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DISCUSSION PAPER SERIES NO. 2024-26

Demographic Trends and Housing Patterns in the Philippines

Marife M. Ballesteros, Jenica A. Ancheta, and Tatum P. Ramos



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18th Floor, Three Cyberpod Centris - North Tower EDSA corner Quezon Avenue, Quezon City, Philippines Demographic Trends and Housing Patterns in the Philippines

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Abstract

This study examines how demographic changes lead to different household structures and housing choices among different age groups. It argues that the cointegration of demography, housing market, and wealth have shaped housing demand in the country over time. The results have important often unrecognized implications for housing policy. The estimation of housing needs that excludes a contextual analysis of household formation can be misleading, thus the government has to connect the demographic changes to housing demand to ensure that the correct policy framework is provided that will balance the needs of the productive sector and those of the growing elderly population with housing consumption.

Keywords: demographic trends, household formation, homeownership, housing habitability, Philippines

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Demographic Trends and Housing Patterns in the Philippines

Marife M. Ballesteros, Jenica A. Ancheta, and Tatum P. Ramos¹

1. Introduction

Around the world, dramatic changes in the population have been observed as many countries have entered a second and third demographic transition characterized by a continuous slowdown in population growth rate and a rising ageing population (Ogawa, et al 2021). Demographic shifts have been attributed to declining fertility and improving mortality arising from social and economic phenomenon such as reevaluation of marriage, delay or rejection of parenthood, change in the flows of wealth, and advances in science and technology, among others (Jacobsen et al., 2012 in Yun & Kim 2019; Van de Kaa 1987, Korwatanasakul et al 2021 in Park, et al ADBI). These shifts lead to changes in a nation's age and household structure and thus would impact on the economic growth and social development of a country. The risks, costs, economic impacts, as well as socioeconomic transformations that followed the process of demographic transition have been reported in several studies in Asia, Europe and the Americas (SC Park et al 2021; Pew Research Center, 2019)2.

Of particular interest is how the changing demographics affect household composition and housing patterns. In developed economies of Asia, Europe and the United States, household size, and nuclear family households are shrinking while married couples (without children), co-habitation and single-person households are rising (Riche 2003; Wilhelmsson 2023; Saguin, K 2021 in SC Park 2021). The decline in fertility and longer life span have accelerated the ageing of the population and in the next decades, the increases in population will come from the age group that has largely completed its child rearing years and those aged 65 years and over especially in lower-middle and low-income Asia-Pacific countries (World Bank 2018).³ Ageing and the rising life expectancy has a direct impact on housing demand not only within the population group itself but also the housing choices of different age group (Gong and Yao 2021). Thus, demographic transition is expected to alter household arrangements and consumption patterns and thus, the demand for housing.

The Philippines, compared to middle- and high-income countries, is still at the early transition of fertility decline (UPPI 2022). However, a noticeable change in the age structure of

¹ PIDS Vice President, Research Specialist and Supervising Research Specialist, respectively

² Pew research Center (2019) "Looking to the Future, Public Sees an America in Decline on Many Fronts" by Kim Parker, Rich Morin and Juliana Horowitz (<u>https://www.pewresearch.org/wp-</u> <u>content/uploads/sites/20/2019/03/US-2050 full report-FINAL.pdf</u> (accessed July 13, 2024).

³ World Bank. 2018. *World Bank Indicators*. Washington, DC: World Bank Group. <u>https://databank.worldbank.org/source/world-development-indicators</u> (accessed 14 July 2024)

population has been evident overtime. From a wide base pyramid in the 1970s and 1980s, we are now looking at a slightly rounded pyramid with roughly equal number of populations for ages below 5 and those in the 15 -20 age brackets and a growing adult to child ratio. The population over 65 years old has increased only slightly from 3.1 percent in 1990 to 4.6 percent in 2015 but it is projected that the country will become an ageing society by 2032 and that the population aged 75 or 80 years and over will surpass even those of developed countries due to the drastic decline in mortality and declining fertility, especially among women (Abrigo , et al 2018; UPPI 2022).

These dynamics coupled with change in the flows of wealth, (i.e. westernized values, increasing cost of child rearing; higher utility of work and education over marriage and family, etc) impact on household formation that results in a variety of household types and dwelling choices (Caldwell 1976).⁴ The changes in the flows of wealth are income affects that affects household formation and consequently housing choices (Borsch-Supan 1986; Haurin et al 1993). In the Philippines, studies show that the demand for own housing has income elasticity greater than 1 with low- and middle-income households exhibiting higher income elasticity than the upper-income households (Ballesteros 2002; Bondad and Mindanao 2014). On the other hand, income inequality in the country is high. As of 2021, 13.6% of Filipino households are poor; 37.5% are low-income; 39.8% are middle income and only 1.5% are considered high-income households (Albert, Briones, Rivera 2024). Recent studies in the Philippines reported that Filipinos' decision on marriage and co-residence is motivated by economies of scale in consumption and housing is one of the expenditure items that exhibits the strongest gains in economies of scale (Valenzuela, Suga, Nakatani 2021). ⁵

Understanding the demographic trends provides a contextual analysis of the aggregate housing demand in the country. This is relevant given the rising housing backlog estimated to have increased to 12.4 million in 2023 (CRC 2024). Moreover, examining the relationship of demography and housing and wealth could provide important insights beyond a supply response policy framework to address housing deficits.

The specific objectives of the study are as follows: (1) examine the changes in the country's population age and household structure; (2) assess the changes in household arrangements and housing conditions resulting from demographic changes; and (3) determine how the age structure of population and household attributes relate to housing demand.

We used the Census of Population and Housing from 1980 to 1990 to examine the relationship between demographic trends, housing, and wealth. The analysis included only private

⁴ Caldwell (1976) reformulated the theory of cultural and sociological factors into a wealth function. These factors are also important determinants of the demographic transition and decline in fertility. Caldwell, J. C. 1976. Toward a Restatement of Demographic Transition Theory. *Population and Development Review* 2(3/4): 321–366

⁵ Valenzuela, Suga , Nakatani (2021) Consumption Profiles and the Aging of Populations: Insights from Virtual Married Households in Japan, Thailand and the Philippines. In Park et al, ADBI

households and excluded the population residing in institutional households.⁶ The approach is mainly descriptive with some test using simple regression. The result from the analysis is also indicative of where the country's population is going and on how the changes in the country's age and household structure will reshape housing demand in the future.

The paper is organized as follows: Chapter 2 provides the conceptual framework and a literature review on the effects of demographic trends on housing choices based on country experiences. Chapters 3 and 4 present the demographic changes happening in the Philippines and how such changes have affected household formation, size and composition. Chapter 5 discusses changes in living arrangements and dwelling quality across different household types. Chapter 6 illustrates the relationship between demographic attributes and housing demand. The last chapter concludes and provides some policy recommendations.

2. Conceptual Framework: Demographic Change and Household Formation

The relationship between demographic trends and housing is guided by the analysis on household formation. This framework considers economic development and demographic trends as two areas that have large effects on the rate and structure of household formation. New household formation and/or dissolution of households are important factors that determine aggregate housing demand (Borsch-Supan 1986). Demographic trends specifically affect both the rate of household formation and the structure of household, which are key factors that shape the housing market (Monkkonen 2013).

On the other hand, the relationship between household formation and housing market is endogenous and both are affected by economic conditions and the labor market (Haurin 1993; Borsch-Supan 1986; Monkkonen 2013). For instance, housing formation is affected by access to housing, that means, easier access gives incentive to form new households while new households imply increase demand for housing which puts pressure on prices.

Cultural preferences and social values also play a key role in housing choices. Married or unmarried children may opt to stay with ageing parents. The link between demographic trends, socio-economic conditions and housing is depicted in Figure 1. Housing policy directly impacts on the housing market but would also affect the rate and structure of households.

⁶ Population living in institutional households (e.g. in commercial/agricultural establishments, boats, agency housing, etc) represents less than one percent of population.



Figure 1. Demographic Trends, Housing Formation and Housing Policy

Source: Authors' diagram

Several studies show how demographic trends affects housing choices, in particular, how choices of specific age group choice impacts on housing demand. A study of specific age group is relevant as age is a "best predictor" of the quantity of housing demanded (Mankiw and Weil 1989).

Ismail and Shaari (2020), who used the Pair-wise method and Analytic Hierarchy Process in their study, showed the future housing choice by generations in Selangor, Malaysia (Table 1). They noted that baby boomers and Gen-X give highest value to neighborhood because of their preference for independence and staying in the same neighborhood where they spent the longest, while Gen-Y and Gen-Z give the highest value to house for future housing choice because it is the 1st marriage, 1st time in household formation and leaving family/parental house. A different scenario was seen by Lan (2011) who used a stated-preference approach and identified price, location, and floor area as attributes in the housing preference of some young households in Hanoi, Vietnam. The author noted that several of the young households prefer living near city centers to have good access to schools, jobs, healthcare, and recreational services, while a few decide to live far for lower price, larger space, and better living conditions.

	Group mean factor weight							
	Baby		Generation		Generation		Generation	
Factor	Boomer	Rank	Х	Rank	Y	Rank	Z	Rank
	(n = 3)		(n = 10)		(n = 24)		(n = 6)	
Location	0.4063	2	0.3008	3	0.3638	2	0.2433	3
House	0.1610	3	0.3460	2	0.3952	1	0.4143	1
Neighbourhood	0.4330	1	0.3533	1	0.2410	3	0.3428	2

Figure 2. Future housing choice by generations, Selangor, Malaysia

Ismail and Shaari (2020) found that gender also plays a role in the future housing choice in Selangor, Malaysia albeit the difference is small. Table 2 below shows that the males give high importance to location in future housing choice, while females give high importance to a house. Guilmoto and Loenzien (2015) noted in their Viet Nam study that men are a little more at risk of being in a single-person household than women in a multivariate model. The authors also noted the significant positive effect of disability on isolation while in the Philippines, Chant and McIlwaine in 1995 as cited by Rakodi (2014) reported that women industrial workers share rented rooms and sleep in shifts.

Figure 3. Future housing choice by gender

	Group mean factor weight					
Factor	Male (n = 15)	Rank	Female $(n = 30)$	Rank		
Location	0.4044	1	0.3019	3		
House	0.2736	3	0.4167	1		
Neighbourhood	0.3221	2	0.3344	2		

Source: Ismail and Shaari (2020)

Millennials and Young Adults Population

In developed countries such as the US, younger generations are choosing to get married and start families later in life. The rate of household formation among 15-24 in the US is declining (Henry 2017). Moreover, for the first time in 2020, the median age for a man's first marriage went over 30, while the median age of a first-time bride was over 28 (Excelsior Capital 2021). **Millennials** are starting their families, as well as buying their first home, at a later age. A 2024 survey on the profile of home buyers and seller by NAR showed that the typical first-time homebuyer was 38 years from 35 years old in the previous year (NAR 2024). Additionally, in a study by Myers (2016), the rate of ownership households dropped to 52% and 75% for those aged 15-24 and 25-34, respectively in 2013.

Due to the change in the transition to adulthood or married life, the pattern of leaving home also has changed with delay in leaving home observed among the young adults (Goldscheider and Goldscheider 1999 and Sompolska-Rzechula abd Kurdys-Kujawska 2022 in Wilhelmsson

2023). In the past, young adults start their own independent lives at an early age (usually after university). This pattern has changed significantly as observed in most developed countries. Analysis of this trend in the US showed that the likelihood of staying home is highest among adults who are unmarried, divorced or separated, or have lower levels of education (Aquilino 1990 in Wilhelmsson 2023). Choi (2003) found that the presence of aging parents especially those with health problems and financial difficulties is also a key factor for staying home. In Sweden, Wilhelmsson (2023) reported interregional variations in the pattern of leaving home among young adults and the observed spatial differences has been attributed to economic factors with unemployment having a significant impact in the differences across municipalities. Housing market dynamics such as size of housing stock, lack of rental housing, high degree of urbanization, social cohesion and interregional migration also play a significant role in the decision to staying home.

In other studies, a generation of young renters has been observed. A study by Graham et al. 2015, noted a considerable decline in homeownership among younger cohorts since the late 2000s due to longer educational careers, economic uncertainty, unstable employment, high house prices and restrictions in mortgage lending (Christie et al. 2002 & Clapham et al. 2010 in Graham et al. 2015). Other associated factors hindering the younger generations' ability to afford housing are high or rising student debts, weak entering job markets and constrained starting salaries (Hughes & Seneca 2012). Social changes reflected in changing values and lifestyles, notions in sexual preferences and marriage, transition to adulthood, and family formation and composition (e.g. non-married-couple families might have different housing space needs from those of traditional family-raising households) are also reinforcing this phenomenon (Green & Lee 2016; Hughes & Seneca 2012). The current generation of young adults have been branded as "Generation Rent" (Heath 2008 & Lund 2013 in Graham et al. 2015). In a study done by Myers (2016), the rate of rental households for those aged 35-44 in the US rose to 120% in 2013 from 2000 levels. Moreover, Han et al. (2017) found that the younger age groups had less owners and that downsizing and higher density mobility are more common in these age groups. Additionally, despite expectations that these groups would later upsize, only a few move beyond private renting.

The social and economic changes in the recent decades have negatively affected the access of young adults to homeownership and contributed to increased incidence of staying home and a growing shift towards rental housing (Hughes & Seneca 2012). These patterns were also noted among the young in ASEAN countries. This population segment has resorted to renting or moving back to their parents' homes instead of purchasing their own homes (Ismail and Shaari 2020).

Middle-Aged Population

Evidence in the ASEAN show signs that homeownership is more associated with older or middle-aged adults between 40 and 64 as this group comprises of population with stable and generally higher incomes. In the US, the rate of homeownership is from 65% to 80% among householders 40 to 65 years old (Gong and Yao 2021). These households tend to keep their homeownership longer when the average life expectancy rises. In the Philippines, Bondad and Mindanao (2014) found that an increase in the age of the household head is associated with

higher likelihood of homeownership as permanent income positively affects demand for homeownership.

On the other hand, rising divorce rates and increased female labor force participation rates, which increase proportion of unmarried people and lift headship rates, would affect the timeline and preference for homeownership (Belsky 2009; Beer & Faulkner 2008).

Ageing/Elderly Population

In developed economies that have transitioned into an ageing society, the rate of home ownership is on a decline. This trend has been observed in several OECD countries in Asia and Europe (Wood, Ong, & Cigdem 2020). Home ownership is critical for the older population as this sustains them through retirement, but this pattern may not be the case in all countries.

In Australia, there is a growing number of the older population that find difficulty to retain their status as owner occupiers (Wood et al. 2020). The decline in homeownership is noted in the 55 years and over age group especially for women. This is partly affected by high rates of divorce, lower marriage rates which means higher number of lone person or sole parent households. On the other hand, older population moving into private rental homes can cause financial stress to this age group due to rising housing rents that cannot be maintained from public pension. Female, in particular are of concern because of their lower average savings than their male counterparts (Wood et al. 2020). Both these conditions of the elderly in Australia have increased the demand for public housing assistance program.

In some European countries, similar changes in housing preferences were also observed among older population ages 60 and over. This age group is observed to reduce their housing consumption and move to private lodging and prefer apartment to houses and renting to owning (Angelini and Laferrere 2012 in Huggenberger, et al 2023).

In Sweden, most senior citizens do not opt to change residence once they have retired. Majority remain owners of their housing while those who move stay in rental or co-operative lodging (Abramsson and Andersson 2012 in Huggenberger et al 2023). The housing mobility patterns of the elderly in European countries are influenced by the following key behaviors: financial logic and considerations, health aspects, proximity to family and strong local attachment (Rot et. at 2018 in Huggenberger et al 2023).

In England, it is expected that the aging population will likely increase housing demand since the younger cohorts are expected to have higher income or wealthier when they age due to better education and health (Eichholtz & Lindenthal 2014). The same is also expected in the case of U.S., wherein a demographic shift with an increase in the older population will not cause a housing crisis due to higher levels of education and income of the future seniors (Green & Lee 2016; Reed 2016). Eichholtz & Lindenthal (2014) also found in his study that seniors in England mostly prefer a detached home instead of moving to a smaller place or an apartment. However, in the case of Australia, Han et al. (2017) found that retirees are more likely to downsize compared to younger households. Increasing life expectancies have become a worldwide population trend, which means that the aging population will have greater impact in the future (Essafi & Simon 2015). The longer life expectancy and changes in the care system is also altering the timings of transitions in the life course of older people (Graham et al. 2015). In Essafi & Simon (2015), they found that an increase in the aging population led to decreasing housing prices due to decrease in demand and increase in supply. The explanation for the decrease in demand is that these old people already bought a home in preparation for retirement during their middle age and a constant increase in the number of deaths. The increase in supply comes from the passing down of properties to the descendants or the returning of these assets to the market (Essafi & Simon 2015; Pitkin & Myers 2008).

Another aging trend that can influence housing demand is the rise in mobility of older people as they leave the workforce for retirement (Evandrou et al. 2010 in Graham et al. 2015). Changes in statutory age at retirement and growing dependence on multiple (pension) income can also affect mobility patterns (Graham et al. 2015).

Multigenerational Households

The multigenerational family households is trending upwards becoming popular because of housing choices of both the young and older generation, and lifestyle changes. In the US, it was found that the average household size is rising and has been accelerating since the COVID-19 pandemic. Furthermore, the number of unmarried young adults living with their parents almost doubled compared to figures in 2000. Young adults are moving back home possibly due a rise in the cost of living and student loan debt, and the COVID-19 pandemic. These circumstances have hindered the young adults from purchasing a single-family starter home thus, leading to a shift in household dynamics across the country (Excelsior Capital 2021; Pew Research Center 2019).

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On the other hand, relationship between generations or intergenerational processes is observed to have changed overtime. Staying with parents or moving out of family homes has also been affected by the nature of relationship among family or household members. Graham et al. (2015) attributed the increase in the number of multi-family households to trends such as an increase in non-dependent children living with their parents (Berrington et al, 2009 & Berrington and Stone, 2013 in Graham 2015) and a rise in separation and divorce (Feijten and van Ham, 2010). This phenomenon, if not properly considered, can lead to increases in overcrowding and housing space inequality. In the case of Canada, the rise of real estate prices in primary settlement locations making homeownership more difficult, is giving rise to crowding, as families are forced to live with multiple/extended families (Simone & Newbold 2019).

In the case of Japan, the regional population is declining, but their number of households is increasing. According to Hashimoto et al. (2020), this trend can be attributed to change in the composition of Japanese households from previously consisting of three generations (grandparents, parents, and children) to a now nuclear family consisting of two generations (parents and children).

One-Person Households

A rise in one-person household is also observed in the last intercensal decade. In Vietnam, the increase in one-person household is not only due to fertility decline but also a change in family composition toward household fragmentation (Guilmoto and Leonzien 2015). The proportion of household living alone has doubled from 4% in 1999 to 8% in 2014. This level is noted to be at a high level in South Asia. In richer countries, such as South Korea and Japan, there are more than a quarter of households living alone, which is like western countries (Klinenberg 2012; Jamieson and Simpson 2013; Gram-Hanssen, Scherg, and Christensen 2009; Hall, Ogden, & Hill 1997 in Guilmoto and Leonzien 2015).

3. Population and Household Formation

3.1 Population and Age Structure of Population

The Philippines has exhibited a steady rise in the size of its population overtime. From 38.68 million persons in 1970, the population increased to 108.67 million persons in 2020 (PSA 2020). However, annual population growth shows a declining trend from 3.08 percent in 1970 to 1.9 percent in 2020 and is projected to be less than 1 percent by 2040 (Cruz and Cruz 2014 UPPI study.)

Aside from a declining population growth rate, age-driven population changes, as reflected in the population pyramid, is discernible . From a wide base in the 1970s and 1980s, we observe a tapering of the base; a narrowing and rounded midsection (depicting that children and young adults are roughly of the same size) and the bars toward the top becoming wider (Figure 2). By 2040, the population pyramid may transform into a tree-like shape. These changes are the effects of declining fertility, people having fewer children and fewer people dying before old age due to overall improvement in health, as evidenced in the increasing life expectancy (Abrigo 2018; Cruz, et al. 2016; Cruz , et al 2019). In terms of the sex of the population, there are more female than male as the age increases (Figure 3). This is consistent with the demographic trend in the country wherein females tend to have longer life expectancy than males (PSA 2020; Cruz et al. 2016).



Figure 4. Population Pyramid, Philippines – 1980, 2000, 2020, & 2040

Source: Authors' illustration of data from PSA (CPH, various years)



Figure 5. Distribution of Population by Sex and by Age Group

Source: Authors' illustration of data from PSA (CPH, various years)

As of 2020, the Philippines is still considered a young society. According to the definition of the United Nations, a country is considered young if the proportion of older people (60 years old and over) is less than 10%; ageing if the proportion of older people is 10-19%; and hyper ageing if the proportion is 30% or more (UNDESA 2015). The share of the productive population ages 15 to 59 is still the largest in the country but on a declining rate (Table 3). Similarly, the growth rate of population less than 15 years of age has been on the downtrend and starting 2010, the growth has been less than one percent.

Meanwhile, the proportion of older population in the Philippines remains at less than 10% (60 years and over). As of 2020, this proportion is at 8.5% an increase of about 2 percentage points from 2010. Compared to the other age group, the growth of the elderly population has been rising steadily and this trend is projected to continue in the future. The Philippines is expected to transition into an aging society by 2025-2030 (PSA 2024). Based on the Philippine Statistics Authority's 2020 Census-Based Population Projections, the population of the Philippines is projected to reach 138.67 million⁷ by 2055.

A comparison of population age structure in rural and urban areas show a similar trend in 1990 and 2020 (Figure 4). The slope is lower in 2020 depicting the decline in population in both rural and urban areas. The proportion of young children is higher in rural than urban areas and even lower in Metro Manila than the urban average suggesting that new births are highest in rural areas. However, the migration to urban areas especially in the National Capital Region (NCR) among young adults between ages 19 and 34 is apparent. The migration to urban areas is also happening among older adults (aged 35 to 40) but at a lesser degree. A result of the migration is the levelling in the distribution of adult population in rural and urban areas. For the elderly, we observed a slight rise in the proportion of those aged above 65 in rural areas, which may be due to higher longevity of the seniors in rural areas and the possibility of reverse migration after retirement. Comparing 1990 and 2020, we note that the rise in population in NCR and urban areas for the age group 19 to 34 is flatter in 2020, especially for NCR, which can be attributed to the spread of urbanization in areas outside of NCR.

⁷ The figure is based on the 2020 Census-Based National Population Projections Scenario 2. The Census-based national population projections is done in 3 scenarios based on 3 fertility projections. Scenario 1 assumes that the national fertility rate (TFR) will increase from 1.9 children in 2021 to 2.1 children in 2025 and will be sustained until 2055. Scenario 2 assumes that the TFR of 1.9 children in 2021 will be sustained until 2055. While Scenario 3 assumes that the TFR will decline from 2.1 in 2020 to 1.7 children in 2055. Scenario 2 is recommended for use in policy and programming purposes (PSA 2024).

Distribution of Population by Age Group, 1980-2020						
Age grp	1980	1990	2000	2010	2020	
Below 15	42.12	39.61	37.07	33.35	30.75	
15-24	20.39	20.45	19.69	19.59	18.80	
25-44	23.53	25.47	27.00	27.77	28.49	
45-64	10.94	11.43	12.79	15.32	17.10	
Above 65	3.01	3.03	3.46	3.97	4.86	

Table 1. Distribution of Population and Population Growth Rate by Age Group: 1970-2020

Distribution Growth Rate by Age Groups, 1980-2020

Age grp	1970-1980	1980-1990	1990-2000	2000-2010	2010-2020
Below 15	28.1	18.7	18.0	8.6	8.7
15-24	39.2	26.1	21.6	20.1	12.8
25-44	31.2	35.4	36.1	30.5	22.4
45-64	26.4	25.4	43.2	36.7	47.8
Above 65	31.2	25.9	26.3	20.7	17.7

Source: Authors' illustration of data from PSA (CPH, various years)

These demographic changes have occurred amid Philippine economic growth and urbanization. As has been observed in the development path of advanced economies, fertility declines and growth are endogenously and positively related (Lewis 2010). The Philippines is still at the early stage of a demographic transition and the higher proportion of working population is a great boon to development but at the same time exerts pressure to build more housing units as the potentially higher incomes increases the rate of housing formation and leads to smaller household sizes, which have implications as well on the design or type of housing units.

Urbanization also implies that the surge in the demand for housing will be concentrated in urban areas as the share of working population residing in urban area is expected to increase. As shown in Figure 4, rural to urban migration has been evident in the country as the share of working population living in cities grew from 60% in 1990 to 66% in 2020 (urbanization level increased from 48.8% in 1990 to 54% in 2020). On the other hand, the slightly higher curve in rural areas for the older population aged over 65 years old could mean the need for elderly housing in rural areas.



Figure 6. Distribution of Population by Age Groups in Philippines, Urban, Rural, and NCR (1990 & 2020)

Source: Authors' illustration of data from PSA (CPH, various years)

3.2 Demographic Trends and Changes in Household Formation

Changes in the age structure of population lead to changes in the rate of household formation as well as household size and structure. As population growth declines, we note that household growth is also on a decline and the growth of family type households trailed behind total household growth starting 1990. Between 2010 and 2020, while household grew by 31 percent, family type households has grown at a slower rate at 26 percent (Figure 5).



Figure 7. Growth Rates of Population and Number of Households by Decade: 1980-2020, Private Households

Source: Authors' illustration of data from PSA (CPH, various years)

Household formation can be further examined using age-specific headship information, whereby a higher age-specific headship rate or share of population of a given age indicates more household formation (Monkkonen 2013). The age range that is commonly used are those age group 30-34 years old as majority of population are household heads at that age and are less sensitive to short-term market conditions (Monkkonen 2013). This could be applied in the Philippines considering the structure of the educational system whereby, the young generation complete their university or college education between the ages 20 and 23 years old and usually reach the age of independence around the age of 30.

Data on the Philippines show that in 1980 about 73 percent of population is a household head or spouse by age 34 and 90 percent by age 44 (Figure 6). However, there has been a significant change in the last decade indicating that postponement of marriage or staying longer at home is evident among the younger generation. In 2020, only 59 percent of population aged 24-34 is a household head and 80 percent by aged 44. The significant decline suggests lower formation of new households. From a housing perspective, older household head imply that, other things equal, most would be homeowners and that the decision to form new household may happen later.

Rural areas compared to urban areas show higher proportion of the young population in the 25-34 age group that are household heads in 1990 (70% vs 60%), which explains the higher number of births in rural than in urban areas (Figure 7). It could also be that these age cohort in the rural areas have better access to housing than those in the urban areas in the period 1980 to 1990. In 2020, the difference in proportion of headship among aged 24-34 years old between rural and urban areas including NCR has narrowed to less than one percentage point indicating that spatial difference in household formation is becoming insignificant.



Figure 8. Distribution of Householders or Spouses by Age, Private Households

Source: Authors' illustration of data from PSA (CPH, various years)





Source: Authors' illustration of data from PSA (CPH, various years)

The declining headship rates of those aged 25 to 34 is also reflected in the declining share to total households of householder ages 25-34 (Figure 8). Householders aged 25-34 makes up the largest proportion by age group but has declined over the years from 28 percent in 1980 to 20 percent in 2020. Younger householders aged below 25 has the lowest proportions throughout the years and the trend is declining overtime. Meanwhile, mature headship 35-64 is on the rise and the proportion of households in 1980 to 12.2 percent of households in 2020. This trend shows that the increase in the country's households is largely in the post-child rearing age group. From a housing perspective, the presence of older households indicates that, other things equal, family size is smaller; these are households that own rather than rent housing and has lower demand for large sized housing.



Figure 10. Distribution of Private Households by Headship Age

Source: Authors' illustration of data from PSA (CPH, various years)

Among these households, there is an increasing proportion of female-headed households from around 11% of households in 1980 to more than 20% in 2020 (Figure 9). This pattern is consistent across urban and rural areas, but the proportions are higher in urban areas compared to rural areas. Notably, among the female-headed households, the largest proportion of households are the householders aged 45-65 years, compared to the male-headed households wherein the largest proportions are the householders aged 25-45 years. Moreover, there is a relatively higher percentage of female-headed households for householders aged above 65. This shows that mature households tend to be headed by female, which can be associated with females having a longer life expectancy, which is also reflected in the age structure of population whereby the proportion of female population increases as the age increases.

Figure 11. Distribution of Private Households by Headship Age (Male & Female)



Source: Authors' illustration of data from PSA (CPH, various years)

3.3 Demographic Trends and Changes in Household Size

With the rising proportion of mature households, the childbearing years becomes shorter. The overall effect of this shift is that households are smaller. From a high fertility rate of 6.0 percent in 1970, fertility rates in the country was down to 1.9 percent in 2020 and average household size decreased from 5.9 to 4.1 persons per household (Table 4). However, while fertility declined by more than half from 1970 to 2020, average household size remained between 5 and 4 members for the past two decades.

Census Year	Average HH size	Fertility Rate
1970	5.9	6.0
1980	5.6	5.1
1990	5.3	4.1
2000	5.0	3.5
2010	4.6	3.0
2020	4.1	1.9

Table 2. Fertility rate and Household Size	e, Philippines, 1970	-2020
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Sources:

For Average household size: 1970 & 1980: Abejo 1995; 1990-2020: PSA – CPH Reports

For Fertility Rate: 1970-1980: Abejo 1995; 1990-2020: National Demographic and Health Surveys (1993, 2003, 2013, 2022) from PSA

In 1980, 40 percent of population reside in households of sized 6 to 8 and 20 percent in households over 8 members (Table 5). By 2020, a substantial proportion of the population (about 37 %) still reside in households of size six and above.

On the other hand, the proportion of population residing on households of size 1 to 2 has doubled from its level in 1980. This represents 9.1 % of population in 2020, an increase from 4.4% in 1980. For the bulk of the population, more than half (52%) currently reside in households of sized 3 to 5 members, compared to only 35 percent in 1980.

A similar trend is observed in both rural and urban areas including in the NCR. In 1980, about 39 percent of urban population reside in households of size 6-8 persons. The proportion is higher by only 1 percentage point in rural areas and by 1 percentage point lower for NCR. By 2020, this proportion declined to less than 30 percent for urban and NCR and to 31 percent in rural areas. In both rural and urban areas including NCR, the bulk of population reside in households of size 3 to 5 members.

In terms of households, we note that the proportion of bigger sized households is higher in rural areas than in urban areas and in NCR. This finding is a shift from the 1960-70s trend, whereby average household size was found to be significantly higher in urban areas especially NCR compared to those in rural areas due to the presence of extended family members and relatives because of in-migration to cities (Stinner 1997). The situation has apparently changed in recent decades. While in-migration to cities is still happening, the slower rate of household formation, the spread of urbanization and improvements in infrastructure and connectivity have expanded the frontier of urban housing. On the other hand, the growth of small sized households may also indicate a limited access to spacious housing.

Overall, household size is declining in both rural and urban areas including NCR but in both rural and urban we still find a significant proportion of population that reside in bigger-sized households and that the difference in household size between rural and urban areas has narrowed.

Moreover, the presence of large sized households suggests that there could be a doubling up or merging of households, which contributes to a slowdown in the rate of household formation. And these circumstances (of doubling or merging) could be due to factors other than demographic change. Studies have shown that economic circumstances, housing market conditions as well as cultural factors e.g. return home due to death of a parent or to care for elderly parents) affect the rate of household formation.

Another important finding is that bigger sized households (3 to 5 and 6 to over) are male headed while the smaller sized households with only 1-2 members are female headed households (Figure 10). This could be related to the presence of nuclear families as the core unit of the household and the cultural association of the male as the primary income earner of the household.

1980								
	Philippines	Urban	Rural	NCR				
Percent of Pop	Percent of Population by Household Size							
1-2	4.43	4.43	4.43	5.02				
3-5	35.31	36.23	34.78	40.42				
6-8	39.96	39.34	40.31	38.10				
over 8	20.30	20.00	20.48	16.47				
Percent of Hou	iseholds by Househ	old Size						
1-2	12.71	12.91	12.59	13.85				
3-5	45.13	46.31	44.44	49.71				
6-8	31.11	30.32	31.56	28.22				
over 8	11.06	10.46	11.40	8.22				
	1	990						
	Philippines	Urban	Rural	NCR				
Percent of Pop	ulation by Househo	ld Size						
1-2	3.69	3.61	3.76	3.99				
3-5	37.38	38.96	35.89	43.63				
6-8	45.10	44.58	45.59	43.51				
over 8	13.84	12.85	14.76	8.88				
Percent of Hou	iseholds by Househ	old Size						
1-2	11.12	10.82	11.41	11.26				
3-5	47.45	48.98	45.99	52.75				
6-8	34.39	33.82	34.93	31.80				
over 8	7.04	6.39	7.67	4.19				
2010								
	Philippines	Urban	Rural	NCR				
Percent of Pop	ulation by Househo	ld Size						
1-2	6.25	6.20	5.61	7.42				

Table 3. Percentage of Population Residing in Private Households by Household Size:1980, 1990, 2010, & 2020

3-5	46.99	46.81	42.57	51.12				
6-8	37.29	35.24	38.25	34.21				
over 8	9.47	11.76	13.57	7.25				
Percent of Households by Household Size								
1-2	17.25	16.73	15.94	19.35				
3-5	53.43	52.28	49.79	55.57				
6-8	25.12	24.23	27.06	22.06				
over 8	4.20	6.76	7.21	3.02				
	2	2020						
	Philippines	Urban	Rural	NCR				
Percent of Population by Household Size								
Percent of Po	pulation by Househo	old Size						
Percent of Po 1-2	pulation by Househo 9.08	old Size 9.58	8.23	11.50				
Percent of Po 1-2 3-5	pulation by Househo 9.08 52.89	9.58 53.63	8.23 50.71	11.50 54.22				
Percent of Po 1-2 3-5 6-8	pulation by Househo 9.08 52.89 30.44	9.58 9.58 53.63 29.62	8.23 50.71 31.70	11.50 54.22 28.39				
Percent of Po 1-2 3-5 6-8 over 8	pulation by Househo 9.08 52.89 30.44 7.58	9.58 9.58 53.63 29.62 7.17	8.23 50.71 31.70 9.36	11.50 54.22 28.39 5.88				
Percent of Po 1-2 3-5 6-8 over 8 Percent of Ho	pulation by Househo 9.08 52.89 30.44 7.58 suseholds by Househ	9.58 9.58 53.63 29.62 7.17 old Size	8.23 50.71 31.70 9.36	11.50 54.22 28.39 5.88				
Percent of Po 1-2 3-5 6-8 over 8 Percent of Ho 1-2	pulation by Househo 9.08 52.89 30.44 7.58 ruseholds by Househ 23.10	9.58 9.58 53.63 29.62 7.17 old Size 24.13	8.23 50.71 31.70 9.36 21.53	11.50 54.22 28.39 5.88 28.06				
Percent of Po 1-2 3-5 6-8 over 8 Percent of Ho 1-2 3-5	pulation by Househo 9.08 52.89 30.44 7.58 ruseholds by Househ 23.10 54.84	old Size 9.58 53.63 29.62 7.17 old Size 24.13 54.79	8.23 50.71 31.70 9.36 21.53 54.20	11.50 54.22 28.39 5.88 28.06 53.06				
Percent of Po 1-2 3-5 6-8 over 8 Percent of Ho 1-2 3-5 6-8	pulation by Househo 9.08 52.89 30.44 7.58 suseholds by Househ 23.10 54.84 19.01	old Size 9.58 53.63 29.62 7.17 old Size 24.13 54.79 18.25	8.23 50.71 31.70 9.36 21.53 54.20 20.40	11.50 54.22 28.39 5.88 28.06 53.06 16.68				

L Source: Authors' illustration of data from PSA (CPH, various years)



Figure 12. Household Size by Sex of Householders (1980, 1990, & 2020), Private Households

Source: Authors' illustration of data from PSA (CPH, various years)

In terms of household size by headship age, the data show that while household has become smaller, headship aged group 45-54 as well as the elderly households have larger sized household (Figure 11). It could be that older children still stay with parents. Moreover, the married children may also stay with parents, which imply that aside from lower rate of household formation, the choice of married children to stay with parents would suggest that the demand for new housing maybe even lower than formation of households. While lower household formation and adult children staying with parents may slowdown the economy because of less vigorous housing sector, (i.e., lower construction activities, fewer leases and home purchases, less spending related to housing), it can be advantageous to the household themselves with one additional adult contributing to household income. In the US, 2018 data showed that household size is rising because of rising standard of living and that poverty incidence has been reduce by 5 percentage points among households that had at least one adult child age 25 to 34 living in the same house (Pew Research Center 2021).

By location, both rural and urban areas show that most households are within the average size of 3 to 5 members in 2020 (Figure 12). Larger sized households of 6 to 8 members are tied to mature households aged 35 to 54 years old. In rural areas, there is a higher proportion of larger sized households among headship aged 35-54 compared to urban areas and NCR. Interestingly, there is a higher proportion of those households headed by the elderly that reside in households with 1 to 2 members in rural areas. About 45 percent of the elderly households in rural areas are side in households with 1 to 2 members compared to 36 and 32 percent in urban areas and NCR, respectively.



Figure 13. Average Household Size by Headship Age, Private Households

Source: Authors' illustration of data from PSA (CPH, various years)





Source: Authors' illustration of data from PSA (CPH, various years)

4. Changes in the Residential Family: The Structure of Households

The eventual decline in household size has been tied to the decline in total fertility rate among women. But the significant decrease in total fertility from a level of 6 percent in 1980 to 1.9 percent in 2020 correspond to a slower decline in household size. In 2020, fertility rate was down at less than 2%, a 36 percent decrease from its level in 2010. However, average household size remained at 4 or about 12 percent lower than the average in 2010, implying that other factors are keeping household size relatively unchanged.

An examination of household structure in the Philippines show that while nuclear households remain the dominant form of residential arrangement, this proportion has been on the decline since 1990 from a share of 71 percent in1990 to 61 percent in 2020 (Figure 13). On the other hand, the proportion of extended and multiple families in rising from 25 percent in 1990 to 29 percent in 2020.⁸ In these households, the nuclear family is still the core but may include either a sibling or parent of the headship (extended) or several relatives (multiple households).

The possibility of an upturn in household size amid fertility declines has been observed in developed countries. In the United States, the proportion of shared households increased from 17% in 2007 to 20 percent in 2019 and since 2010 most age group especially age 35 years old and older are living in larger households (Pew Research Center 2021).⁹ The trend in the United States has been attributed to fundamental societal changes such as industrialization, urbanization, rising living standards (especially for older adults) and also in the wake of Great Depression from the effects of COVID 19 (Pew Research Center 2021).

Another observed trend in household structure is that households that do not contain a family, i.e. living alone or persons not related or are related by blood or marriage, has grown significantly. The proportion of those living alone more than doubled from 2.9 percent in 1990 to 9.1 percent in 2020. Meanwhile, the proportion of nonrelated households grew by 33 percent for the same period. The decline of nuclear households with the increase in non-family households (i.e. one-member and non-related) indicate a shift from the traditional family housing arrangement to a much more diverse types of households.

⁸ Extended households are estimated to be made up of one family. This estimation and that for multiple families are based on the marital status of members

⁹ Shared household "refers to the presence of an 'extra adult' in the household, who might be an adult child or parent of the householder, or simply a roommate or boarder in the household" (Fry 2021).



Figure 15. Distribution by Household Types , Private Households (in percent)

Notes: * 1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

* 2000: Households with 2 household heads were categorized under multiple families

Source: Authors' illustration of data from PSA (CPH, various years)

In terms of location, the proportion of nuclear households in rural areas is higher than in urban areas, while the proportion of extended households in urban areas is higher than in rural areas indicating an important role of the housing market as well specifically access to housing in household structure (Figure 14). The gaps, nevertheless, have generally decreased over time. In 1980, 65.49% of urban households and 74.11% of rural households were nuclear. The 8-percentage point difference went down to 3 percentage points in 2020 when nuclear households made up 60.21% of the total in urban areas and 63.47% in rural areas. In NCR, the proportion of nuclear families is only about 53 percent, a 7 and 10 percentage points lower than the rural and urban averages, respectively.

In terms of extended and multiple households, the proportion in rural, urban and NCR shows only a slight difference of about one percentage point lower in rural areas compared to urban areas and NCR in 2020. A higher level of extended and multiple households in urban areas are expected because of migration to cities but the growth of such household structure in rural areas imply that the extent of left children that are being cared for by relatives in rural areas is rising. This phenomenon can be tied to economic conditions; first, the inability of working adult(s) to bring family or find residence in places of work and second, that the working adult is an overseas Filipino worker (OFW) whose children or family stays with relatives or relatives staying in the residence. Figure 15 shows that while majority of the population works in the same city/municipality that they live in, the proportion of the household members working in other places, meaning a different city/municipality or a different province is on the rise. Combined with those working in foreign countries (i.e. OFWs), those working away from residence represents about one fifth (23%) of working household members in 2020 and increase by 12 percentage points from 2010. This implies that there is an increasing percentage of workers that are residing under temporary housing arrangement in places of work or that commute from residence to place of work is feasible. This results further emphasize the need for a flexible housing tenure other than homeownership especially in central business districts.

On the other hand, while the proportion of households living alone is higher in urban areas and NCR, we note a significant rise of alone households in rural areas since 2010 from a negligible (almost zero) share in 1980 to 6 and 8 percent in 2010 and 2020, respectively.



Figure 16. Household Types in Urban and Rural Areas (%), Private Households

Note: * 1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

* 2000: No urban/rural classification in dataset

Source: Authors' illustration of data from PSA (CPH, various years)



Figure 17. Residence vs Workplace Arrangement, Private Households

Note: Other places can include different city/municipality or different province

Source: Authors' illustration of data from PSA (CPH, various years)

Disaggregation by headship age show that households headed by 25 to 34-year old have the highest proportion of the nuclear type but declining as living alone and extended residential arrangement are rising (Figure 16). For headship age 35-55 years old, we see decline in nuclear families as extended and multiple household structure rises. Interestingly for households with headship above 65, nuclear family household is no longer dominant with roughly equal proportion of different household types among this age group, living alone is rising consistently since 1980 (from 10 percent in 1980 to 18 percent in 2020) while extended and multiple households combined make up roughly half (47%) of the households for this specific age group in 2020. This is reflected in the larger household size for households with older headship. Household headed by 46 to 65-year old individuals have not changed much. Around 60% of the households are nuclear, while around a total of 35% are extended and multiple-family households. The results also show that for both the younger headship (25-34) and the elderly headship (over 65) the choice of living alone is more pronounced in urban areas especially NCR compared to rural areas (Figure 17). Most of those living alone in rural areas are householders above 65 years old. Like the left children, left alone elderly will also become a development concern as the country transitions to an ageing society.

The diverse household types, the shift towards equal sized age groups and rising elderly householders living alone are important considerations to assess housing needs including a need to build flexibility into housing design as well as housing finance. Traditional mortgages may not work for all household types and given diverse sources of household incomes. Moreover, there are also spatial differences among households and movement of population in different cities. There could be areas where there is dominance of younger population and single households while there are areas where population has declined significantly. The life course changes combined with the younger generation's preference for mobility and global citizenship are challenging conventional notions of who lives where. The analysis of changes in household structure rather than simple population change is becoming more relevant to changes in housing demand and housing need.



Figure 18. Household Types by Headship Age, Private Households

Note: * 1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

Source: Authors' illustration of data from PSA (CPH, various years)





Note: * 1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

Source: Authors' illustration of data from PSA (CPH, various years)

These findings are aligned with the changes in adult—kid and dependency ratio among different household types.

In terms of adult-kid ratio, the non-related households have noticeably the highest adult-kid ratio since households whose members are non-related do not have children and are most likely all adults (Figure 18). Between extended and multi-family households and nuclear households, the former have a higher adult-kid ratio..



Figure 20. Adult-kid Ratio by Household Type, Private Households

Note: Adult-kid ratio: Total number of adults (15 years old and above) over total number of children (0-14 years old). The results are interpreted as number of adults per 100 children.

*1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

Source: Authors' illustration of data from PSA (CPH, various years)

In terms of adult-kid ratio by headship age, household heads aged 25-45 have the lowest adultkid ratio (Figure 19). These young households are comprised mainly of nuclear households who are at the early stages of marriage or child rearing. Meanwhile, households with household heads aged above 65 have the highest adult-kid ratio. The number of adults in these households exceeded the number of kids by more than 5 to 1. Most likely, these are households with children that are already adults or are living with relatives or non-relatives. Notably, the total adult-kid ratio is also increasing over the years, which is consistent with the household types within this age group.



Figure 21. Adult-kid Ratio by Headship Age, Private Households

Note: Adult-kid ratio: Total number of adults (15 years old and above) over total number of children (0-14 years old). The results are interpreted as the number of adults per 100 children.

*1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

Source: Authors' illustration of data from PSA (CPH, various years)

Results of adult-kid ratio in the urban, rural, and NCR follow the national pattern (Figure 20). Households with householders aged 25-45 have the lowest adult-kid ratio among the groups, households with household heads aged above 65 have the highest adult-kid ratio. The adult-kid ratio of the elderly headship is also increasing overtime.



Figure 22. Adult-kid ratio by age of Household Head (Urban, Rural, and NCR), Private Households

Note: Adult-kid ratio: Total number of adults (15 years old and above) over total number of children (0-14 years old). The results are interpreted as number of adults per 100 children.

*1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

* 2000: No urban/rural classification in dataset

Source: Authors' illustration of data from PSA (CPH, various years)

Similarly, dependency ratios show that most households have fewer dependent members. Household heads aged 45-65 years old have the lowest dependency ratio across the years (Figure 21). Meanwhile, households with heads aged 25-45 and above 65 years old have relatively higher dependency ratios. Those in the 25-45 age group are mainly families with young children, while those above 65 age group are those living with married children or relatives with young children. It is also worth noting that the total dependency ratio is decreasing over the years from 84 in 1980 to 57 dependents for every 100 working-age members in 2020. Lower dependency ratio suggests more household members can participate in the labor force and that there is lower expenditure on schooling and on children thus increasing the proportion of income for housing expenditure.



Figure 23. Dependency Ratio by Headship Age, Private Households

Note: Dependency ratio: Total number of children (0-14 years old) and older persons (65 years old and above) over the number of the working-age population (15-64 years old). The results are interpreted as number of dependents per 100 working-age member.

*1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

Source: Authors' illustration of data from PSA (CPH, various years)

In terms of urban and rural areas, total dependency ratio is decreasing in both areas over the years (Figure 22). However, rural areas have a generally higher dependency ratio compared to urban areas especially NCR. This is consistent with the distribution of population below 15 years of age which is shown to be higher in rural than urban areas. Moreover, the migration of working age population to urban areas imply that the population less than 15 years of age are left in rural areas while working members work in urban areas. This has important implications on housing as the mobility pattern of working members of households impacts on choice of tenure and housing location.



Figure 24. Dependency Ratio by Headship Age (Urban, Rural, & NCR), Private Households

Note: Dependency ratio: Total number of children (0-14 years old) and older persons (65 years old and above) over the number of the working-age population (15-64 years old). The results are interpreted as number of dependents per 100 working-age members.

*1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

* 2000: No urban/rural classification in dataset

Source: Authors' illustration of data from PSA (CPH, various years)

For the dependency ratio by household type, the nuclear households generally have the highest dependency ratio, except in 2020 wherein the extended household had the highest dependency ratio at 71 dependents for every 100 working-age members (Figure 23). However, this is also decreasing over the years. As expected, the non-related households have the lowest dependency ratios since these households comprise mostly of members that are of working-age.



Figure 25. Dependency Ratio by Household Type, Private Households

Note: Dependency ratio: Total number of children (0-14 years old) and older persons (65 years old and above) over the number of the working-age population (15-64 years old). The results are interpreted as number of dependents per 100 working-age members.

*1980: Weights only inflate sample households to around 25% of the total households in the Philippines; Observations with non-unique household IDs had to be dropped in the household dataset to enable merging with population dataset

Source: Authors' illustration of data from PSA (CPH, various years)

The pattern in urban, rural and NCR is generally the same with the national trend whereby nuclear households have the highest dependency ratio except for 2020; the non-related households have the lowest; and that the total dependency ratio is decreasing over the years. Consistent with the discussion on the dependency ratio by age of head, the dependency ratio in rural areas is relatively higher than the national results, while the dependency ratio in NCR is again lower than the national and urban results.

5. Housing Tenure and Habitability Patterns¹⁰

With the diverse household structure arising from demographics trends and fundamental changes in society, how have the changes been reflected in the living conditions of households?

5.1 Housing Tenure of Population

Figure 24 shows that the bulk of population live in owned/amortized housing units and this proportion has increased overtime except for the period 2010 and 2020. In 1980, 44% of the population reside in their owned/amortized housing units. By 2010, the proportion increased to 63 percent but in 2020 we note a slowdown in the rate of ownership among population, which could have been brought about by the COVID 19 global pandemic that resulted in closure of businesses, retrenchments and uncertainties of economic recovery (Annex 1). The slowdown in owner/amortizing owner status has been primarily absorbed by rent-free arrangements with consent, implying postponement in decisions to move out of current homes.

¹⁰ Housing tenure:

*1980: Assumed the following: tenant/lessee and subtenant/sublessee with non-applicable tenure of lot is under rent unit and lot; rent-free unit is under rent-free unit and lot with consent of owner; other legal tenure for lot means rent-free lot with consent of owner.

* 1990: Assumed the following: rented unit and missing value for lot tenure is under rent unit and lot; rent-free unit with consent of owner is also rent-free lot with consent of owner; rent-free unit without owner's consent is also rent-free lot without owner's consent.

* 2000: Assumed the following: own/amortize unit with non-reported lot tenure is under own/amortize unit and lot; rented unit and missing value for lot tenure is under rent unit and lot; rent-free unit with owner's consent and missing value for lot tenure is under rent-free unit and lot with owner's consent; rent-free unit without owner's consent and missing value for lot tenure is under rent-free unit and lot with owner's consent; rent-free unit without owner's consent and missing value for lot tenure is under rent-free unit and lot without owner's consent; non-reported tenure for unit and lot are under unknown tenure.

* 2010: Assumed the following: non-applicable tenure and lot for boat, culvert, cart, etc. is under unknown tenure; non-reported tenure and lot is under unknown tenure.



Figure 26. Distribution of Housing Tenure (%) of the Population, Private households

Source: Authors' illustration of data from PSA (CPH, various years)

Rural areas have higher proportion of population that own or amortize unit and lot compared to urban areas (Figure 25). In rural areas, the percentage of population in this tenure type is about 60 percent in 2020 rising from 46 percent in 1990. For urban areas the proportion is at 56 percent and 45 percent for NCR in 2020. The proportion has been rising from1990 level, but majority of population still have difficult attaining homeownership especially for those residing in highly urbanize city such as NCR. For those unable to own or amortize housing in the city, about one-third of the population rent; 16 percent stay in rent-free dwellings or do not move out from parents while the rest are living under unacceptable or illegal housing arrangement.



Figure 27. Distribution of Housing Tenure (%) of the Population (Urban, Rural, NCR), Private Households

Notes: * 2010: data for urban and rural areas are only based on tenure of lot because non sample dataset lacks tenure of unit data

Source: Authors' illustration of data from PSA (CPH, various years)

In terms of household types, many nuclear households have owned or amortized their units and lots, taking up 60.30% of the total in 2010 (Figure 26). When the proportion decreases, there is a considerable increase in those that own/rent-free unit and rent/rent-free lot with owner's consent (48.73% to 36.82% from 1990 to 2000; and 25.93% to 30.91% from 2010 to 2020).

But out of all the household types, that of multiple families has the highest proportion of households that own or amortize unit and lot. In 2010, 72.17% of multiple family-households had this type of tenure. This seems to be consistent with the observation that larger household with more adult members have economies of scale that enables higher disposable income for housing. Extended/multiple households have also become the strategy to rising cost of living.

Compared with other household types, households whose members are not related have the least proportion of those who own or amortize unit and lot. The percentage ranged from only 29% to 39%. On the other hand, this household type had the highest proportion of those who rent unit and lot at around 40%.



Figure 28. Housing Tenure by Household Type (%), Private Households



Source: Authors' illustration of data from PSA (CPH, various years)

Classifying by age group shows that homeownership increases with headship age. (Figure 27). Household of headship above 65 are likely to have their own homes after retirement. The age of ownership starts early for about a 30-40% of households and increases to about 50 to 70% between and age of 45 and 65. There are still a significant proportion (about 1/3 of households) that are either renting or in some kind of informal arrangement. This suggest that the attainability of homeownership for most population is at an older age.



Figure 29. Housing Tenure by Headship Age (%), Private Households

Notes: * 2000: There are households with more than 1 household head; Households with 2 household heads were categorized under extended (multiple families)

Source: Authors' illustration of data from PSA (CPH, various years)

Generally, households in rural areas have greater proportion that own or amortize unit and lots across all age groups especially when compared with NCR (Figure 28). Additionally, the difference in the proportions among headship age groups is greater in urban areas. For all areas, there has been a decline in the proportion of households with ownership or amortizing tenure. The COVID 19 pandemic could have contributed to the decline especially among amortizing owners who may have been affected by closure of business during this period. Among workers, the OFWs were among those severely affected.



Figure 30. Household Homeownership by Headship Age, Urban and Rural areas (%), Private Households

Notes: * 2000: No urban/rural classification in dataset

*2010: No tenure of unit data in nonsample dataset

Source: Authors' illustration of data from PSA (CPH, various years)

5.2 Housing Habitability and Space Sufficiency

To assess the suitability of living conditions of households, the habitability and space sufficiency of housing units were determined based on the identified attributes of the housing unit. For habitability this was based on the construction materials used for the roof and outer walls, as well as the state of repair. Units that are considered as uninhabitable include those whose roof/wall are made up of makeshift/salvaged/improvised materials, without walls at all, need major repair, and dilapidated/condemned. For space sufficiency, this is based on an acceptable standard of space allotted per person within a housing unit or dwelling space. For the Philippines, the standard used is 6 square meter per person based on the Philippine National Building Code.

Based on the data, majority of private households are in habitable units. From 1990 to 2020, the proportion of these households have increased from 74.08% to 86.79% (Figure 29). These improvements could be partly the effect of better building technology and availability of choices of construction materials in the market. The rising trend in habitability is observed in both rural and urban areas (Figure 30). The proportion of households in habitable housing is higher in urban than rural areas and the gap is noted to be rising indicating that housing improvements in rural areas are at a slow pace, which could be the effect of migration to urban areas of the economically active population and the rise of elderly population in rural areas.



Figure 31. Housing Habitability among Households (%), Private Households

Source: Authors' illustration of data from PSA (CPH, various years)



Figure 32. Households in Habitable Units, Urban and Rural (%), Private Households

Source: Authors' illustration of data from PSA (CPH, various years)

Among household types, nonrelated households have the highest proportion that reside in habitable housing possibly because these households are mainly renters in the formal market. In 2020, the proportion is at 97.9 percent compared to less than 90 percent for extended and multiple families; 86 and 85 percent for nuclear and alone households, respectively (Figure 31). The proportion for each household type is rising from 1990 to 2020. For nuclear households, the proportion increased from 73.44% in 1990 to 86.36% in 2020. For multiple families, it increased from 76.66% to 89.24%.

Figure 33. Households in Habitable units by Household type (%), Private Households





Source: Authors' illustration of data from PSA (CPH, various years)

In terms of headship age, the proportion of households with habitable units is rising for all age group from 1990 to 2020 (Figure 32). The rate of increase is highest among headship aged 25 to 45 years and those aged 46 to 65. Overall, habitability is rising from 1990 to 2020 as headship age increases but lower rate of increase for headship over 65 years old. This finding is consistent with the hypothesis that housing demand increases with age to about 40-45 years of age then grows more slowly as age progresses (Mankiw and Weil 1989).



Figure 34. Households in Habitable units by Headship Age (%), Private Households



Source: Authors' illustration of data from PSA (CPH, various years)

The mean dwelling size of households has become bigger for most household type (Table 6). Extended and multiple family households have bigger dwelling units on average compared to those living alone and the nuclear households but space sufficiency of dwelling units would differ based on the size of households. For instance, while mean dwelling size is bigger for multiple families by 19 square meters than alone households in 2020; there are 5 more household members in the unit.

Table 4.	Mean dwelling size and household size by household type (sqm and number of
	persons, respectively), Private Households

	1990		2000		2010		2020	
НН Туре	Mean dwellin g size (sqm)	Mean househol d size						
Alone	32	1	30	1	37	1	43	1
Nuclear	33	5	32	5	39	4	47	4

extended one family	43	5	40	5	47	5	51	5
extended multiple families	47	7	45	7	54	7	62	6
Non- related	62	3	53	3	59	3	57	3

Note: * Since dwelling size in dataset was categorized by PSA in terms of ranges, the average of each range was used to estimate the actual dwelling size (those above 200 sqm were simply assigned the estimated actual dwelling size of 200).

* There are unknown dwelling sizes

* 2000: There are households with more than 1 household head

Source: Authors' illustration of data from PSA (CPH, various years)

Overall, over 60 percent of households have sufficient dwelling space in 2020 (Figure 33). Sufficiency of space increased from 53.63% in 2010 to 66.28% in 2020. While space sufficiency has improved about two-fifths of "family" type households still live in congested spaces.

There is a difference between households in urban and rural areas. In 1990, 61.33% of households in urban areas and 46.92% of those in rural areas had sufficient space. In 2020, this increased to 71.44% of households in urban areas and 59.94% of those in rural areas. For NCR, the proportion of households with sufficient dwelling unit is higher than rural areas but lower by about 3 percentage point than average urban areas, which implies constrained dwelling space in NCR compared to other urban places.

Figure 35. Space Sufficiency for Households, Urban, Rural, NCR (%), Private Households



Source: Authors' illustration of data from PSA (CPH, various years)

Space sufficiency for all household types have improved significantly since 1980 (Figure 34). The bulk or 92 percent of Alone household have sufficient space in 2020, the highest among the different household type. This is followed by households with nonrelated members (83.09% in 2020); extended (64.41% in 2020), and nuclear (63.51% in 2020). The household type with the least proportion of households with sufficient space is that of multiple families, 61.73% in 2020 but still a significant improvement from 2010 levels of only 48.33%. These results show that access for larger sized dwelling is a constrain for big sized households. This can be attributed to the high cost of housing in the market. Based on average income, a typical Filipino family can only afford housing at a cost of P 3.0 to 4.0 Million, which is the typical cost of small-sized dwelling of 22-24 sqm in secondary cities (Ballesteros, Ramos, Ancheta 2024). In first class cities, the cost of small sized dwelling would be around P7M to P12M.



Figure 36. Sufficiency of Space by Household type (%), Private Households

Source: Authors' illustration of data from PSA (CPH, various years)

By headship age, Table 7 show that in each headship age group, those in urban areas generally have higher proportion of households having sufficient dwelling space than those in rural areas. The proportion of households living in dwelling units with sufficient space has also increased for all headship age from 2010 to 2020 in both rural and urban areas. Interestingly, households with elderly householders have the highest proportion among the age group that live in dwelling units with sufficient space. It appears that most elderly householders are living on their own or with only few members and that with ageing of society, the empty nest syndrome is also rising.

	Urban				Rural			
Year	Below 25	25 to 45	46 to 65	Above 65	Below 25	25 to 45	46 to 65	Above 65
2010	60.05	57.90	63.55	73.63	42.92	40.81	49.10	64.23
2020	68.67	68.14	73.50	81.35	53.79	53.27	62.51	75.36

Table 5. Households in Sufficient space by Headship Age, Urban, Rural, PrivateHouseholds (in percent)

Source: Authors' illustration of data from PSA (CPH, various years)

Classifying by householder sex show that female-headed households in urban areas have higher proportion in terms of space sufficiency than those in rural areas (Table 8). Similar findings appear for male-headed households in urban and rural areas. The table also shows that there is a higher proportion of female-headed households that have sufficient space compared to their male counterparts.

6. Demographic Change and Housing Demand

This section provides estimates how demographic changes and attributes relate to the quantity of housing demand.

6.1 Age Structure of Population and Housing Demand

In the estimation of housing demand by age, we used a similar model by Mankiw and Neil 1989 that construct an aggregate demand for housing based only on the age composition of the population. While housing demand is a function of several household attributes, the model is

not intended to measure the true coefficient of age in a multiple regression but to assess how changes in the age structure of population changes housing demand.¹¹

The demand equation is expressed as an additive function of the demand for housing of its members (Equation 1). The demand for housing of each individual is a function of age and each age have its own demand parameter represented by a dummy variable (Equation 2).

$$D = \sum_{j=1}^{N} D_j,\tag{1}$$

$$D_j = \alpha_0 DUMMY 0_j + \alpha_1 DUMMY 1_j + \dots + \alpha_{99} DUMMY 99_j,$$
(2)

The demand variable is represented by rental values or imputed rents of a sample of households who are owners or amortizing owners or are renting housing units in the formal market. Households with missing values on rent or imputed rent were dropped from the list. Housing values were deflated using GDP deflator base 2018 for comparability across years.

The result of the estimation shows that for owners or amortizing owners, the aggregate demand for homeownership is rising for all ages but slows down after the age of 55 (Figure 35). The age cohort where we find a sharp rise in the quantity of housing demand is between the ages of 30 and 53. The results are consistent with the earlier observation of higher rate of ownership, habitability and space sufficiency among older age cohort. In the US, the sharp jump in housing demand is observed between the ages 20 to 30 and declines thereafter (Mankiw and Neil 1989). The longer time lag for the Philippines suggests that homeownership among households becomes attainable at an older age compared to those in developed countries. This further implies that an increase in number of births will not have an immediate effect on the demand for homeownership but would take about 30 years thereafter to realize a significant effect and that this demand builds up as the population reach the age of over 50.

Considering the demand for rental housing, we note that the slope is relatively flat for all age group, indicating that the quantity of rental housing demand is not affected by the age structure of the population (Figure 36). Rental arrangement is not considered as a long-term housing option, which could be due to the undeveloped rental housing market in the country.

¹¹ Hendershott (1987) argued that such models are used to forecast demand.



Figure 37. Estimated Demand for Homeownership by Age, 2003, 2015, 2020

Notes: Imputed rental values of owners; values deflated base year = 2018; Ages below 21 and above 85 were not included in the figure since some years have missing values and observations in some years were too few, which led to outliers distorting the graph

Source: Authors' estimate. Data from PSA (FIES, various years)



Figure 38. Estimated Demand for Rental Housing by Age, 1990 & 2020

Notes: Rental values deflated using base year 2018

Source: Authors' estimate. Data from PSA (CPH, various years)

6.2 Demographic Attributes and Housing Demand

A key effect of demographic changes is a change in the structure and composition of households. We observed a decline in household size and dependency ratio and the rise of seniors among the householders. We examined how these household attributes affects the quantity of housing demand measured in terms of habitability or the fitness of dwelling unit.

Table 8 shows the results of the estimation. We note that demographic attributes that are wealth enhancing such as college education, lower dependency ratio and the presence of seniors or the elderly have positive impact on habitability. On the other hand, household size has a negative effect on habitability as a higher number of household members would suggest a higher share of household income spent on food and other non-housing expenses.

The results also show the negative effects of housing prices and urbanity on the quantity of housing demand. These two opposing forces, income and prices, will influence the quality of housing and more importantly the rate of new household formation and the types of households that will emerge in the future. The cointegration of demography, housing market and wealth suggests important issues for housing policy that is beyond the owner/renter dichotomy.

Table 6. Effects of demographic attributes on habitability of dwelling unit

- Iteration 0: Log likelihood = -8654238.9
- Iteration 1: Log likelihood = -7871927.5
- Iteration 2: Log likelihood = -7789240.7
- Iteration 3: Log likelihood = -7788995.6
- Iteration 4: Log likelihood = -7788995.6

Logistic regression

Number of obs = 4,630,001 LR chi2(18) = 1730486.59 Prob > chi2 = 0.0000

0.1000

Pseudo R2 =

Log likelihood = -7788995.6

habitable	Coefficient	Std. err.	Z	P>z	[95% conf. interval]	
hsize	-0.0391588	0.0003552	-110.24	0	-0.039855	-0.0384625
seniors	0.0065773	0.0015215	4.32	0	0.0035952	0.0095593
wealth_c	0.7552729	0.0008384	900.8	0	0.7536296	0.7569162

<u>educ</u>						
Post-grad	0.0034632	0.0152333	0.23	0.82	-0.0263936	0.03332
College grad	0.0550495	0.0050787	10.84	0	0.0450955	0.0650035
HS	-0.0705129	0.0047865	-14.73	0	-0.0798943	-0.0611316
Elem	-0.0619047	0.0047227	-13.11	0	-0.071161	-0.0526484
Vocational	-0.0037973	0.0061277	-0.62	0.535	-0.0158074	0.0082127
dep_proportion	-0.0006808	0.0000309	-22.03	0	-0.0007413	-0.0006202
emp_proportion	0.0000426	0.0000291	1.46	0.143	-0.0000144	0.0000995
<u>sexmem</u>						
female	-0.0329622	0.0016512	-19.96	0	-0.0361986	-0.0297259
<u>ntenurunitlot</u>						
rent UL	0.2083749	0.0027801	74.95	0	0.202926	0.2138238
ownrentfree U, rentrentfree L consent	-0.3173835	0.0014338	-221.36	0	-0.3201937	-0.3145733
ownrentfree U, rentfree L no consent	-0.5828885	0.0037177	-156.79	0	-0.5901752	-0.5756019
res_price	-1.43E-08	6.08E-10	-23.51	0	-1.55E-08	-1.31E-08
<u>nquadrant</u>						
2	-0.0342215	0.002233	-15.33	0	-0.0385981	-0.0298448
3	-0.0192554	0.0017163	-11.22	0	-0.0226193	-0.0158914
4	-0.0110843	0.0020063	-5.52	0	-0.0150166	-0.007152
_cons	1.282663	0.0054025	237.42	0	1.272074	1.293251

Notes: The base for educ is Preschool/Kinder/No grade completed; The base for sexmem is male; The base for tenureunitlot is own/amortized unit.

Source: Authors' estimate. Data from PSA (CPH 2020)

7. Conclusions and Policy Recommendations

The Philippines is still in the early stages of demographic transition but changes in age and household structure is discernible. The rate of new household formation decelerated as young adults within the 24 to 34 age group are staying longer with parents, are marrying later or not at all. Dependency ratio is on the decline because of lower fertility rate while adult-kid ratio increase with longer lifespan especially of women.

Households are also of smaller size but the decline in average household size is not as sharp as the decline in fertility rate. A considerable proportion of the population reside in households of size 6 and above. Moreover, while the share of alone or single households is rising, the proportion of extended and multiple family households are increasing even more. This phenomenon of larger household size and increase in extended and multifamily households amid lower fertility and population growth rates, has also been observed in developed economics, whereby economic conditions such as rising cost of living and housing prices, economic recession, etc., are causing a rise in shared housing, extended and multigenerational households. The situation could be more notable in the Philippines given high poverty rates and a sizeable proportion of low-income families. The mismatch between housing affordability and housing prices is reflected in the huge backlog that has remained unresolved for decades and the low housing attainability index in the country. But more importantly, the difficulty to access housing also implies a slowdown in the rate of new household formation. Children, relatives staying longer in parental homes can lead to congestion as larger sized homes are even more difficult to attain in the market.

The difference in household size between rural and urban areas has narrowed. A significant proportion of population even in rural areas reside in bigger sized households despite migration to urban areas. The trend is a shift from earlier decades (1970s) where urban areas have significantly bigger household size due to rural-urban migration. The recent trend can result in a social problem especially if working family members are unable to bring their dependents to places of work due to constraint in housing.

The housing conditions of different household types in the country show that while family type households (i.e. nuclear, extended/multifamily) reside in owned or amortized housing, space sufficiency among these household types is considerably lower than those living alone or are nonrelated. Access to larger sized dwelling is a constrain for family type households especially in urban areas and this problem is observed in both ownership and rental housing market.

Indeed, there is a high demand for homeownership housing and better housing conditions for the population. The demand is positively correlated with age, which implies that aggregate demand for housing surges as the population reaches the age of adulthood. This also means that a simple increase in population does not correspond to an increase in demand for homeownership. Instead, the demand for homeownership is affected by household formation and changes in household structure, which are affected by housing market conditions. Age is an important predictor of quantity of housing demand as this is closely correlated with factors that would affect household formation and structure such as education, income, tenure status, fertility, even work status. The cointegration of demography, wealth and housing market have important often unrecognized implications for housing policy.

First, population growth does not equal to demand for homeownership. Housing need projections based on simple population growth and treats household formation as exogenous can be misleading. Understanding whether the housing need is quantitative or qualitative using historical context of household formation and structure is critical as qualitative deficit requires a different intervention from that of adding new housing stock.

Second, differences in the age structure of population imply wide variation in housing needs across cities and localities. It would be prudent for government to focus on multiple paths to housing and to not apply same interventions for all areas.

Third, the connection between demographic trends and housing also shows a need to reframe the response to housing demand. The low dependency ratio is an opportunity to meet the housing needs of a pool of the working-age population. This is a boon to development but at the same time creates pressure on housing prices if the only response is to build more housing units for ownership. It is important to have a policy framework that will balance productive environment and housing consumption. For instance, giving incentives to SME employers for workers housing support.

Fourth, ageing and the rising life expectancy has a direct impact on housing demand not only within the population group itself but also the housing choices of different age group. For the elderly cohort, housing need is beyond the owner/renter dichotomy.

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9. Annex



Annex 1. Number and Growth Rate of Private Households

Source: Authors' illustration of data from PSA (CPH, various years)



Annex 2. Number and Growth Rate of Private Households (in Rural, Urban, & NCR)



Source: Authors' illustration of data from PSA (CPH, various years)