determining the housing demand are the structure of household population, level of income and cost of housing. As the most notable study for estimating housing demand, E. Chung et al.(2005),²⁴⁾ by complementing the M-W model, they have estimated that long term housing demand through housing demand function model which is added user cost(residential cost) and income of households.

The function consists of the number of household members, user cost, and constant income. The housing demand function of each households. Constant income of households can be estimated by using regression equation, which have annual income of households as dependant variables and have socio and economical characters as explanatory variables.

22) Statistics Korea, "Korea Statistical Yearbook", Gyeonggi-Do, Korea, 2010. pp.1-1002.

23) Lv, Y., Guo, G. and Cheng, D., "An Integrated Approach for Market Segmentation and Visualization based on Consumers' Preference Data", *Proceedings of the Third International Conference on Machine Learning and Cybernetics*, Shanghai, China, 2004, pp.26-29.

24) Chung, E. and Cho, S. "Demographic Changes and Long-term Housing Demand in Korea", *Journal of Korea Planners Association*, 2005, vol. 40 no. 3, pp.37-46.

By the way, the goal of this study is not to estimate long term housing demand but to verify that baby boomer is separated to other generation as a submarket of housing demand. Thus, if baby boomer is separated to other generations in accordance with variables, which consisted of the housing demand function,

baby boomer is able to be the independent submarket in the housing market. Therefore, there is no need to take the macroeconomic indicators and the criteria according to observable variables through the existing data have been extracted as shown in <Table 2>.

<Table 2> Market segmentation criteria among cohort groups

Distribution	Criteria(10000won)		Name	Explanation
Household income	Earned Income		EINCM	Gross wage and salary income during last year.
	Financial income		FINCM	An aggregate interests/ investment gains from financial institutions like bank and interests from private loan, dividend/ profit margin on purchase securities/ bonds and other financial incomes.
	Real Estate income		RINCM	An aggregate rent(monthly), profit margin on purchase real estate, share crop, premium, and other real estate incomes.
	Transfer income		TINCM	National Basic Living Security, other government subsidy, social subsidy, subsidy from family, others.
	Other incomes		OINCM	An aggregate insurance(indemnity, saving, whole life), severance pay, gift/inheritance, money gift for happy occasion/death, prize money, compensation and others.
Constant income	Sex of HH(Dummy)		SEX	male =1, female =2
	Education level of HH(Dummy)		EDU	1=preschool, 2=uneducated, 3=elementary school, 4=middle school 5=high school, 6=college(2 years), 7=university(4years), 8=graduated school(master), 9=graduated school(doctoral)
	Net asset	Real estate asset	RASSET	An aggregate real estate assets which household lives or doesn't.
		Financial asset	FASSET	An aggregate bank deposit, securities/bonds/trusts, saving insurance, Gye*(received yet), loan to other people personally, and other assets.
		Other assets	OASSET	An aggregate other assets.
		Liabilities	LBLT	An aggregate liabilities of financial institutes or non-finance organization, borrow personally, Gye(received and paying a lump sum share), received deposit of Cheonse**/ rent and others.
user cost	Type of residence(Dummy)		TRSDC	1= ownership, 2=Cheonse**, 3=rent, 4=others
	Home owner	Housing price	PRICE	Market price of residential house
	Renter	Deposit	DEPOSIT	Deposit of residential house
		Rent	RENT	Monthly rent of residential house
Other characteristic s of household	Number of household members(persons)		MEMBER	The number of responded household members
	Living expense(per month)		EXPENSE	Monthly average of last year
	Saving(per month)		SAVING	Monthly average of last year
	Other owned housing except residential housing		OWH	1=yes, 2=no
	Type of residential housing(Dummy)		TRH	1=detached house, 2=apartment, 3=townhouse, 4=multiplex house, 5=house with shop, 6=others
	Actual using area(3.3m ²)		AUA	Actually used area without both total floor and building area
	Residential districts(Dummy)		DISTRICT	Present residential address(megalopolis or province) 1=Seoul,2=Busan,3=Daegu,4=Daejeon,5=Incheon,6=Gwangju,7=Ulsan,8=Gyeonggi,9=Gangwon,10=Chungbuk,11=Chungnam,12=Jeonbuk,13=Jeonnam,14=Gyeongbuk,15=Gyeongnam,16=Jeju,17=NorthKorea,18=foreign countries

*: Gye is a kind of traditional private fund among Koreans, whose member chip in a modest amount of money and take turns to receive a lump sum share.

**: Cheonse is a special method to lease the house in Korea, there is no necessary to pay monthly rent but tenant needs to bear the deposit.

We have extracted other criteria which are necessary to consider for housing market segmentation, which have consisted of living expense, saving, other owned housing, residential type, actual using area and residential districts as other characteristics.

IV. Analysis Results for Market Segmentation

1. Data and Methodology

Basic statistics of data is analyzed

<Table 3> The result for basic statistic of analysing data

Classification	Criteria(10000won)		Minimum value		Maximum value	Average	S.D
Household income	Earned income		30		73120	3513.377	2802.005
	Financial income		0		12900	43.05977	313.3598
	Real Estate income		0		30000	148.3698	1143.729
	Transfer income		0		30000	173.5898	750.252
	Other incomes		0		30000	84.0459	841.5498
Constant income	Householder's sex		rate	male	3,991(78.75%)	female	1,077(21.25%)
	Householder's level of education			uneducated	Elementary school	Middle school	High school
				262(5.17%)	729(14.38%)	666(13.14%)	1672(32.98%)
				College(2years)	University(4years)	master	doctoral
			466(9.19%)	1047(20.65%)	189(3.73%)	39(0.77%)	
	Net asset	Real estate asset	0		807000	15035.93	33515.06
		Financial asset	0		280000	1781.838	7399.626
		Other assets	0		50000	541.0634	1669.75
liabilities		0		220000	3225.991	9603.224	
User cost	Type of residence		rate	ownership 2935(58.84%)	Cheonse 1147(23.00%)	rent 624(12.51%)	others 282(5.65%)
	Owner	House price	0		600000	20526.77	25585.55
	renter	Deposit	0		75000	3832.678	5220.017
		rent	0		250	7.445601	14.77191
Other characteristics of household	The number of household members		rate	1	2	3	4
				781(15.66%)	908(18.21%)	1115(22.36%)	1632(32.73%)
				5	6	7	Over 8
				437(8.76%)	84(1.68%)	21(0.42%)	9(0.18%)
	Living expense		0		1900	186.4739	125.916
	saving		1		5000	77.69894	129.4571
	other owned housing except residential housing		rate	yes		no	
				1178(23.58%)		3817(76.42%)	
	Type of residential housing		rate	detached house	apartment	townhouse	multiplex house
				1420(28.00%)	2345(46.24%)	454(8.95%)	614(12.11%)
				house with shop	185(3.65%)	others	53(1.05%)
	Actual using area(3.3m ²)		1		180	20.50995	11.35958
	Residential districts(Dummy)		rate	Seoul	Busan	Daegu	Daejeon
				1,116(22.01%)	425(8.38%)	286(5.64%)	149(2.94%)
				Incheon	Gwangju	Ulsan	Gyeonggi
				296(5.84%)	156(3.08%)	118(2.33%)	1,123(22.15%)
Gangwon				Chungbuk	Chungnam	Jeonbuk	
131(2.58%)				130(2.56%)	178(3.51%)	211(4.16%)	
Jeonnam				Gyeongbuk	Gyeongnam	Jeju	
147(2.90%)				273(5.38%)	330(6.51%)	2(0.04%)	
Householder's age		rate	Before 1945	1946-1954	1955-1963	1964-1972	
			1226(24.18)	894(17.63)	1070(21.10)	1025(20.21)	
			1973-1981	787(15.51962138)	Over 1982*	69(1.36)	

Note : sample size(N) = 5360 households

* : An aggregate 68 people(1982-1991) and 1 person(over 1991)

based on the Labor Panel's 11 years data (2008) of KLI, as shown in <Table 3>.

Through the result of basic static, we can identify that the sample have been represented population distribution by extracting a sex, type of residence, number of household members, type of residential house, residential regions, age of each cohort group and etc. The sample size is 5,360 households, and we have used the SPSS windows v.12 for analysing.

As a analysing method, we have used ANOVA which is useful to provides a statistical test of whether or not the means of several groups are all equal. In this study, we have identified not a differentiation among all generations but a differentiation between baby boom

generation and the other generations.

2. Result of Analysis

The result of analysis for examining the differentiation between baby boom generation and other generations are shown in <Table 4>.

As a result of analysis, except variable SAVING, we can find that all variables are differences among generation. Therefore the babyboom generation can be a submarket for establishing marketing strategy. To Find characteristic of babyboom generation as a sub-market, we can summarize the results of analysis as shown in (Table 5). To recognize the differentiation between baby boomers and other generation, we

<Table 4> The result of analysis for examining the differentiation among generations

Criteria	F	Significant Level	Average					
			1945	1946-1954	1955-1963	1964-1972	1973-1981	After 1982
			Before baby boom		Baby boom	After baby boom		
EINCM	65.725*	0.000	1,958.536	3,738.145	4,058.449	4,031.842	3,365.773	1,773.617
FINCM	3.312*	0.005	60.906	71.694	38.575	24.927	29.596	3.768
RINCM	4.404*	0.001	219.076	178.463	230.764	98.635	22.814	1.014
TINCM	10.082*	0.000	294.932	114.860	118.244	137.516	238.433	70.072
OINCM	3.334*	0.005	34.096	173.039	88.320	116.929	48.715	17.536
SEX	69.695*	0.000	1.359	1.193	1.120	1.111	1.235	1.551
EDU	249.568*	0.000	3.793	4.601	5.198	6.014	6.269	5.783
RASSET	21.108*	0.000	18,254.258	21,319.239	18,495.766	12,254.829	7,752.605	1,028.986
FASSET	2.239*	0.048	1,951.115	2,509.553	1,689.290	1,800.086	1,468.282	645.072
OASSET	14.184*	0.000	228.055	694.904	674.230	722.493	640.457	221.739
LBLT	15.397*	0.000	1,872.974	4,553.225	4,492.688	4,030.492	2,328.888	203.623
TRSDC	73.308*	0.000	1.486	1.434	1.579	1.762	1.995	2.838
PRICE	2.768*	0.017	18,772.954	22,932.049	21,828.111	19,633.532	18,777.947	12,600.000
DEPOSIT	10.631*	0.000	2,529.949	3,139.688	3,973.575	4,621.341	4,310.644	1,703.016
RENT	4.711*	0.000	5.959	9.720	9.473	7.414	5.803	6.969
MEMBER	210.609*	0.000	2.388	3.196	3.728	3.550	2.716	1.485
EXPENSE	213.413*	0.000	107.782	203.388	250.386	220.488	168.208	83.677
SAVING	0.618	0.686	78.646	71.944	76.041	81.784	80.010	58.667
OWH	33.228*	0.000	1.711	1.677	1.745	1.804	1.900	1.957
TRH	31.261*	0.000	1.903	2.153	2.252	2.335	2.438	2.768
AUA	7.305*	0.000	19.018	20.374	21.034	21.432	21.029	13.365
DISTRICT	5.944*	0.000	6.928	6.087	6.325	6.652	6.659	8.217

*: Significant at the 5% level.

extract and summary the value of data which have $\pm 10\%$ gap as follow <Table 5>.

Generally, the income, asset, debt of babyboom generation are higher than it of after-babyboom generation. Not only the price, deposit and rent of babyboom generation are higher than other generation. The price, deposit and rent of baby boomer of their living house is higher than other generation. Their number of household member and expense is higher than other generation, but their actual area of using is no differentiation.

Compared to before-babyboom generation, out of income variables, EINCE is lower than babyboom generation, FINCM and TIMCM is higher than babyboom generation. therefore we

can find which the kinds of income is changing according to the generation. Out of asset variables, RASSET and FASSET is similar or little higher, but OASSET and LBLT of before-1945 generation is lower than babyboom generation. PRICE, DEPOSIT, RESNT, MEMBER and EXPENSE of before-babyboom generation who have the certain size of asset and have decreasing income and debt is lower than babyboom generation. To summarize, there is clear differentiation among generation groups. By figuring out the characteristics focused on baby boomers who are the subject of this study, we can find that they have high level of income, asset, debt, house ownership, price, deposit and rent. And because they also have large scale of family numbers and

<Table 5> Summarization of analysing results

Criteria name	Before-babyboom		After-babyboom		
	Before-1945	1946-1954	1964-1972	1973-1981	After-1982
EINCM	▼	-	-	▼	▼
FINCM	△	△	▼	▼	▼
RINCM	-	▼	▼	▼	▼
TINCM	△	-	△	△	▼
OINCM	▼	△	△	▼	▼
EDU	▼	▼	△	△	△
RASSET	-	△	▼	▼	▼
FASSET	△	△	-	▼	▼
OASSET	▼	-	-	-	▼
LBLT	▼	-	▼	▼	▼
PRICE	▼	-	▼	▼	▼
DEPOSIT	▼	▼	△	-	▼
RENT	▼	-	▼	▼	▼
MEMBER	▼	▼	-	▼	▼
EXPENSE	▼	▼	▼	▼	▼
SAVING	-	-	-	-	▼
AUA	-	-	-	-	▼

Note : Blank means that there is no difference between baby boom generation and other generations.

△ : Average of other generations is 10% higher than baby boomers

▼ : Average of other generations is 10% lower than baby boomers

expense, they are the generations who possess the highest level of housing affordability. Of course, there is likely to change these characteristics of baby boomers because of their retirement, children's marriage and etc. they are the submarket of Korean housing market which have distinct characteristics. In other words, they have huge power and roles in housing market. Therefore we need to careful approach for establishing the policy which is ticketed for helping their resident stability or providing housing welfare. However, as the distinct sub-market and considering their importance in Korean market, we have to monitor their life-cycle changes, and we should need to develop new housing model and marketing method.

V. Conclusion

In Korea, the baby boom generation is a representative cohort group which has the strong influence on society, with its demographic scale and purchasing power. Researchers have considered the baby boomers as a powerful majority group, who lead the housing market and possess a considerable portion of real estate asset. And they assumed that it is necessary to prepare about the negative effects on Korean economy and entire society adjustments through the baby boomers retirement, because they think of the baby boomers as the major group who hold up Korean economy and society. However, the baby boomers should be

examined by market segmentation to become the independent submarket and target of housing policy as a distinct demander. Before providing some benefit for the baby boomers through establishing the housing policy, we need to verify a hypothesis that the Korean baby boom generation has the statistically significant difference among other generations on the housing market of Korea.

Our goals are both to define the Korean housing submarket and to verify the statistical differences of housing demand in Korea, considering characteristics of the boomers as representative cohort effects. Furthermore if there are differences among submarkets, we have found the implications to compare the characteristics of submarket.

For accomplishing the purpose, our analysis proceeds as follows. We have segmented as 6 generation submarket considering cohort effect by householder's age. We have drawn the criteria of housing demand by literature reviews. We have verified whether there are existed the differences among generations by using one-way ANOVA and the labor panel data from KLI.

As a result of analysing, we have identified that baby boom generation has become independent submarket of housing market. For extracting the differentiations of baby boom generation, by summarize the analysing result of each criterion, we can find that they have high level of income, asset, debt, house ownership, price, deposit and rent. And

because they also have large scale of family numbers and expense, they are the generations who possess the highest level of housing affordability.

Through these findings, we can identify that it is possible to segment the housing market on the basis of cohort effect. It means we can postulate that the submarket composed of baby boomers can be a target market for commercial

marketing and public policy. And we can establish the new marketing strategy to target this baby boom generation for housing market. By using this new paradigm of market segmentation concerning cohort effect, we can understand submarket of baby boomers as a demander of housing market for establishing housing policy.

References

- Blattberg, R. Buesing, T. Peacock, P. and Sen, S. "Identifying the Deal Prone Segment", *Journal of Marketing Research*, 1978, vol. 15, no. 3.
- Bourassa, S. C., Hamelink, F. Hoesli, M. and MacGregor, B. D. "Defining Housing Submarkets", *Journal of Housing Economics*, 1999, vol. 8, no. 2.
- Bourassa, S. C., Hoesli, M. and Peng, V. S., "Do Housing Submarkets Really Matter?", *Journal of Housing Economics*, 2003, vol. 12, no. 1.
- Chun, H., Ha, S. and Lee, H., "Housing Policy Directions for the Retired Baby-Boom Generation in Korea", Korea Research Institute For Human Settlements(KRIHS), Gyeonggi-Do, Korea, 2011.
- Chung, E. and Cho, S. "Demographic Changes and Long-term Housing Demand in Korea", *Journal of Korea Planners Association*, 2005, vol. 40 no. 3.
- Goodman, A.C. and Thibodeau, T. G. "Housing market segmentation", *Journal of Housing Economics*, 1998, vol. 7 no. 2.
- Hung, K. H., Gu, F. F. and Yim, C. K., "A Social Institutional Approach to Identifying Generation Cohorts in China with a Comparison with American Consumers", *Journal of International Business Studies*, 2007, vol. 38.
- Hyundai Research Institute, "The retirement of the baby-boom generation and its policy implication", *VIP REPORT*, 2009, Vol. 407.
- Jeon, I. and Min, G., "Analysis On the Retiring Baby Boomers: Impact on the Real Estate Market and How the Financial Sector Should Respond to the Resulting Changes", *Journal of communications and networks*, 2011, vol. 6 no. 6.
- Jin M., "Identifying households which need housing assistance through housing affordability problems", *Housing Studies Review*, 2000, vol. 8 no. 2.
- Johnson, D. D., "An Alternative approach to housing market segmentation using hedonic price data", *Journal of housing economics*, 1982, vol. 11 no. 3.
- Kauko, T., Hooimeijer, P., and J. Hakfoort, "Capturing Housing Market Segmentation: An Alternative Approach based on Neural Network Modeling", *Housing Studies*, 2002, vol. 17, no. 6.
- Kim, H., Leek, Y. and Yoon, H. "The Study on Housing Characteristics Preferred by Babyboomer After Retirement: Focusing on Apartment's Residents of Gangnam

- Region in Seoul", *Journal of Korea Housing Association*, 2010, vol. 21 no. 5.
- Kim, J. and Kim, S., "The Effect of Household and Housing Types on Changes of Population Cohorts in New Towns, KREA, *Korea Real Estate Academy Review*, 2014, vol. 56,
- Kim, K. and Park, J. "Segmentation of the Housing Market and Its Determinants: Seoul and Its neighboring new town in Korea", *Australian Geographer*, 2005, vol. 36, no. 2.
- Kim, S. T. and Song, M. G., "Baby Boomers' Retirement and the Elasticity of Apartment Price to Size - A Case Study of Jung-Dong New Town, Bucheon City", KREA, *Korea Real Estate Academy Review*, 2013, vol. 54.
- Kim, S. T. and Song, M. G., "Baby Boomers' Retirement and the Pattern of Apartment Price Variation by Size", KREA, *Korea Real Estate Academy Review*, 2013, vol. 52.
- Kotler, P., *Marketing Management*, The Millennium Edition. Upper Saddle, New Jersey: Prentice Hall, 2000.
- Lee, S., "The Variation of Baby Boomer's Income and Housing Market", *Korea Real Estate Society and Housing Studies Review*, 2010.
- Lv, Y., Guo, G. and Cheng, D., "An Integrated Approach for Market Segmentation and Visualization based on Consumers' Preference Data", *Proceedings of the Third International Conference on Machine Learning and Cybernetics*, Shanghai, China, 2004.
- Neal, W. D. and Wurst, J. "Advances in market segmentation", *Marketing Research*, vol.13, no. 1, Chicago, USA, 2001.
- Seo, S. "Retirement Migration Factors of Baby Boom Generation and Implication of Housing Policy", *Journal of Korea Planners Association*, 2010, vol. 45 no. 5.
- Son, Y. and Na, W., *The Principle of Brand STP Strategy*, Bmbooks, Seoul Korea, 2006.
- Statistics Korea, "Korea Statistical Yearbook", Gyeonggi-Do, Korea, 2010.
- Statistics Korea, "Yesterday, Today and Tomorrow of the baby boomers statistics", Press Release, Gyeonggi-Do, Korea, 2010.
- Steenkamp, J. E. M. and Hofstede, F.T., "International Market Segmentation: Issues and Perspectives", *International Journal of Research in Marketing*, 2002, vol. 19, no. 3.
- Sung, Y. D., "A Study on Demographic Change and Housing Policy in Korea", KREA, *Korea Real Estate Academy Review*, 2013, vol. 53.
- Wind Y., "Issues and Advances in Segmentation Research", *Journal of Marketing Research*, 1978, vol. 15, no. 3.
- Won, J., Jeong, G., Kim, S. and Beak, K., "The Analysis on the Price Determining Factors of the Housing in Commercial-Residential Complexes Using Market Segmentations", *Journal of Korea Planners Association*, 2009, vol. 44, no. 3.
- Yoon, J. and Lee, H., "Comparing Wealth Effects of Baby-boomers and Older Adults", KREA, *Korea Real Estate Academy Review*, 2014, vol. 58.