

# SELECTED DEMOGRAPHIC ASPECTS OF BUYERS' ACTIVITY ON THE LOCAL HOUSING MARKET

**Iwona Foryś, assoc. prof., PhD.**

*Faculty of Economics and Management*

*University of Szczecin*

*e-mail: forys@wneiz.pl*

## Abstract

Demographic factors next to economic, political and legal ones, are important elements determining the development of the housing market. The analysis of the age structure of the population and of the dynamics of change shows that the population of baby boomers in the age group that is actively entering the labor market and becoming independent is a stimulant for the development of the housing market. Individuals who are gaining economic independence generate new needs and, with appropriate financial resources, also future demand for their own accommodation.

Deliberations regarding the housing market benefit noticeably from the analysis of home buyers' age structure, especially in the context of the family life cycle. This issue became the focus of our study, which aims to determine the age of apartment buyers on the local market during an economic downturn and state interventionism in the form of preferential mortgages.

The analysis makes use of information from notarial acts (including the personal identity number PESEL - the year of birth of the purchaser) and statistical tools. The results of the study may support the decisions and direction of state aid aimed at meeting housing needs.

---

**Keywords:** *family life cycle, housing needs, housing market.*

**JEL Classification:** O18.

**Citation:** Foryś I., 2014, *Selected demographic aspects of the activity of purchasers on the local housing market*, Real Estate Management and Valuation, vol. 22, no. 4, pp. 92-104.

**DOI:** 10.2478/remav-2014-0040

---

## 1. Introduction

Housing needs are closely related to the life cycle of each individual, their family and professional status, and individual expectations. Although needs are limitless, people define their individual needs and expectations regarding housing in subsequent phases of their lives, verifying them with the financial resources they possess.

Housing needs are declared by single- or multi-person households, with the latter comprising mainly families. The emergences of families, i.e. marriages, cause movement on the housing market. Apart from the desire of newlyweds to live in their own apartment, the structure of their parents' households also changes, thus affecting their living conditions. In addition to housing fulfilling the basic need for shelter, it serves as an environment for a variety of social functions undertaken by families or households - including procreation; hence, the demand of families on the housing market is also a measure of the mentioned social changes, including changes in mentality and lifestyle (FORYŚ 2011).

The continuous decrease in the urban- and growth in the rural population is shifting housing needs from urbanized to non-urbanized areas, and confirms the phenomenon of suburbanization (KEOGH, D'ARCY, 1994). The Polish housing market is still in the phase of suburbanization, i.e. seeking cheaper locations at the expense of distance and commuting time. Such an approach to the location of a dwelling is assumed by the theory of W. Alonso, proclaiming a relationship between the workplace,

the need for services in the city center, commuting cost and thus, lowered willingness to pay higher rents or higher prices for land zoned for residential housing (ALONSO 1964, THRALL 1987). Research conducted in Potsdam in 1999 indicated that the city center is inhabited mainly by persons deriving income from social welfare, the next ring around the city center is formed by households of economically active people, whereas the outer ring is formed by households of retirees (SCHOLER, WAGNER 2004). In Polish cities, this arrangement is not as distinct, but rather bilayer: the city center and the peripheral urban areas (the old residential neighborhoods) are occupied by households with a lower financial status, while new housing within the city and in neighboring gminas (communes) - by those with a higher financial status. The last group does not apply to multifamily housing, in which the predominant group of inhabitants is young people, usually at the age of around 35.

A characteristic feature of advanced housing markets, apart from the ownership of resources, are the quality and standard of housing (FORYŚ, 2009). In each country, there are regulations on the technical and environmental conditions that are to be met by residential buildings, generally accepted standards in terms of surface area and quality norms. They are the result of years of research, which was published for the first time in the post-war Europe in 1957 in the form of the so-called Cologne Card, specifying the minimum standard for family accommodation, and later in 1991 by the ECE Committee on Housing, Building and Planning. The Economic Committee of the United Nations is also involved in the subject of the standards of individual apartments. According to their guidelines, the minimum area of an apartment for a family of three should equal 51.5 m<sup>2</sup> and consist of three rooms, including two bedrooms, a kitchen and a bathroom (LITTERER- MARWEGE 1959).

Against the background of the indicated determinants that, inter alia, significantly influence the processes taking place on the Polish housing market (FORYŚ 2011), questions arise regarding the buyers' age groups and reasons motivating them to buy an apartment at a certain stage of their lives and select a specific location or standard. The present study refers to a number of demographic factors such as gender, age and household structure when analyzing the buyers of apartments in multi-family housing in one of the geodesic precincts of the gmina (commune) of Dobra located within the Szczecin agglomeration. The aim of the study is to determine a typical age group of purchasers on the local housing market and the surface area of purchased apartments. The study applies methods of descriptive statistics, particularly methods of studying the structure of phenomena.

## 2. Demand and housing needs

### 2.1. Housing needs and family life cycle

An apartment that meets the basic needs of its users should be adapted to them in terms of size, quality and functional arrangement. Hence the diversity of declared housing needs depends both on objective factors, such as the structure of a household and the dynamics of its change, financial resources (measured by household income, savings or the ability to pay rent, creditworthiness), as well as on subjective ones. For this reason, the intensity of housing needs declared by the population ought to also be perceived by taking into consideration sociological factors that influence the individual decisions of entities on the housing market. Many researchers have shown the impact of poor living conditions on the formation of social attitudes of the younger generation (HOFFMAN 1998). Drawing attention to the role of housing in the course of the population's reproduction, it is considered in social categories - that is the necessary living conditions for every individual (ANDRZEJEWSKI 1987).

Nowadays, it is more and more common not to use the term "family" when talking about housing, replacing it with that of a (family or non-family) "household". It is assumed that, due to economic reasons, the needs on this market are generated by households. At the same time, however, the role of housing in social life should be emphasized, which narrows down to housing being perceived as a prerequisite for establishing and expanding a family at its every stage.

A contemporary family can be monoparental (single father or mother with children), nuclear (parents and their unmarried children), or reconstructed (at least one partner has children from a previous relationship). The form of the family and its size varies in time, and the traditional model of a family often changes, taking on the form of cohabitation or the aforementioned reconstructed family as a result of couples postponing entering into marriage and the growing amount of divorces and separations. Each of these changes affects housing needs, which change not only over time but also in

space due to the unequal distribution of family transformation processes in different regions of the country and the world.

Literature on the topic identifies three criteria of human life cycle periodization: the biological age of the individual (so called age segregation), career stages and family life phases (WORACH-KARDAS 1988). Along with the development of an individual and assuming various roles in life occurs a change in their needs, capabilities and preferences regarding housing. The mentioned periodization of the life cycle has roots in different disciplines: demographics (calendar age), sociology (a set of specific social roles) and economics (economic activity, etc.). The achievements of these disciplines provide us with different divisions of the life cycle, starting from ancient Chinese (seven phases of life) and Pythagoras (four stages of life), to contemporary proposals of Ch. Gordon who noticed the diversity of social roles at retirement age and proposed a more detailed division (JACKSON et al. 1971). Basing his research on the urban population, he created a model consisting of eleven stages of human development, among which it is important to distinguish in the retirement age phase I - retirement, from retirement to the time of developing a disease causing infirmity, and phase II - infirmity, the period of serious indisposition in the functioning of the body until death, especially in the context of independent living.

On the basis of psychology, the development of attitudes and values in the period of youth has been emphasized, and it has been noted that the successive generations are characterized by a unique approach to the world around them and a set of values that is maintained throughout the course of life of members of the given generation (WORACH-KARDAS 1988). Also, the attitudes and expectations regarding housing held by a particular generation are different from those of previous ones. Numerous sociological studies led to the distinction of events and stepping stones that are significant to changes in the professional and family life of an individual (KOHLI 1978). In view of professional life as a turning point for an individual, the undertaking of economic activity - the first job - should be highlighted. This phase of life also means striving to achieve independence in the form of possessing a dwelling, although the income achieved from the first job usually does not enable its purchase in a short time. Renting an apartment or continuing to live with one's parents is the main form of meeting housing needs for the age group of 24-30-year-olds (FORYS 2011). Assuming another job and the improvement of financial conditions, or changing the place of work, are premises to improve housing conditions, and vice versa - the deterioration of financial conditions and an unstable professional situation often result in a lack of actions to improve existing housing conditions. The cessation of professional activity usually means the deterioration of material status, which consequently may extort changes in the standard of living. The second direction of considerations on and attempts to identify turning points influencing the behavior of individuals, families and households on the housing market is linked to the family life cycle, e.g. Holzer's six-phase model of the family life cycle presented in Table 1.

**Table 1**

The basic model of the family life cycle for a nuclear family

Phase of the family life cycle	Characterizing events:	
	Beginning of the phase	End of the phase
Formation	Entering into marriage	Birth of the first child
Extension	Birth of the first child	Birth of the last child
Completion of formation	Birth of the last child	First child leaves home
Reduction	First child leaves home	Last child leaves home
Completion of reduction	Last child leaves home	Death of the first spouse
Vanishing	Death of the first spouse	Death of the second spouse

Source: (HOLZER 2002).

In many cultures, entering into marriage means stabilization, which is invariably linked with owning an apartment and creating a family home. The need to create one's own nest increases with the birth of the first child, especially if housing conditions do not make it possible to set apart a room for the child or provide adequate sanitary conditions. The appearance of new children creates a requirement for additional space, which can encourage families to improve housing conditions; therefore, a higher birthrate contributes to the generation of greater housing needs. In addition, the increasing role of the house as a place of social gatherings and family meetings is shaping its image

and structure. With age, neighboring space and the dwelling itself becomes more and more appreciated, in contrast to public space. A change in the mentality of society in this regard requires generational changes. It can be assumed that the subsequent phases lead to the opposite trend in increasing the living space, along with a decrease in the number of people inhabiting this space.

The natural direction, however, should be to strive for improving the standard of living and seek conveniences which, along with the weakening of the potential of life and with age, will become the most important attribute of residing in a given place. A family life cycle also includes the activity of the elderly within multi-generational families. The social functions of people at retirement age often focus on household chores, including maintaining family ties. Among the mutual services, in addition to material aid and care, is also providing access one's home. The dependence of the elderly on children increases with widowhood, and the higher life expectancy of women than men means that it is the women who remain in close relationships with children and grandchildren.

The connection of important events in the family life cycle to housing needs is presented in Table 2 below.

Table 2

## The family life cycle and housing needs

Phase of the family life cycle	Characterizing events	
	<i>Event</i>	<i>Housing needs</i>
Premarital period	Shared household	First independent apartment, usually rented, limited financial resources
Young marriage	Marriage, birth of the first child	Stabilization of housing conditions, improvement of existing conditions, improvement of family's economic situation
Stabilization of the family	Puberty of the first child, optionally the birth of another child	Improvement of housing conditions, exchange of the apartment for a larger one or a house, attaining high income
Reduction of the family	First child leaves home	Maintaining existing housing conditions, stabilization of income
Parents living alone	First grandchild	Tendency to reduce the surface area of the dwelling, focus on conveniences, satisfactory economic conditions, financial aid for children
Pre-retirement	Gradual reduction in professional activity	Seeking an optimal dwelling for future financial conditions and physical abilities, noticeable deterioration of economic situation
Retirement	Termination of professional activity, death of a spouse	Adapting housing conditions to economic abilities and the state of health, limited financial capacity, financial aid from children or the government

Source: (FORYS 2011).

Each stage of family life next to the objective needs resulting from demographic growth, is characterized by a different level and pace of income change, which affect the economic capacity to obtain and maintain a dwelling. The apartment also meets the individual needs of each household member. Human needs, which are the foundation of the management process theory in terms of neoclassical economics, are limitless in terms of their diversity, which also suggests that they cannot ever be fully satisfied. Housing needs change over time, and the change of expectations applies to the technical parameters of the dwelling (surface area, number of rooms, the functional floor plan) and to needs higher up in the hierarchy (standard, better location, change of preferences).

Another characteristic feature of housing needs is the weakening intensity in which they are felt as they are being satisfied. In the discussed case, one can notice the periodicity of human behavior in the

context of the weakening intensity of feeling these needs.

This stems partly from the fact that people are used to their own nest and from an unwillingness to change. On the other hand, satisfying minimum housing needs which enable a satisfactory existence leads to higher-order needs and those, consequently, can re-awake housing needs at a higher level.

The family model, its size and cherished values are reflected in the attitude of household members towards living together and striving for change. Changes in views and habits, and opening up to new ideas are premises indicating the readiness to assume new challenges, change the place of residence, improve housing conditions, or strive for new architectural solutions or modern means of financing the purchase of a dwelling.

Finally, the potential of social changes lies in the young generation and the potential regarding changes in housing - in newly established families and young people who are gaining independence and forming separate households. However, for many households the limited availability of funds creates a requirement for decisive state intervention as part of the housing policy.

## 2.2. Demographic determinants of demand on the housing market

The demand for housing is strongly associated with demographic factors. Tracking the state and structure of the population, as well as natural movements and migration, can constitute an important part of the process of creating the conditions for the proper functioning and development of every city. It is hard to imagine making fundamental decisions regarding the urban layout, transport system, preventing structural unemployment and the efficient use of existing technical and communal infrastructure, without being aware of the main trends in the state and structure of the population. The age structure of the population also determines the level of demand for residential services. The estimated number of people at working age determines the regularities occurring on the labor market and consequently, also the declared housing needs. The proportion of elderly people, on the other hand, defines the minimum level of social care which should be guaranteed to the society, and in relation to the housing market, the demand for housing adjusted to the aging population.

The analysis of economic burden factors, suggesting a strong downward trend in the share of young people compared to the working age population along with an increasing elderly population, as well as of the indicators of population structure indicate a decreasing number of births as well as the aging of the population. The aging process of the population in general is closely related to the aging of the working age population. This means that the share of the population at immobile age, constituted by people from the post-war baby boom period, is rising. For the perspective of the housing market, this signifies a decrease in the demand for housing.

The changes that occur in the creation and development of families are a manifestation of demographic transformations. In this case, the changes that we can observe are consistent with the changes taking place in developed countries, manifested by the decrease in marriages, which involves, among others, a decrease in the overall tendency to marry, postponing the decision in time or resignation from married life and the weakening stability of marriages. Among the primarily socio-economic factors influencing the decrease in the tendency to marry one can distinguish: difficult economic conditions of the younger generation, unemployment, low income, a lack of apartments available to young people because of high prices, as well as a lack of incentives and loan preferences for young married couples. It can be assumed that the number of marriages entered into is an important factor influencing the shift in housing needs between households and creating new housing needs.

Changes in the structure of households (with an increasing tendency in the number of single mothers) will have an impact on the future needs and demand for housing. The mechanism of changes in fertility as well as that of family and household transformation leads to very radical changes of these institutions. As a result of fertility changes, entering into and ending marriages, the model of a family and household is changing. Currently families with one child dominate, but the rapid growth in the number of families without children should also be emphasized. A high rate of feminization in the highest age groups in Poland means that a large number of women at retirement age live alone (as single-person households). Whether or not people at retirement age live independently changes most often for economic or health reasons.

Over the recent years, urbanization processes have been weakening. The processes of population movements affect changes in the dynamics of the population and changes in its structure for both urban and rural areas. The diversity of population movements within a country creates the possibility

to identify active areas (population growth), stable ones and those undergoing depopulation. Depopulation processes influence a local oversupply of apartments, high vacancy rates and a number of abandoned households.

To sum up, the low fertility rate of women will undoubtedly have the greatest influence on housing management in the coming years, resulting in reduced housing needs, in particular with regard to the tendency of increasing the size of apartments, as well as a decrease in the number of people in a household. Also, the weakening of the urbanization processes will result in lowered housing needs in the cities, and the aging population will generate the need for small apartments, economical in maintenance but of a high standard.

#### **4. Buyers' activity on the local housing market on the example of a selected region of the Szczecin agglomeration**

##### **4.1. Study of the age structure of apartment buyers**

The activity of purchasers of apartments in multi-family housing was studied on the local market of the Szczecin agglomeration, within the geodesic precinct of Bezzecze in the gmina of Dobra. Since 1990, the gmina has become an attractive area for investments, especially in the expansion of single-family housing realized by wealthy investors at the first stage, and in subsequent years, the intensive development of multi-family housing. As a result, numerous housing estates are being built, bordering with the ones in the city of Szczecin and merging with them in a functional way, but characterized by more attractive price offers and surface areas of apartments than in the center of the city. For first-time apartment buyers, these are the arguments that encourage them to choose Bezzecze. An additional advantage is the proximity of the city center, public transport and the prestige of the discussed location.

For the designated area, the structure of apartment buyers was examined regarding multifamily buildings of low intensity (buildings up four stories high) and built within the last five years. During the analysis of the purchase contracts concluded in Bezzecze in the period from mid-2010 until the end of the third quarter of 2013, complete information on 233 transactions of housing units was obtained and described by the following variables:

- date of concluding the sales contract (dd-mm-yyyy),
- address of the housing unit,
- usable area of the housing unit,
- number of rooms,
- location of apartment in terms of stories,
- legal form of ownership,
- transaction price (zł),
- unit transaction price (zł/m<sup>2</sup>),
- the seller (natural or legal person),
- the buyer (gender, age in years).

The collected data set and their initial analysis (correlation of variables) indicated the direction of further analyses, which focused primarily on people buying apartments who, in every case, proved to be natural persons. The apartments were purchased either by individuals (single) or couples with members of opposite sex. There were no transactions regarding the purchase of an apartment conducted by more than two people, or two persons of the same sex. The information included in notarial acts did not always allow for determining whether the couple purchasing the apartment constituted a family, or if they formed a single household, therefore, such a division was abandoned, assuming only the common economic interest of the undertaken legal action. It was also not possible to determine whether the purchase of an apartment by one person, or two people as joint property, was associated with satisfying housing needs of a multi-family household, a family with many children or a multigenerational one.

In view of the aim of the study and the range of information available, the analysis focuses on the age structure of purchasers by gender and the number of people purchasing apartments, as well as linking them to the surface area of the purchased apartments.

In the analyzed group of apartment buyers in Bezzecze, there was a small predominance of women (about ten more than men). The median age for buyers of both sexes was 34, while the most common among women were those aged 30, and among men - 29. In both cases, the average age of a

buyer was close to 39. The resulting data indicate an asymmetry of the age distribution of buyers, for women it is slightly left sided and conversely for men, slightly right sided. However, the age range of buyers of both sexes is different (a difference of six years) and extensive.

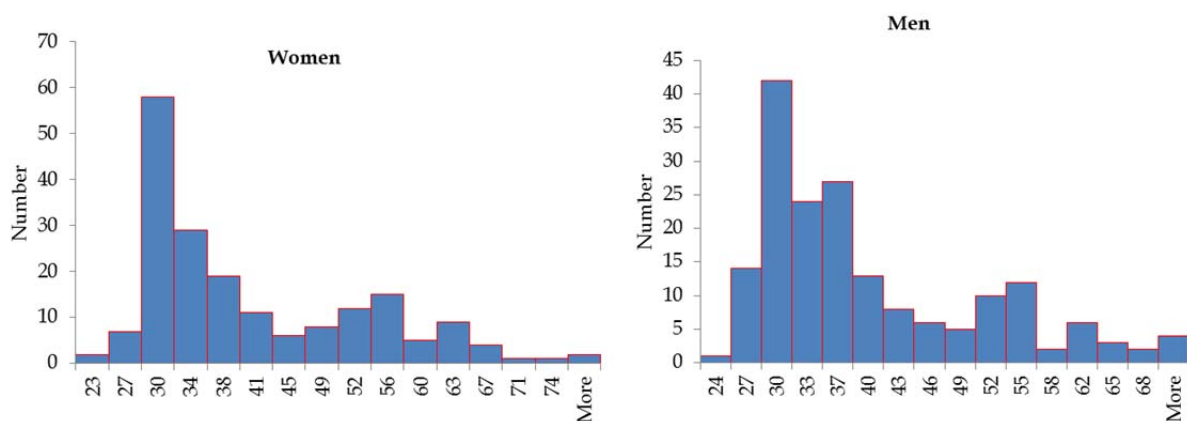
**Table 3**

Descriptive statistics of the age of apartment buyers and the surface area of purchased apartments on the given local market

Descriptive parameters	Women	Men	Surface area of apartment (m <sup>2</sup> )
Average	39.22	38.50	67.7
Standard error	0.92	0.86	1.4
Median	34	34	68.7
Mode	30	29	68.7
Standard deviation	12.6	11.49	20.91
Variance of the sample	158.8	131.98	437.41
Kurtosis	-0.1	0.15	1.01
Skewness	0,9	1.07	0.55
Range	55	47	104.22
Minimum	23	24	28
Maximum	78	71	132.22
Sum	7,412	6,891	15,771.1
N	189	179	233

Source: own elaboration.

On the analyzed market, women aged between 23 and 78 were a party to an apartment sale contract, whereas for men, the ages ranged from 24 to 71. A histogram of age was created for each group of purchasers, shown in Figure 2. In both histograms, there is a similar graphical dominant of the age of apartment buyers (30 years old), and a second dominant of 55-56. This observation and the age limits imposed by the government aid programs for the purchase of the first apartment (35 years) are the reason for the division of the study population into two age groups in the second part of the study: up to 35 years of age and over the age of 35.



**Fig. 2.** Age distribution of apartment buyers on the local market by gender. Source: own elaboration.

The average size of the purchased apartment was 67.7 m<sup>2</sup>, and half of the apartments had a surface area of up to 67.6 m<sup>2</sup>. The smallest sold apartment had the surface area of 28 m<sup>2</sup>, with the largest being over 132 m<sup>2</sup> (Table 3). The correlation between the age of a woman and man buying an apartment is positive and strong (Pearson's correlation coefficient equals 0.81), whereas that between the age of purchasers and the surface area of the purchased apartments is statistically insignificant.

In the next step, the analyzed group of buyers was divided into three subgroups:

- women buying an apartment as a one purchaser (single women),
- men buying an apartment as one purchaser (single men),
- couples buying an apartment.

Women were single purchasers of apartments in 22.7% of transactions and men in 18.5% of them, with the remaining 58.8% of transactions concluded by couples. It can be noticed, however, that among those transactions, contracts which do not include marital joint ownership (either division of marital property or the acquisition of ownership rights in shares) also occur. Within the subgroups, the descriptive statistics of the age of purchasers were determined once again (Table 4).

**Table 4**

Descriptive statistics of the age of apartment buyers and the surface area of apartments by gender of buyer on the analyzed local market

Descriptive parameters	Single woman	Single man	Woman within a couple	Man within a couple
Average	42	35.70	38.13	39.38
Standard error	1.95	1.67	1.01	0.99
Median	37	32	33,5	35
Mode	27	28	30	29
Standard deviation	14.23	10.93	11.78	11.56
Variance of the sample	202.46	119.45	138.89	133.57
Kurtosis	-0.90	2.37	0.37	-0.16
Skewness	0,58	1.72	1.10	0.93
Range	52	47	55	46
Minimum	23	24	23	25
Maximum	75	71	78	71
Sum	2,226	1,535	5,186	5,356
N	53	43	136	136

Source: own elaboration.

In situations when the exclusive buyer of an apartment was a woman, her average age was over six years older (42 years) than when the exclusive buyer was a man (35.7 years). When a couple was the party to the apartment purchase contract, the average age of both sexes was similar (for a woman 38, for a man 39). Half of the transactions concluded exclusively by women concerned buyers at the age of 37, but when the transaction in a similar situation concerned single men, the age dropped to 32 year. Most singles bought an apartment at the age of 27 in the case of women, and 28 in the case men. The distributions of age were characterized by a greater asymmetry for men (skewness of 1.72) than women (skewness 0.58), as well as a flatter distribution (for men). These observations are consistent with the observed tendency of young people to remain in their parents' households longer and become independent at a later age.

When it was a couple who purchased the apartment, the average age of both participants in the transaction was found to be 38 for women and 39 for men, with distributions characterized by a right-sided asymmetry. When it comes to couples buying apartments, the most common were women aged 30 and men aged 29. However, it is worth noting the large range of ages for both women (55 years) and men (46 years), which results from the fact that, on the analyzed local market, apartments are bought by people who aim to improve their living conditions and had already owned an apartment, and those who are choosing to change location, often because their children reside in the neighboring area.

In both cases, when the apartment is bought by a couple, the correlation between the age of buyers and the surface of the apartment is negative, though weak (Pearson correlation coefficient -0.21).

All buyers gained a right of ownership of the apartments, and the specific location in Bezzecze was determined by current (and over the past 5 years) multi-family investments in the area by some of



the largest housing developers, such as Neptun Developer or SM Dąb. The division into the locations did not provide other results, nor did it lead to conclusions differing from those for the entire analyzed population. Similarly, the transactions on both the primary and secondary markets, depending on the seller (developer or individual), did not bring new insights to the earlier discussed results obtained for the entire population.

#### 4.2. Age structure of apartment buyers within the group of young people

The group of young people for the study was selected by adopting the criterion that is consistent with recent government-aid programs that had been offered by the Polish government to support the acquisition of the first apartment, i.e. "Family on its own" and its follow-up, which has been in force since the 1 January 2014 - "Apartment for Young Adults". The age limit for both of these programs is/was 35 years.

The age of 35 was assumed in the study if there was a sole buyer (woman or man); in cases when the apartment was bought by a couple, the older person of the two could not exceed the age of 35. This resulted in a set of 116 transactions, of which 21.6% were concluded by women as the sole party to the purchase contract (single women), 24.1% by single men, and the remaining 54.3% by couples. This indicates that the young buyers characterized by a slight predominance of men. For both sexes, people aged 29 years concluded contracts most often, while 50% of the contracts were concluded by women aged 29 and men aged 30. These values are similar to the results obtained for the whole population. In both cases, the average age of the buyer was close to 30 years. The results indicate symmetrical distributions (Table 5).

**Table 5**

Descriptive statistics of the age of young apartment buyers and the surface area of purchased apartments on the analyzed local market.

Descriptive parameters	Women	Men	Surface area of apartment (m <sup>2</sup> )
Average	29.1	30.09	67.65
Standard error	0.30	0.28	1.57
Median	29	30	69.46
Mode	29	29	68.7
Standard deviation	2.83	2.66	16.86
Variance of the sample	8.02	7.06	284.20
Kurtosis	-0.16	-0.68	1.48
Skewness	0.16	0.12	0.16
Range	12	11	99.14
Minimum	23	24	30.16
Maximum	35	35	129.3
Sum	2,599	2,738	7,847.5
N	88	91	116

Source: own elaboration.

The correlation between the age of a woman and man buying an apartment is positive and strong (Pearson's correlation coefficient equals 0.70), though lower than for the entire analyzed population. On the other hand, that between the age of buyers in the young group and the surface area of the purchased apartment is statistically insignificant, as was the case for the entire population.

In the next step of the study, the analyzed group of buyers was divided into three subgroups:

- women buying an apartment as a one purchaser (single woman),
- men buying an apartment as one purchaser (single man),
- couples buying an apartment.

Similarly to the entire population, descriptive statistics of the age of purchasers were determined again within these subgroups (Table 6).

**Table 6**

Descriptive statistics of the age of young apartment buyers and the surface area of purchased apartments by gender of the party to the contract on the analyzed local market

Descriptive parameters	Single woman	Single man	Woman within a couple	Man within a couple
Average	30	30	29.46	30.25
Standard error	0.69	0.55	0.32	0.32
Median	29	29	29	30
Mode	27	28	29	29
Standard deviation	3.47	2.90	2.56	2.55
Variance of the sample	12.04	8.43	6.58	6.48
Kurtosis	-0.75	-0.50	0.21	-0.71
Skewness	0.00	0.33	0.24	0.06
Range	12	11	12	10
Minimum	23	24	23	25
Maximum	35	35	35	35
Sum	743	832	1,856	1,906
N	25	28	63	63

Source: own elaboration.

In the chosen group of purchasers (young) in all situations, i.e. when the exclusive buyer of an apartment was either a woman or man, or when a couple concluded the contract, the average age oscillated around 30 years, with the median in each case determined as 29 years (with the exception of men buyers within couples, for whom the median age was 30). Most purchases involved 27-year-old single women, 28-year-old single men, and within couples - people at the age of 29. In both cases when the apartment was bought by a couple, the correlation between the purchaser's age and the surface area of the apartment was negative, but weak (Pearson correlation coefficient -0.10). Also, the age range of purchasers of both sexes was similar. Most frequently, the age of the woman and man involved in the common purchase of an apartment was equal (Figure 3).

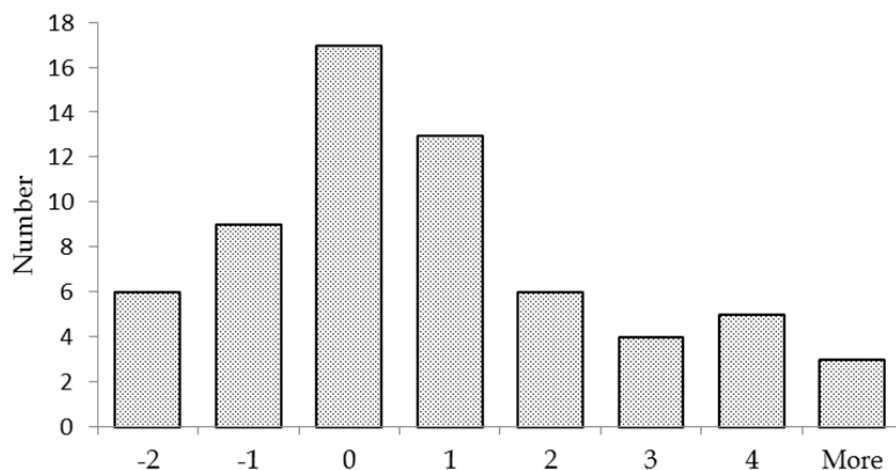


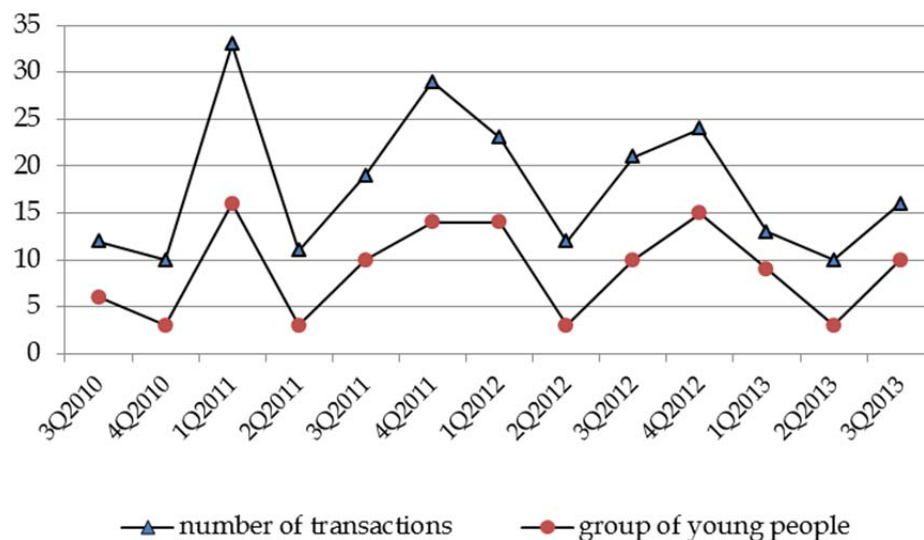
Fig. 3. Distribution of age differences within couples (between the man and woman) buying an apartment on the local housing market in the group of young people. Source: own elaboration.

Young couples were buying apartments with an average surface area of 70.85 m<sup>2</sup>, and most often, with a surface area of 68.7 m<sup>2</sup> and three rooms. The smallest apartment purchased by this group of people had the surface area of 32.1 m<sup>2</sup> and the largest - 129.3 m<sup>2</sup>. The large surface area of the purchased apartments was influenced by the nature of the location, the type of buildings, and the fact

that Bezrzecze is perceived a prestigious district by buyers. It has the most expensive, with the exception of Warszewo and the city center, buildable land in Szczecin. It should be noted that the mentioned government program "Apartment for Young Adults" (MdM), introduced by the Act of 27 September 2013 on state aid for young people to purchase their first apartment, involves only the subvention of apartments no bigger than 50 m<sup>2</sup> in terms of usable surface area, purchased on the primary market. In the analyzed area, the surface of the purchased apartments significantly exceeded this limit.

#### 4.3. Dynamics of the number of transactions and average housing prices versus the buyers' age

In the analyzed thirteen quarters of the years 2010-2013, a significant number of purchase contracts on the analyzed local market were concluded by young people, i.e. up to 35 years of age. Fluctuations in the number of contracts concluded by young people were consistent with the behavior of the other buyers on this market (Figure 4). One can notice certain cyclicality in the number of contracts concluded, with a decreasing trend for all analyzed contracts and a fixed one for the number of contracts concluded by young people. On a quarterly basis, young people concluded anywhere from 3 to 16 transactions during the analyzed period.

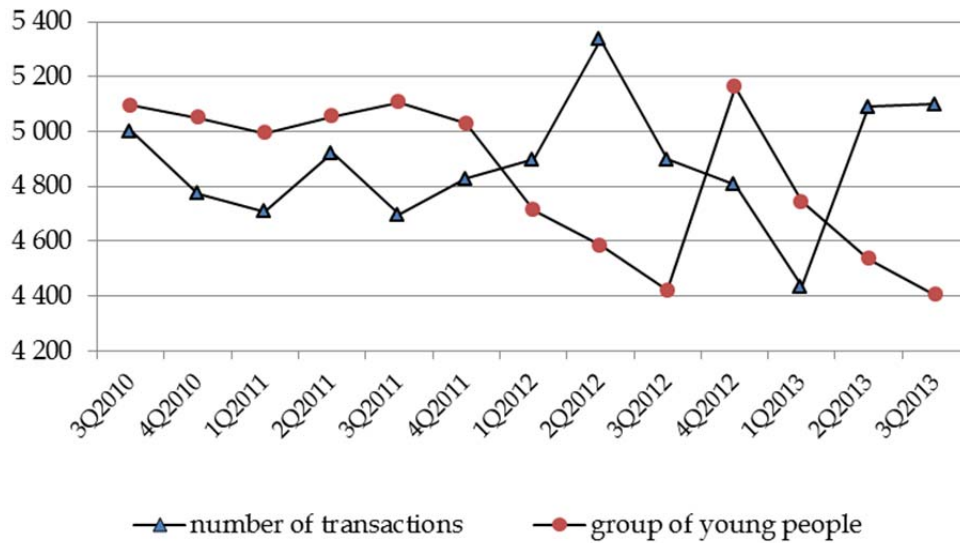


**Fig. 4.** The dynamics of the number of transactions on the local market in total and in the group of buyers aged 35 and under. *Source:* own elaboration.

There is a strong positive correlation between the quarterly number of transactions concluded on the analyzed market and the number of transactions concluded by people under the age of 35, with Pearson's correlation coefficient equaling 0.92.

For the analyzed housing market, the average transaction prices ranged from 4,400 zł/m<sup>2</sup> to 5,000 zł/m<sup>2</sup>, with the lowest recorded in the last five quarters of the study. A period of relatively stable average prices oscillating around 4,800 zł/m<sup>2</sup> occurred between the years 2010-2011 (Figure 5).

In 2010-2011 the average prices of apartments bought by young people were higher than the average transaction prices on the analyzed local market. It wasn't until the next two years that this trend reversed, with the exception of the fourth quarter of 2012, which was the last year of the "Family on its own" program. In the new "MdM" program, the price limit (constructed, inter alia, on the basis of the last half of 2013) for the city of Szczecin in the first quarter of 2014 was established at 4,339.5 zł/m<sup>2</sup> and 4,127.2 zł/m<sup>2</sup> for gminas adjacent to Szczecin. The lower of these price limits applies to the analyzed area. With that in mind, only two of sixteen contracts satisfied both criteria for young adults to obtain aid in purchasing their first apartment within the group of those who may be eligible (no older than 35).



**Fig. 5.** The dynamics of the average purchase price of apartments on the local market in total and within the group of buyers aged 35 and under (zł/m<sup>2</sup>). *Source:* own elaboration.

## 5. Summary and conclusions

Postponing getting married, the retreat of the young generation from the institution of marriage, their financial independence, and the change in life expectancy entail the increasing number of single-person households. The lower number of children in an average family changes the structure of families and households. These phenomena determine the needs on the housing market. In addition, along with the economic growth of the country, the economic condition of Polish families is improving and decisions to buy an apartment that had been delayed for years are more and more often being realized. Demand is periodically disturbed by baby booms, firstly during a dynamic increase in birthrate, and once again, when the population of baby boomers reaches working age. Disruption of demand may also occur within the segment of small apartments or apartments suitable for elderly people when the population of baby boomers reaches retirement age.

Demographic phenomena encourage detailed analyses of the behavior of different age groups of purchasers on the housing market. The article focuses on the group of young people, primarily because of the age limit imposed by the Polish government in its programs to support young people in the acquisition of their first apartment, i.e. persons who have not exceeded the age of 35. It turns out, however, that the behaviors of this group of purchasers on the local markets differ significantly from the activity of the other age groups in relation to the number of transactions and their intensity in the respective quarters of the study period, though not in terms of the surface area of the purchased apartments. Differentiation among buyers on the given local market is evident in the division of the examined entities by sex, and in terms of whether the purchase contract is concluded by one person (single) or by a couple. What draws attention is the significant diversity in the age of male and female buyers in the entire study population, which, on the other hand, is only slight within the subgroup of young people.

The aim of the study was to determine the typical age group of apartment buyers on the local market and the surface area of purchased apartments. The detailed analyses indicated that apartments were most often purchased by 30-year-old women and 29-year-old men. The most common and at the same time typical age range for female participants purchasing apartments was between 38 and 42, while the most common ages of men ranged from 35 to 39. The rate of transactions concluded by singles in relation to those of couples is surprisingly high. One must of course keep in mind that the results apply to a particular local market, though very characteristic of many investment areas around large provincial Polish cities.

The conducted analysis is a good foundation for further, more detailed studies on the demographic determinants of purchasers' behavior on the housing market, the results of which may be helpful in creating new programs of government assistance within the framework of the country's housing policy, as well as serve as a guide for developers planning new investments.

## 6. References

- ALONSO W., 1964, *Location and Land Use: Toward a General Theory of Land Rent*, Cambridge, Mass.
- ANDRZEJEWSKI A., 1987, *Potyka mieszkaniowa*, Państwowe Wydawnictwo Ekonomiczne, Warszawa.
- BREMOND A, COUET J.F., DAVIE A., 2006, *Kompendium wiedzy o socjologii*, Państwowe Wydawnictwo Naukowe, Warszawa.
- ECE Compendium of Model Provisions for Building Regulations: Residential Buildings*, maj 1991, ECE Committee on Housing, Building and Planning, United Nations, New York – Genewa.
- FORYŚ I. 2009, *Aspekty techniczne i użytkowe nieruchomości*, w: *Obrót nieruchomościami*, red. Foryś. I., Wydawnictwo Poltext, Warszawa, s. 197–219.
- FORYŚ I. 2011, *Spoleczno-gospodarcze determinanty rozwoju rynku mieszkaniowego w Polsce. Ujęcie ilościowe*, Rozprawy i Studia Nr 793, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin.
- HOFFMAN A., 1998, *The Origins of American Housing Reform*, Joint Center for Housing Studies Harvard University, Harward.
- HOLZER J.Z., 2002, *Demografia*, Państwowe Wydawnictwo Ekonomiczne, Warszawa.
- KEOGH G., D'ARCY E., 1994, *Market Maturity and Property Market Behaviour. An European Comparison of Mature and Emergent Markets*, w: *Journal of Property Research*, Vol. 11(3), s. 215–235.
- KOHLI M., 1978, *Soziologie des Lebenslaufs*, Soziologische Texte 109, Luchterhand.
- LITTERER- MARWEGE W., 1959, *Standard mieszkaniowy w miastach Polski*, Wydawnictwo Arkady, Warszawa.
- Role and Value Development Across the Life Cycle*, w: *Role, Sociological Studies IV*, red. Jackson J.W., London.
- SCHOLER K., WAGNER W. 2004, *Teoretyczne i empiryczne aspekty lokalizacji osiedli na obszarze miast*, w: *Przemiany struktury przestrzennej miast w sferze funkcjonalnej i społecznej*, red. Słodczyk J., Wydawnictwo Uniwersytetu Opolskiego, s. 105–119.
- SZCZEPAŃSKI J., 1963, *Elementarne pojęcia socjologii*, Państwowe Wydawnictwo Naukowe, Warszawa.
- THRALL G.I., 1987, *Land Use and Urban Form. The Consumption Theory of Land Rent*, Cambridge, Cambridge University Press.
- WORACH-KARDAS H., 1988, *Fazy życia zawodowego i rodzinnego*, IWZZ, Warszawa.