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Generation X and Y's demand for homeownership in Hong Kong

Rita Yi Man Li*

University of South Australia and Hong Kong Shue Yan University

Although differences between generation X (born between 1961 and 1980) and Y (born between 1981 and 1995) about the factors which drive homeownership have policy implications, little or no research has been undertaken into this issue. Results of interviews undertaken show that generation X and Y agree that price was the most important factor and that there are more generation Y reliant on government help. Questionnaire results found that "income and housing prices" and "affordability and accessibility" were the most important factors among generation X and Y, respectively. This paper concludes that policy makers need to consider the generation differences.

Keywords: homeownership; generation Y; generation X; interview; questionnaires; triangulation research

Introduction

In some countries, enthusiasm for homeownership almost amounts to a religion (Lands, 2008). In the United States, home purchase plays a starring role in the American Dream (Case, 1978). From an economic perspective, homeownership is an economically efficient action since homeowners have a financial interest in their properties. They have an incentive to maintain or increase the value of their properties so as to increase their life satisfaction, physical and emotional well-being (Haughwout, Peach, & Tracy, 2010; Ortiz & Zimmerman, 2013; Tan, 2008). Renters, on the other hand, have rather short-sighted perceptions on local affairs, lack of motivation in civic participation and a low social utility (Haughwout et al., 2010; Ortiz & Zimmerman, 2013). Besides, homeownership does not only provide a secure place to live, it is also a means to develop personal wealth which provides economic and financial security (Hirayama, 2010; Ortiz & Zimmerman, 2013).

Although a lot of the previous research shed light on the generation differences and factors that affect tenure choice in different countries, few or no papers study the differences in factors which affect the demand for homeownership among generation X (born between 1961 and 1980 (Montuno et al., 2012) and Y (born between 1981 and 1995) (Hall, Binney, & O`Mahony, 2004).

This paper focuses on the demand for homeownership in Hong Kong, a relatively small place with a dense population that has led to an ever increasing housing price (Li, 2012, 2014). It has been listed as the least affordable city worldwide for many years (Bertaud, 2014) and it is widely reported in the news that the post 80's generation (around the same age as generation Y) find it more difficult to purchase property in recent years compared to the previous generation X.

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*Emails: Rita.Li@unisa.edu, ymli@hksyu.edu

Further, it may be observed that there are different housing needs in different generations. One size fits all housing policies fail to satisfy the needs of the two generations. In view of this, this paper studies the generations' differences in factors which affect the demand for homeownership. It has four important foci:

- understanding the different factors which affect generation X and generation Y's demand for homeownership to provide insights for housing policy makers to implement and design appropriate policies for different generations;
- it is argued that the difficulty in young generation to buy a residential unit is one of the root causes of the recent "Occupy Central Movement" - the government's failure to address the differences in homeownership needs of younger generations which are different from the previous generations. Understanding the generations' differences has important implications for political stability;
- appropriate homeownership policies rely on various relevant social policies, such as population and retirement policy. Different factors which affect different generations should also be considered in social policy design and implementation; and
- academically speaking, it is the first paper to compare the different factors that affect the demand for homeownership among generation X and generation Y.

This paper begins with an extensive literature review on the factors which affect the demand for homeownership, followed by the interview studies among the two generations. The results of the interviews inform the design of the questionnaire, with the results of the questionnaire analysed by Principal Component Factor Analysis.

Factors affecting the demand for homeownership: a global perspective

Previous research shows that there are different factors which affect people's enthusiasm for homeownership. In the USA, an increase in income (Painter & Redfearn, 2002), high population growth and change in demographics (Belsky, 2009; Mace & Kagochi, 2009; Painter & Redfearn, 2002) and expectation of future financial gain (Case, 1978) raise the demand for new single-family houses. An increase in the sales of the existing houses boosts the demand for new single-family houses (Mace & Kagochi, 2009). Higher saving rate enables home purchasers to reach sufficient down payment earlier and hence increase the demand for homeownership (Hornstein, 2009). Individual housing demand also increases when the mean housing demand of an individual's neighbours increase (Ioannides & Zabel, 2003). As the implementation of interest subsidy positively affects housing supply, this leads to a drop in the housing price. As a result, more people become homeowners (Warsame, Wilhelmsson, & Borg, 2010).

On the other hand, unemployment, high cost of new single-family houses, wildfires, real mortgage and interest rates have negative impacts on the demand for new single-family houses (Mace & Kagochi, 2009; Mueller, Loomis, & González-Cabán, 2009). Painter and Redfearn's (2002) research, however, suggests that even large changes in interest rates would not have a long-run impact on homeownership rates. Although homeownership necessitates financing activities that may preclude some individuals from entry, previous research shows that income is not statistically significant for homeownership rates (Fisher & Jaffe, 2003). However, a rise in the mortgage rate or payment discourages people from home purchase and hence lowers the demand for homeownership. Other major determinants include wealth, current and expected interest rates, disposable income, changes in financial status and housing prices (Dua, 2008).

Further, the costs of homeownership relative to rent is another major concern which affects tenure choice (Bourassa, Haurin, Haurin, & Hendershott, 1994). Increase in household formation, income and strong immigration increase the demand for home-ownership (Lamont, 2008). Government subsidy eases down payment problems and brings forward home purchase decisions (Wood, Watson, & Flatau, 2006). In Malaysia, homeowners of terrace houses buy their own houses because they believe that home-ownership affects children's cognitive ability and education outcome, with behavioural problems reduced if children live in the houses owned by their families (Tan, 2008).

In China, although the Chinese Government argued that up to 70% of the urban public housing would be privatised by 2000, the privatisation program was unsuccess-ful in the early days. This was because many Chinese at that time lacked wealth to make monthly payments and mortgage down payment (Buttimer, 2004). Research also shows that although people come from the same country, there may be different factors which affect tenure choice decisions. For example, people coming from different pro-vinces may have different factors which impact their demand for homeownership in China. In Guangzhou, public traffic network, proximity to workplace, safety, medical and health facility and education facility are the top five major determinants of house purchase for young consumers (Wu, 2010). In Shanghai, high net migration rate and population increase the demand for home purchase (Yan & Li, 2012).

Homeownership is also affected by the nature of political coalitions. For example, the Singapore government is proactive in providing public housing and controlling landownership to balance the relationship between growth and populist coalitions. In sharp contrast, however, the South Korea government seeks an exclusive developmental coalition between large capitalists and the state, forcing the latter to minimise its role in housing provision, which severely reduces the state's autonomy in controlling real estate speculation (Park, 1998). Lifestyle and culture are two other factors which affect homeownership rates. In France, older generations buy flats as they wish to live alone (Bonvalet & Ogg, 2008). In the UK, policies that successfully encourage the growth of homeownership are premised on the idea of individualism (Nettleton & Burrows, 1998).

Similar to the abovementioned cities and countries, there is no consensus on factors which drive homeownership in Hong Kong. As a result of the rapid economic and pop-ulation growth, demand for housing rose sharply. Limited supply of land near the city centre forced urban sprawl (Chau & Ng, 1998). La Grange and Pretorious' (2000) research concedes that the decision to buy was affected by value of investment. Wong, Hui, and Seabrooke (2003) findings show that low interest rates were linked to higher housing price until 1997 but became non-existent afterwards (Table 1).

In summary, while there are plenty of studies on the demand for homeownership around the world, differences in factors which drive different generation's demand of homeownership have not been studied before. Using the keywords homeownership and generation X, homeownership and generation Y in Science Direct, Emerald, Taylor and Francis and Sage in Run Run Shaw Library, City University of Hong Kong no aca-demic journal articles were identified that compare the factors that affect generation X and generation Y's homeownership (Appendix 1). Although Wiesel (2012) examined young families (mainly generation X) who purchased old houses in ageing neighbour-hoods, the study was not compared with generation Y. Research by Chapman and Lombard (2006) only suggested that "*there could be unexplored differences in age groups where acceptance of a given situation is affected.*" Likewise, Myers (1992) studied the homeownership generation gap between the baby boom generation and their previous generations.

A Brief introduction to "generation"

A generation is a group of people who share the same time and space in history with collective experience (McGrindle & Wolfinger, 2010). As human life spans increase, more generations are alive simultaneously (Bickel & Brown, 2005). There are now four generations in our working world: traditionalists (born before 1945), Baby Boomers

Table 1.   Factors which affect homeownership in the literature.

Factors affect homeownership	Factors increasing the demand for homeownership	Factors reducing the demand of homeownership	Uncertain/ insignificant results/no evidence
Economic factors			
High/increase in mortgage /interest rates		Mace & Kagochi (2009); Mueller, Loomis et al. (2009); Dua (2008).	Wong, Hui et al. (2003), Painter & Redfearn (2002)
Economic downturn/ high unemployment		Belsky (2009), Mueller, Loomis et al. (2009)	
Rising income /saving rates	Lamont (2008) and Hornstein (2009)		Painter & Redfearn (2002)
Financial gain investment	Case (1978), La, Grange, & Pretorius (2000)		
Demographic factors			
Strong immigration	Lamont (2008), Yan & Li (2012)		
Growth in household formation	Lamont (2008)		
Population growth	Belsky (2009), Mace & Kagochi (2009), Chau & Ng (1998)		
Social factors			
Live alone	Bonvalet & Ogg (2008)		
Facility, safety and children's needs	Wu (2010), Tan (2008)		
Parents are homeowners	Boehm & Schlottmann (1999)		Chau (1998)
Rural urban migration	Owusu-ansah & O'Connor (2010)		
Housing market factors			
Rise in housing price		Tsai (2013)	
Increase in sale of the existing homes	Mace & Kagochi (2009)		
Increase in costs of homeownership to rent		Bourassa, Haurin et al. (1994)	
Housing policies (include subsidies)	Nettleton & Burrows (1998), Wood et. al. (2006), Warsame et. al. (2010)		Park (1998)
Housing demand of the neighbourhood	Ioannides & Zabel (2003)		

Source: Author.

(born between 1945 and 1964) (Eisner, 2005), Generation X (born between 1960 and 1980) (Yrle, Hartman, & Payne, 2005) and Generation Y (also known as Millenials, Internet Generation, Nexters, Echo Boomers, born between 1981 and 1995) (Eisner, 2005). As the era of birth affects our perceptions and actions, the accelerating pace of change means that one generation can be in an entirely different milieu as compared to the previous generation. In view of the differences in background, many sociologists and demographers have studied the generational differences from different perspectives such as medical training (Bickel & Brown, 2005) and tensions between older and younger generations (Barzilai-Nahon & Mason, 2010). Indeed, differences between generation X and Y do not only have profound implications on the workplace, but also the home ownership policies and developers' strategies for new build and design residential sale.

Generation X

Generation X lives in cities where there are a growing number of international networks, connections and organisations (Zhang, 2010). Hence, generation X proceeds with better international perspectives as compared to the previous generations. Generation Xers desire autonomy (Brown, Fluit, Lent, & Herbert, 2013), distrust the benefit of corporation, lack loyalty (Eisner, 2005) and are resilient to authority (Yrle et al., 2005). Compared to their parents, they are falling short of social skills (Eisner, 2005). Although generation Xers are expected to work hard, they do not want to deprive their lives with family, friends or personal growth. They seek flexibility and portability (Brown et al., 2013). Whilst Chinese generation X exhibits both the individualist and collectivistic behaviours, they seem to process less collectivistic than individualistic behaviours (Zhang, 2010).

Generation Y

Generation Yers are the children of generation X and the baby boomers generation. Many of them are born in a smaller family and have relatively affluent parents (Beer, Faulkner, & Gabriel, 2006). Generation Yers are socialised in a digital world and are technically literate. They are therefore also called the dot com generation (Beer et al., 2006; Eisner, 2005). They are independent, demand immediate feedback, thrive on challenging work and hate micromanagement (Martin, 2005). They are identified as the "latch key" generation as their parents have higher divorce rates (Martin, 2005).

Research method

Previous research results suggest that different research methods have their shortcomings, triangulation research methods which adopt more than one research method can overcome the problems. It is also contended that comparison across the different methods enhances the development of new concepts (Kadushin, Hecht, Sasson, & Saxe, 2008) and increases the accuracy and validity (Oliver-Hoyo & Allen, 2006).

In the present study, a combination of qualitative in-depth interviews and quantitative questionnaire survey was conducted to facilitate an understanding of the factors which influence generation X and Y on their home purchases. Generation X born between 1961 and 1980 and generation Y born between 1981 and 1995 are included. To identify these research participants for interviews, snowball was used for this

research. Research helpers were recruited from Hong Kong Shue Yan University students who studied ECON 100, ECON 101, FIN243 in 2011–2012. Each of them needed to identify two generation X and two generation Y from their relatives and circle of friends. The results were randomly checked by follow-up phone call. As these students came from different districts and different walks of lives, their circles of friends and relatives will also be different. Coupled with the large sample of participants, the research results can be generalised. One hundred sixty-four generation Xers and 178 generation Yers were interviewed by structured interviews. As there can be many different factors which affect the demand for homeownership, the interviewers were trained to ask questions in a standardised manner, with interviewees asked to rank the five most important factors which affect their demand for homeownership with reasons. The results were recorded, transcribed and coded.

The key factors which affect the demand for homeownership as identified in the previous interviews were then used to construct the questions used in the questionnaires. Snowball research methods were used to identify research participants to complete the surveys. Research helpers were identified from Hong Kong Shue Yan University students who studied ECON 100, ECON 101, FIN243, FIN445 from 2012 to 2013. Each of them needed to identify about five generation X and five generation Y from their circle of friends and relatives to answer the questionnaires. The results were then random checked by follow-up phone call. As before, the students from these few classes came from different districts and different family background with different circles of relatives, part-time colleagues and friends of generation X and Y Hence, the results could be generalised. 1300 respondents were included in the questionnaires study (679 generation Xers and 621 generation Yers). The Cronbach's alpha was used to measure the level of internal consistency for the questions set in the questionnaires, i.e. how closely related a set of items are as a group. A high alpha value is often perceived as evidence that the items measure an underlying construct (Li, 2015):

$$\alpha = \frac{c}{c+1}\left(1 - \frac{\sum x_i^2}{x_t^2}\right) \tag{1}$$

where:

c is the number of items;

x_i^2 is the variance of the ith item; and

x_t^2 is the variance of the total score after summing all the items.

If the item is multiplied by its coefficient before calculating the variance x_i^2, c must be greater than 1 or α will be undefined. The coefficient works as the variance of the sum of the group's independent variables is the sum of their variances. If the variables are positively correlated, variance of the sum will rise. If all the items making up the score are identical and perfectly correlated, then x_i^2 will be equal and $x_t^2 = c2\ x_i^2$, so that $x_i^2/x_t^2 = 1/k$ and α = 1 (Bland & Altman, 1997).

As the questionnaires contain a large number of possible factors which affect the demand for homeownership, factor analysis was used to reduce the number of essential factors. Prior to performing factor analysis, KMO is used to test for the sample adequacy (Crane, Busby, & Larson, 1991; Salako, 2006). When the KMO value is close to or equal to 0, the pattern of correlations are diffused and factor analysis will be inappropriate to explore the data. Nevertheless, when it is close to or equal to 1, patterns of correlation are compact enough to do factor analysis. It then yields a combination of

reliable and distinct factors. It is recommended to accept the values which are greater than 0.5 (Gbadegesin & Ojo, 2013). Principal component factor analysis is used to transform the variables in a multivariate data set X_1, X_2, …, X_p, into new variables, Y_1, Y_2,…, Y_p which are uncorrelated and account for the decreasing proportions of the total variance of the original variables:

$$Y_1 = A_{11}X_1 + A_{12}X_2 + - - - - - - - - - - - - - - + A_{1p}X_p \qquad (2)$$

$$Y_2 = A_2X_1 + A_{22}X_2 + - - - - - - - - - - - - - - - + A_{2p}X_p \qquad (3)$$

$$Y_p = A_{p1}X_1 + A_{p2}X_2 + - - - - - - - - - - - - - - - + A_{pp}X_p \qquad (4)$$

The coefficients are chosen such that Y_1, Y_2,…, Y_p account for the decreasing proportions of the total variance of the original variables, i.e., X_1, X_2, …, X_p. Factors are rotated with varimax rotation to maximise the sum of variances of Aij2 quadratic weight (Yakubu & Ayoade, 2009).

Results of interviews

The majority of the generation X interviewees were aged above 43 with secondary school level of education. Many of their salaries lay between 15,000 and 45,000. There were slightly more female respondents than male. A lot of them have privately owned property and were working in the commercial sector. On the other hand, many of the generation Y interviewees were aged less than 24 years old with associate or bachelor degree. The majority earn between 15,001 and 45,000 and there were more female than male respondents. Although many of them were staying in privately owned properties, the percentage of homeownership was less than the generation Xers. Many of them were working in the commercial sector. Among the generation Y interviewees, many of them aged between 18 and 23. As compared with generation X interviewees, generation Yers received better education but earned less on average. Many of the respondents were female and lived in privately owned residential units and worked in education sector.

There were 17.07%, 10.98% and 10.37% of the generation X who ranked price as the first, second and fourth most important factors (Table 2). One of the generation X interviewees said "*as I have already worked for some years, I have sufficient savings to pay for the first installment…although price is one of the most important factors, it is not the most vital to me.*" Generation Y interviewees suggested that price was the most important factors. About 26.4% and 16.29% of the respondents ranked it as the first and second most important factors. One generation Y interviewee commented "*even the housing prices in Hong Kong rural area rise to HK$150 million. The younger generation has to pay 10-20% of the housing price as the first installment. They also need to repay mortgage every month, not to mention other daily living expenses. It is obviously outside the younger generation's range of affordability.*" Although most of the generation X agreed that price was among five of the most important factors, there were a lot less ranked them as the first and second most important factor.

Likewise, marriage is an important factor to younger generation Y but not generation X: 7.87% of the respondents conceded that marriage was the third most important factors. One of the generation Y interviewees said "*I think I need to or must have to buy my own flat after marriage.*" On the other hand, 9.15% of the generation X respondents considered location as the third most important factor. One of the generation X interviewees commented "*workers like me have to spend around 10% on*

Table 2. Five most important factors affecting the generation X's tenure choice.

Factor 1	%	Factor 2	%	Factor 3	%	Factor 4	%	Factor 5	Rank
Price	17.07%	Price	10.98%	Location	9.15%	Price	10.37%	Investment	6.71%
Income	14.02%	Income	5.49%	Interest	7.32%	Environment	7.93%	Mortgage	4.27%
Affordability	6.71%	Interest	4.27%	Price	6.71%	Investment	4.88%	Interest	3.66%
Need	4.88%	Inflation	4.27%	Investment	5.49%	Economy	3.66%	Income	3.66%
Marriage	3.66%	Government policy	3.66%	Environment	4.88%	Government policy	3.66%	Transportation	3.05%
Money	3.66%	Investment	3.66%	Mortgage	4.88%	Income	3.66%	Future price	2.44%
Ability	3.05%	Money	3.05%	Income	2.44%	Future home price	3.66%	Economy	2.44%
Environment	2.44%	Environment	3.05%	Future house price	2.44%	Affordability	3.05%	Location	2.44%
Investment	2.44%	Need	3.05%	Marriage	2.44%	Marriage	2.44%	Government policy	2.44%
Savings	2.44%	Transportation	2.44%	Inflation	2.44%	Location	2.44%	Ability	2.44%
		Economy	2.44%					Money storage	2.44%

Source: Author.

transportation. If the transportation network is good, e.g. close to the MTR station and bus stop, it can save transportation costs and the commuting time back to office…"

Third, the generation Y tends to rely more government's help than their previous generation X as reflected in the interviews: 9.55% of the generation Y respondents ranked Government policy as the fourth most important factors. One of the interviewees told the interviewer "*in the past, the government provided Housing Ownership Scheme residential units (a type of subsidized housing) and there was less speculation activities. Nowadays, many of the young generation are the "slave" of home purchase: most of the monthly salary is used to pay the mortgage. Even if we have sufficient saving for the first installment, we need to pay for monthly mortgage and every day lives necessities. To make the dream of homeownership come true, some of us need to give up to the plan to give birth. If the government can build the subsidized housings again, it can increase homeowners' affordability.*"

Finally, investment ranked fifth by generation X and Y. One of the generation X suggested that "*I can sell it later and reap a profit. Besides, the flat can be leased and provided a major source of income after I retire.*" Another generation X interviewee was confident in the housing market "*housing prices rise continuously in Hong Kong and never drop. It is a very good investment tool.*"

Although younger generation Y received more environmental education as compared to generation X, there was a total of 18.3% generation Xers but 8.99% generation Yers ranking it as a top five most important factor. Almost 26.41% generation Yers considered marriage one of the five most important factors but 8.54% conceded it. This implies that whilst the older generation Xers are willing to accept rent as an alternative choice on leaving home, fewer younger generation agree the same. The results may also reflect that generation Y are closer to the age of marriage and their experiences affect their choices.

The older generation X put less weight on government policies: 26.4% of the generation Y respondents perceived it as in the top five most important factors but only 9.76% generation X viewed it as in the top five most important factors. There were 16.86% of generation X agreed that interest/mortgage as in five of the most important factors but 24.4% generation Y shared the same viewpoints. This may be due to the fact that generation X has a lot more saving in hand so they may have more spare money to pay for any changes in mortgage rate. Freedom was considered one of the most important factors which affected homeownership among a small number of generation Y but no generation X shared the same thought.

As the open ended questions asked about the factors which affect homeownership, this may lead to many different factors. The results of interviewees were then tabled according to content analysis by counting the number of same words that were mentioned by different interviewees from the first to the fifth most important factor. For example, if the interviewee mentioned "income," this was counted once for that. Nevertheless, as salary and income shared the same meaning, they were classified as "income." Table 3 summarises the factors which the interviewees ranked as the first five most important factors affecting the demand for homeownership among generation X and generation Y.

Questionnaires

The results of the interviews and literature review laid a solid ground for questionnaire design. The questionnaire began with questions on respondents' background information, followed by 31 questions about the demand for home homeownership. Questions

Table 3. Five most important factors affecting Generation Y's tenure choice decision.

Factor 1	%	Factor 2	%	Factor 3	%	Factor 4	%	Factor 5	%
Price	26.40	Price	16.29	Marriage	7.87	Government policy	9.55	Investment	7.87
Income	21.35	Income	15.17	Price	6.18	Environment	7.30	Government policy	6.18
Marriage	7.87	Investment	4.49	Income	5.06	Interest	5.62	Location	5.62
Money	3.93	Government policy	4.49	Interest	5.06	Investment	5.06	Economy	4.49
Needs	3.37	Marriage	3.93	Government policy	4.49	Location	4.49	Marriage	3.37
Investment	2.25	Location	2.81	Economy	3.37	Transportation	4.49	Interest	3.37
Financial status government policy	1.69	Interest	2.81	Property price	2.25	Facility	3.37	Environment	2.81
Location	1.69	Expected housing price	2.25	Location	2.25	Marriage	3.37	Future price	2.25
First instalment	1.69	Property market	2.25	Transport	2.25	Property price rise	2.25	Income	2.25
Economy	1.69	Down	2.25	Inflation	2.25	Future price	2.25	Transportation	2.25
Future property price	1.69	Payment		Job stability	2.25	Freedom	2.25		
						Practical area	2.25		
						Inflation	2.25		

Source: Author.

Table 4.   Factors affecting generation X's demand for homeownership.

Rank	Factors affect homeownership	Mean	Standard Deviation	Rank	Factors affect homeownership	Mean	Standard Deviation
1	Income	4.519	0.7392	16	Availability of government subsidies	3.445	0.9919
2	Affordability	4.133	0.9828	17	Repayment of other loan	3.374	1.0698
3	Price of the housing unit at present	3.976	0.9631	18	Availability of mortgage	3.372	1.0456
4	Family / kids' need	3.868	1.0166	19	Facility of the housing estate	3.356	0.9551
5	Future residential units price	3.809	0.9521	20	Perspective housing units building age	3.344	0.9887
6	Transportation	3.785	1.0052	21	Age of retirement	3.281	1.0842
7	Availability of first instalment	3.644	1.0406	22	Investment value of the housing unit	3.269	1.0508
8	Improve living quality	3.568	0.9494	23	More private space	3.254	1.0602
9	Comfortableness of the present housing unit	3.558	0.9933	24	Global economy	3.241	1.0555
10	Location of housing available for sale	3.549	1.0013	25	Inflation in Hong Kong	3.215	1.0589
11	Marriage	3.547	1.1118	26	Interest rate of saving	3.151	1.0846
12	Hong Kong's economy	3.525	0.9578	27	Hedge against inflation	3.132	1.0093
13	Environment of the housing unit available for sale	3.523	0.9261	28	Investment opportunity outside the housing market	3.049	1.0648
14	Government policy	3.508	1.51	29	Live independently	3.022	1.0685
15	Cost of renting a residential unit	3.493	1.052	30	Traditional Chinese value	2.779	1.2058

Source: Author.

were designed according to 5-point Likert Scale (1 referred to the least important factor and 5 referred to the most important factor). Many of the generation X respondents were aged below 36 or above 48. Many of them were females who earned less than HK$20,000 per month. On the other hand, most of the generation Y respondents were aged between 21 and 24 with a Bachelor degree. Many of them were working in commercial-related areas with a monthly salary less than HK$20,000 (HK$ 7.8 = US$1). More than half of the respondents were female, lived in public rental/privately own residential units. Detailed information for the interviewees and the list of questions are listed in Appendix 2 and Appendix 3, respectively.

Among the 31 factors, generation X and Y considered income (4.519 for generation X and 4.615 for generation Y), affordability (4.133 for generation X and 4.269 for generation Y) and price (3.976 for generation X and 4.135 for generation Y) the top three most important factors which affected the demand for homeownership. Compared with generation Y, generation X focused more on family and kids' needs. Generation Yers were concerned more on the government subsidies than generation X. Tables 4 and 5 show the detailed results of the questionnaires.

Table 5.   Factors affecting generation Y's demand for homeownership.

Rank	Factors affect homeownership	Mean	Standard Deviation	Rank	Factors affect homeownership	Mean	Standard Deviation
1	Income	4.615	0.6271	17	Hong Kongs economy	3.523	0.9625
2	Affordability	4.269	0.8217	18	Comfortableness of the present housing unit	3.49	0.9778
3	Price of the housing unit at present	4.135	0.8684	19	More private space	3.474	0.994
4	Job stability	4.125	0.8736	20	Inflation in Hong Kong	3.448	0.9647
5	Future residential units price	3.956	0.9282	21	Repayment of other loan	3.365	1.0255
6	Transportation	3.894	0.9389	22	Facility of the housing estate	3.351	0.9407
7	Availability of first instalment	3.808	0.952	23	Investment value of the housing unit	3.274	1.0749
8	Cost of renting a residential unit	3.735	0.9087	24	Hedge against inflation	3.271	0.9957
9	Availability of government subsidies	3.713	0.8946	25	Perspective housing units building age	3.263	0.9383
10	Government policy	3.674	0.9605	26	Global economy	3.26	1.0702
11	Family kids need	3.653	1.0005	27	Live independently	3.188	1.0408
12	Environment of the housing unit available for sale	3.633	0.977	28	Investment opportunity outside the housing market	3.114	0.9861
13	Location of housing available for sale	3.612	1.0123	29	Interest rate of saving	3.097	1.0547
14	Improve living quality	3.58	0.9509	30	Age of retirement	3.081	0.9794
15	Availability of mortgage	3.537	0.987	31	Traditional Chinese value	2.498	1.0745
16	Marriage	3.528	1.0277				

Source: Author.

The validation information in this study yielded 0.842 Cronbach's Alpha value among generation X and 0.832 among generation Y, indicating that there was a high level of internal consistency for the questions in the questionnaires. KMO was then used to test the suitability of Principal Component Factor Analysis (PCFA). As generation X and Y's KMO values exceeded 0.5 (0.824 and 0.791, respectively), PCFA was a suitable method to reduce the factors. PCFA with VARIMAX rotation was then applied to reduce the 31 factors to 9 for generation X (Table 6). The results of factor analysis were then illustrated in Table 7. For example, factor 1 includes inflation in Hong Kong, Hong Kong's economy, global economy, age of retirement and traditional Chinese value grouped together and renamed as economy and personal concerns. The average value of these factors was calculated and is listed in Table 7. Among generation X, "economy and personal concerns," "affordability and housing needs" ranked first and second most important and "quality of life" was the least important concern.

Table 6.   Results of principal component factor analysis for generation X.

Factors which affect homeownership	Component								
	1	2	3	4	5	6	7	8	9
Income		.450				.504			
Future residential units' price						.725			
Price of the housing unit at present						.651			
Marriage			.420						
Investment value of the housing unit							.702		
Availability of first instalment									
Improve living quality			.429						
Live independently			.810						
More private space			.778						
Cost of renting a residential unit								.463	
Interest rate of saving					.659				
Availability of mortgage							.655		
Job stability		.682							
Availability of government subsidies								.593	
Government policy								.731	
Facility of the housing estate									.740
Location of housing available for sale									.496
Transportation		.669							
Hedge against inflation					.537				
Affordability		.626							
Inflation in Hong Kong	.539				.463				
Investment opportunity outside the housing market							.428		
Perspective housing units' building age				.480					
Repayment of other loan				.540	.414				
Comfortableness of the present housing unit		.476		.635					
Family / kids' needs		.558							
Environment of the housing unit available for sale				.630					
Hong Kong's economy	.760								
Global economy	.807								
Age of retirement	.504								
Traditional Chinese value	.553								

Source: Author.

The same methods were applied to analyse the results of generation Y as shown in Table 8 and Table 9 (components for each of the factors which affected the demand for homeownership, their corresponding average value and standard deviation were listed). The generation Y findings show that "housing quality and homeowners' needs" was the most important concern while "personal housing needs" was the least important concern.

Discussion and conclusions

Previous research found that there were many different factors driving the demand for homeownership, such as interest rate, immigration and investment value of the housing market. However, no previous research shed light on the generation gap in demand for homeownership. The present research aims to fill this gap by adopting a research triangulation method. The results of interviews showed that generation Y perceived

Table 7.   Summary results of the nine factors affecting generation X's homeownership.

Factor	Name of the Factor	Components	Average	Standard Deviation
1	Economy and personal concerns	Inflation in Hong Kong, Hong Kong's economy, global economy, age of retirement, traditional Chinese value	3.205257	1.09883
2	Affordability and housing needs	Income, job stability, transportation, affordability, comfortableness of the present housing unit, family/kids' needs	3.8563	1.000593
3	Quality of life	Marriage, improve living quality, live independently, more private space	3.35422	1.071804
4	Quality of housing	Perspective housing units' building age, repayment of other loan, comfortableness of the present housing unit, environment of the housing unit available for sale	3.450221	0.996543
5	Inflation and payment of loan other than mortgage	Interest rate of saving, hedge against inflation, inflation in Hong Kong, repayment of other loan	3.21944	1.057133
6	Income and housing prices	Income, future residential units' price, price of the housing unit at present	4.102111	0.940227
7	Investment opportunity and mortgage availability	Investment value of the housing unit, availability of mortgage, investment opportunity outside the housing market	3.275405	1.047825
8	Cost of rent and government policy	Cost of renting a residential unit, availability of government subsidies, government policy	3.482081	1.203537
9	Facility and location of the housing	Facility of the housing estate, Location of housing available for sale	3.450995	0.980274

Source: Author.

affordability as the first most important factor in contrast with generation X's popular choice of price. Further, many generation Y suggested that marriage ranked third while generation X considered this should be location. The results reflect the differences in generations:

- the younger generation relies more on government help than the previous generation. This may probably be due to the fact that the income to housing price ratio is getting lower than for the previous generation. Lots of young generation cannot afford the skyrocketing housing prices unless their parents pay the first installment for them. Nevertheless, with more than 60% of Hong Kongers now living in public housing, not all of them can buy their own housing even with parents' support. Second, generation Y have grown up in a relatively wealthy society in their childhood, receiving toys from their parents in childhood easily. It is only by the time they come out to work that their parents cannot satisfy their homewonership needs similarly to toy purchases in early childhood. They then look for alternative source of help which include government policies. Furthermore, they have grown up in a society with more government subsidies and welfare than the previous generation. They now consider it is a kind of human right to receive subsidies for transportation, computers and even a pair of glasses. In sharp contrast to the previous generations who, however, considered that getting subsidies from government was shameful;

Table 8.   Rotated component matrix generation Y.

Factors which affect homeownership	Component								
	1	2	3	4	5	6	7	8	9
Income		.633							
Future residential units' price							.545		
Price of the housing unit at present		.483							
Marriage								.461	
Investment value of the housing unit							.680		
Availability of first instalment									.547
Improve living quality					.557				
Live independently					.819				
More private space					.827				
Cost of renting a residential unit				.582					
Interest rate of saving			.720						
Availability of mortgage			.603						
Job stability		.605							
Availability of government subsidies				.705					
Government policy				.751					
Facility of the housing estate	.617								
Location of housing available for sale	.609								
Transportation		.563							
Hedge against inflation			.699						
Affordability		.693							
Inflation in Hong Kong						.415			−.532
Investment opportunity outside the housing market							.676		
Perspective housing units' building age	.495								
Repayment of other loan			.476						
Comfortableness of the present housing unit	.679								
Family/kids' need	.572								
Environment of the housing unit available for sale	.677								
Hong Kong's economy						.789			
Global economy						.762			
Age of retirement								.636	
Traditional Chinese value								.775	

Source: Author.

- generation Y revealed that marriage was the second most important factor as they were close to the age of marriage or they were planning for their marriage. This reflected their experiences. Many of the generation X, however, had already got married and they considered where to live with their family members was more important. The results also suggested that home formation was one of the factors which affected home ownership rates. From this perspective, the late marriage phenonmenon and high divorce rate of recent years may also have implications on demand for homeownership; and
- generation Y put more weight on affordability but the generation X considers price more. This may reflect that generation Y have less savings than generation X in general.

On the other hand, the PCFA results from the questionnaire suggested that generation X considered issues outside housing itself, such as the economy and quality of life, to

Table 9. Summary results of the nine factors affecting generation Y's homeownership.

Factor	Name of the factor		Average	SD
1	Housing quality and prospective homeowners' needs	Facility of the housing estate, location of housing available for sale, perspective housing units' building age, comfortableness of the present housing unit, family/kids' need, environment of the housing unit available for sale	3.499327	0.984033
2	Affordability and accessibility of the housing	Income, price of the housing unit at present, job stability, transportation, affordability	4.206186	0.864544
3	Interest rate and housing finance	Interest rate of saving, availability of mortgage, hedge against inflation, repayment of other loan	3.320177	1.026915
4	Government policies and housing rent	Cost of renting a residential unit, availability of government subsidies, government policy	3.702899	0.93482
5	Quality of living	Improve living quality, live independently, more private space	3.415996	1.008978
6	Macroeconomy	Inflation in Hong Kong, Hong Kong's economy, global economy	3.410878	1.004433
7	Value of housing investment	Future residential units' price, investment value of the housing unit, investment opportunity outside the housing market	3.450591	1.062735
8	Personal housing needs	Marriage, age of retirement	3.03608	1.109168
9	Availability in first instalment	Availability of first instalment	3.806763	0.953687

Source: Author.

be significant while generation Y were concerned more with housing issues, such as housing quality and accessibility. Generation X considered quality of life was more important than generation Y when they considered the issue of homeownership.

In summary, the results of questionnaires and interviews suggest that the two generations share some common factors which drive them to home purchase, such as the housing price and source of finance. Nevertheless, while generation Y focus more on help from government via relevant government policies, generation X focus more on quality of life.

References

Barzilai-Nahon, K., & Mason, R. M. (2010). How executives perceive the net generation. *Information, Communication and Society, 13*(3), 396–418.

Beer, A., Faulkner, D., & Gabriel, M. (2006). *21st century housing careers and Australia's housing future: Literature review*. Adelaide: Australian Housing and Urban Research Institute, Southern Research Centre, Flinders University.

Belsky, E. S. (2009). Demographics, markets, and the future of housing demand. *Journal of Housing Research, 18*(2), 99–119.

Bertaud, A. (2014, November). *10th annual demographia international housing affordability survey*, 1–69.

Bickel, J., & Brown, A. J. (2005). Generation X: Implications for faculty recruitment and development in academic health centers. *Academic Medicine, 80*(3), 205–210.

Bland, J. M., & Altman, D. G. (1997). Cronbach's alpha. *British Medical Journal, 314*, 572.

Bonvalet, C., & Ogg, J. (2008). The housing situation and residential strategies of older people in France. *Ageing and Society, 28*(6), 753–777.

Bourassa, S. C., Haurin, D. R., Haurin, R. J., & Hendershott, P. H. (1994). Independent living and home ownership: An analysis of Australian youth. *Australian Economic Review, 27*(3), 29–44.

Brown, J. B., Fluit, M., Lent, B., & Herbert, C. (2013). Surgical culture in transition: Gender matters and generation counts. *Canadian Journal of Surgery, 56*(3), 153–158.

Buttimer, R. J. (2004). The Chinese housing provident fund. *International Real Estate Review, 7* (1), 1–30.

Case, F. E. (1978). Family housing: Dream or nightmare? *California Management Review, 20*(3), 23–31.

Chapman, D. W., & Lombard, J. R. (2006). Determinants of neighborhood satisfaction in fee-based gated and nongated communities. *Urban Affairs Review, 41*(6), 769–799.

Chau, K. W., & Ng, F. F. (1998). The effects of improvement in public transportation capacity on residential price gradient in Hong Kong. *Journal of Property Investment and Finance, 16*(4), 397–410.

Crane, D. R., Busby, D. M., & Larson, J. H. (1991). A factor analysis of the dyadic adjustment scale with distressed and nondistressed couples. *The American Journal of Family Therapy, 19*(1), 60–66.

Dua, P. (2008). 'Analysis of consumers' perceptions of buying conditions for houses. *Journal of Real Estate Finance and Economics, 37*(4), 335–350.

Eisner, S. P. (2005). Managing generation Y. *Advanced Management Journal, 70*(4), 4–15.

Fisher, L. M., & Jaffe, A. J. (2003). Determinants of international homeownership rates. *Housing Finance International*, 34–42.

Gbadegesin, J. T. & Ojo, O. (2013). Ethnic bias in tenant selection in metropolitan Ibadan private rental housing market. *Property Management, 31*(2), 159–178.

Hall, J., Binney, W., & O`Mahony, G. G. (2004). Age related motivational segmentation of wine consumption in a hospitality setting. *International Journal of Wine Marketing, 16*(3), 29–44.

Haughwout, A., Peach, R., & Tracy, J. (2010). The homeownership gap. *Current Issues in Economics and Finance, 16*(5), 1–10.

Hirayama, Y. (2010). The role of homeownership in Japan's aged society. *Journal of Housing and the Built Environment, 25*, 175–191.

Hornstein, A. (2009). Problems for a fundamental theory of house prices. *Economic Quarterly, 95*(1), 1–24.

Ioannides, Y. M., & Zabel, J. E. (2003). Neighbourhood effects and housing demand. *Journal of Applied Econometrics, 18*(5), 563–584.

Kadushin, C., Hecht, S., Sasson, T., & Saxe, L. (2008). Triangulation and mixed methods designs: Practicing what we preach in the evaluation of an Israel experience educational program. *Field Methods, 20*(1), 46–65.

La Grange, A. & Pretorius, F. (2000). Ontology, policy and the market: Trends to home-ownership in Hong Kong. *Urban Studies, 37*(9), 1561–1582.

Lamont, C. (2008). Housing affordability crisis: Fact or fiction? *Australian Economic Review, 41* (2), 194–199.

Lands, L. (2008). Be a patriot, buy a home-imagining home owners and home ownership in early 20th century Atlanta. *Journal of Social History, 41*(4), 943–965.

Li, R. Y. M. (2012). The internalization of environmental externalities affecting dwellings: A review of court cases in Hong Kong. *Economic Affairs, 32*(2), 81–87.

Li, R. Y. M. (2014). *Law, economics and finance of the real estate market – a perspective of Hong Kong and Singapore*. Germany: Springer.

Li, R. Y. M. (2015). *Construction safety and waste management: An economic analysis*. Germany: Springer.

Mace, L. M., & Kagochi, J. M. (2009). The determinants of demand for single family housing in Alabama urbanized areas. *International Journal of Housing Markets and Analysis, 2*(2), 132–144.

Martin, C. A. (2005). From high maintenance to high productivity: What managers need to know about generation Y. *Industrial and Commercial Training, 37*(1), 39–44.

McGrindle, M., & Wolfinger, E. (2010). Generations defined. *Ethos, 18*(1), 8–13.

Montuno, E., Davidson, A., Iwasaki, K., Jones, S., Martin, J., Brooks, D., & Mori, B. (2012). Academic dishonesty among physical therapy students: A descriptive study. *Physiother Canada, 64*(3), 245–254.

Mueller, J., Loomis, J., & González-Cabán, A. (2009). Do repeated wildfires change homebuyers' demand for homes in high-risk areas? A hedonic analysis of the short and long-term effects of repeated wildfires on house prices in Southern California. *Journal of Real Estate Finance and Economics, 18*(2), 155–172.

Myers, D. (1992). Retreat from homeownership: A comparison of the generations and the States. *Housing Policy Debate, 3*(4), 945–975.

Nettleton, S., & Burrows, R. (1998). Mortgage debt, insecure home ownership and health: An exploratory analysis. *Sociology of Health and Illness, 20*(5), 731–753.

Oliver-Hoyo, M., & Allen, D. (2006). The use of triangulation methods in qualitative educational research. *Journal of College Science Teaching, 35*(4), 42–47.

Ortiz, S. E., & Zimmerman, F. J. (2013). Race/ethnicity and the relationship between home-ownership and health. *American Journal of Public Health, 103*(4), 122–129.

Painter, G., & Redfearn, C. L. (2002). The role of interest rates in influencing long-run home-ownership rates. *Journal of Real Estate Finance and Economics, 25*(2/3), 243–267.

Park, B. G. (1998). Where do tigers sleep at night? The state's role in housing policy in South Korea and Singapore. *Economic Geography, 74*(3), 276–286.

Salako, A. E. (2006). Principal component factor analysis of the morphostructure of immature Uda sheep. *International Journal of Morphology, 24*(4), 571–774.

Tan, T. H. (2008). Determinants of homeownership in Malaysia. *Habitat International, 32*(3), 318–335.

Warsame, A., Wilhelmsson, M., & Borg, L. (2010). The effect of subsidy on housing construction in various regions of Sweden. *Journal of European Real Estate Research, 2*, 228–244.

Wiesel, I. (2012). Can ageing improve neighbourhoods? Revisiting neighbourhood life-cycle theory. *Housing, Theory and Society, 29*(2), 145–156.

Wong, T. Y. J., Hui, C. M. E., & Seabrooke, W. (2003). The impact of interest rates upon housing prices: An empirical study of Hong Kong's market. *Property Management, 21*(2), 153–170.

Wood, G., Watson, R., & Flatau, P. (2006). Microsimulation modelling of tenure choice and grants to promote homeownership. *Australian Economic Review, 39*(1), 14–34.

Wu, F. (2010). Housing environment preference of young consumers in Guangzhou China: Using the analytic hierarchy process. *Property Management, 28*(3), 174–192.

Yakubu, A., & Ayoade, J. A. (2009). Application of principal component factor analysis in quantifying size and morphological indices of domestic rabbits. *International Journal of Morphology, 27*(4), 1013–1017.

Yan, X., & Li, Z. (2012). The influence of Shanghai's population structure on city's housing demand and the solution for housing supply. *Management Science and Engineering, 6*, 44–50.

Yrle, A. C., Hartman, S. J., & Payne, D. M. (2005). Generation X: Acceptance of others and teamwork implications. *Team Performance Management, 11*(5/6), 188–199.

Zhang, J. (2010). The persuasiveness of individualistic and collectivistic advertising appeals among Chinese generation-X consumers. *Journal of Advertising, 39*(3), 69–80.

Appendix 1. Factors affecting homeownership among generation Y and generation X: Research from academic journal database (Source: Author)

Name of the database	Keywords use	Relevant studies
Science Direct	Homeownership, "Generation X"Homeownership, "Generation Y"	0
Sage	Homeownership, "Generation X"Homeownership, "Generation Y"	0
Emerald	Homeownership, "Generation X"Homeownership, "Generation Y"	0
Taylor and Francis	Homeownership, "Generation X"Homeownership, "Generation Y"	0

Appendix 2. Background information for generation X and Y interviewees

	Generation X	Number	Generation Y	Number
Age group	36 or below	45	20 or below	68
	37–42	24	21–24	59
	43–48	55	25–28	40
	49 or above	37	29 or above	11
	No information	3		
Income	0–14999	20	Below HK$15000	30
	15000–30000	54	HK$15001–30000	84
	30001–45000	57	HK$30000–45000	39
	45001–60000	18	HK$45001–60000	11
	60001 or above	10	HK$60000 or above	10
	No information	5	N/A	4
Education	Bachelor or above	48	Bachelor or above	80
	Associate Degree	4	Associate Degree	45
	Secondary	95	Diploma/IVE	2
	Primary	11	Secondary	45
	Not mentioned	6	Not mentioned	6
Gender	Female	92	Male	68
	Male	72	Female	110
Present tenure choice	Private (rent)	17	Private (rent)	26
	Private (own)	82	Private (own)	60
	Public (rent)	28	Public (rent)	39
	Puiblic (own)	14	Puiblic (own)	27
	Private (unwilling to reveal rent or own)	15	Private (unwilling to reveal rent or own)	4
	Public (Unwilling to reveal the tenure choice)	1	Public (Unwilling to reveal the tenure choice)	8
	Rent (unwilling to reveal public or private)	2	Rent (unwilling to reveal public or private)	4
	Unwilling to reveal current tenure choice	5	Unwilling to reveal current tenure choice	10
Occupation	Administrative	28	Administrative	26
	Real estate/construction	12	Real estate/construction	6
	Commerce	75	Commerce	58
	Medical	2	Medical	1
	Education	14	Education	65
	IT	2	IT	2
	Housewife	14	Social work	1
	Unemployed	2	Housewife	1
	Others	15	Others/nil	18

Appendix 3. List of questions included in Questionnaires (Source: Author)

Questions

1. Income
2. Future residential unit's price
3. Price of the housing unit at present
4. Marriage
5. Investment value of the housing unit
6. Availability of first instalment
7. Improve living quality
8. Live independently
9. More private space
10. Cost of renting a residential unit
11. Interest rate of saving
12. Availability of mortgage
13. Job stability
14. Availability of government subsidies
15. Government policy
16. Facility of the housing estate
17. Location of housing available for sale
18. Transportation
19. Hedge against inflation
20. Affordability
21. Inflation in Hong Kong
22. Investment opportunity outside the housing market, e.g. stocks, bonds
23. Perspective housing units' building age
24. Repayment of other loan, e.g. grant loan
25. Comfortableness of the present housing unit
26. Family/kids' need
27. Environment of the housing unit available for sale
28. Hong Kong's economy
29. Global economy
30. Age of retirement
31. Traditional Chinese value

Appendix 4. Background information for generation X and Y Questionnaire respondents (Source: Author)

Category	Generation X	Number	Generation Y	Number
Age	36 or below	188	20 or below	35
	37–42	143	21–24	349
	43–48	152	25–28	166
	49 or above	178	29 or above	71
	No information	18		
Income	0–10000	318	0–10000	368
	10001–20000	167	10001–20000	168
	20001–30000	104	20001–30000	52
	30001–40000	23	30001–40000	12
	40001–50000	24	40001–50000	3
	above 50000	8	above 50000	1
	No information/ unemployed	35	No information/ unemployed	17
Education	Bachelor or above	212	Bachelor or above	351
	Associate degree/Diploma	31	Associate degree/Diploma	89
	Secondary	355	Secondary	180
	Primary	77	Primary	1
	Reluctant to reveal	4		
Gender	Female	374	Male	263
	Male	305	Female	358
Present tenure choice	private (rent)	118	1.Private (rent)	89
	Private (own)	268	2.private (own)	208
	Public (rent)	208	3.public (rent)	227
	Public (own)	82	4.public (own) unit	94
	No information	3	Others	3
Occupation	Administrative	109	Administrative	84
	Real estate/construction	32	Real estate/construction	27
	Commerce	254	Commerce	179
	Medical	17	Medical	20
	Education	82	Education	240
	Nil/not mentioned/others	167	Nil/not mentioned/others	47
	IT	7	IT	10
	Disciplinary force	6	Disciplinary force	7
	Social work	5	Social work	7