

The Role of the Bank in Meeting the Housing Needs of an Average Household – Evaluation of the Situation in 2018

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Abstract:

The aim of the article is to determine the profile of an average Polish household and the possibility of satisfying average housing needs thereof as well as to indicate the role played by the bank in their implementation. The characteristics of an average household, the value of income and expenses thereof, the prices of residential properties and the data of the credit market were determined. The research material was obtained from reports and statistical studies, including data from the Statistics Poland, Eurostat, the database of residential property prices of the National Bank of Poland and the average offer prices of the rental market – for 2018, which reflects the current economic situation. The research was of a quantitative nature (statistical measures, housing availability index, credit simulations). The results indicate that as of 2018 an average household cannot afford to buy or rent a flat. The bank's role in satisfying housing needs is not only important but rather necessary.

Keywords: residential needs, residential property, housing market, mortgage loan.

1. Introduction

There shall be no doubt that having a place to live with a sense of security and privacy is a fundamental need in everyone's life. Moreover, it is pointed out that adequate satisfaction of these needs is related to affordable housing price and secure environment [19]. Studies show that it is a priority to meet one's and one's family's security needs when it comes to spending savings [5]. The fulfilment of housing needs also depends on whether households will be able to satisfy higher needs. Taiwo et al. [32] indicate that the choice of a housing property is determined by factors such as fixed income, the relationship between ownership costs and rental costs as well as the current phase of the household life cycle. Apart from income, Augustyniak et al. [1] also emphasize the importance of interest rates and prices (in the context of purchase of real estate on the primary market) and indicate the significant role of a real estate market analysis.

Numerous countries face the problem of satisfying housing needs, e.g. in Australia the inability to satisfy thereof is a serious problem and identified with the "housing stress"¹ concept

[35]. According to Eurostat data [19], Poland is characterised by a high percentage of young adults living with their parents (in 2018 – 45.1% of people at age of 25-34) and one of the highest overpopulation rates among the population at risk of poverty (49.8% – 2017). At the same time, there is a strong desire to meet the housing needs by purchasing real estate. The percentage of owned properties in Poland is one of the highest in Europe (84% including 11.3% constituting mortgaged properties). The remaining 14% are housing properties which are rented [18].

The issues related to the satisfaction of housing needs are frequently discussed in the literature. Most of the research in this area concerns, among others, decision-making conditions [3], [22], housing preferences [30] and their modelling [2], [33], [34]. However, there are no items discussing the actual financial capacity of households to meet their housing needs and the analysis of the actual market conditions in which decisions concerning their implementation are made.

High housing prices and relatively low household incomes limit the ability to meet housing needs effectively. This problem is illustrated by the housing availability index, which expresses the residential real estate area that can be purchased for the average monthly wage in the enterprise sector. The research conducted for the years 2006-2018 on the primary and secondary market for Warsaw and the next 5 largest cities in Poland shows that the housing availability on both these markets shows a growing tendency, however, the values of this indicator are still too low to meet the housing needs of average households [25]. The literature indicates that the degree of satisfaction of housing needs depends significantly on the possibility of obtaining a housing loan [23]. The bank's role in this process is therefore obvious but the above studies do not indicate the extent thereof.

The aim of the paper is to indicate the bank's role in meeting the housing needs of households by defining the profile of an average Polish household and the possibility of satisfying average housing needs thereof.

This article attempts to answer the following questions: What is the current situation on the residential real estate market in terms of transaction prices and rental prices? What is the financial situation of an average household aiming at satisfying housing needs? Is an average household able to satisfy its housing needs without external financing? Consequently, how important is the bank in meeting these needs?

In order to achieve this goal, a research hypothesis was formulated as follows: According to the conditions in 2018, an average household cannot afford to meet the average housing needs, particularly with regard to the purchase of real estate. An auxiliary hypothesis was also formulated: An average household can meet its average housing needs only by financing the purchase of real estate with a mortgage loan.

2. Material and Method

In order to achieve the previously assumed research goal and to verify the hypothesis, the research was divided into 4 stages. In the first one, the average household was characterized in terms of the number of persons, disposable income and expenses. The determination of these values made it possible to calculate the financial surplus which is at households' disposal on a monthly basis. It has been assumed that it can be used to meet housing needs. The material for analysis was obtained from the Statistics Poland (GUS) [31] data and own calculations.

Then, the average housing needs of households were defined by determining the average housing area occupied by households as well as the average number of rooms occupied by residential properties (stage 2). Also in this case, the data was taken from the Statistics Poland [31].

In the third stage of the research, the market conditions in which households decided to satisfy their housing needs were defined. For this purpose, average transaction prices of residential properties were established having taken into account primary and secondary market as well as average rental prices were established. It shall be noted here that in Poland there is a high asymmetry of information concerning the development of transaction prices and rental prices of residential properties. There is no obligation to record these transactions in a public database, that is

why market transparency in this respect and a realistic assessment of the market is hampered, particularly in terms of rental prices. Therefore, to assess the situation in the above mentioned scope, appropriately averaged data from the National Bank of Poland (NBP) residential property prices database [4] and from the reports of the Internet portal Bankier.pl [6 to 17] on prices of residential property rental offers were used. Then, based on the obtained average values, the value of the average flat on the primary and secondary market was calculated. The housing availability index (HAI) [24]² was also calculated modifying it for the purposes of this publication as follows:

$$\text{Modified housing availability index (MHAI)} = \frac{\text{average monthly surplus per average household}}{\text{average transaction price on primary or secondary market}}$$

The value of the housing availability index after modification determines how many square meters of usable floor space of a residential property can be purchased for the average monthly financial surplus per average household. The higher the value of the indicator, the greater the availability of housing and vice versa.

The last stage of the survey assumes the determination of the average household's ability to finance the purchase of a property with a mortgage loan. For this purpose, the average mortgage loan margin and the average WIBOR 3M were first determined. The margin value was determined as an average according to data taken from AMRON-SARFiN reports, provided that the value of the mortgage loan granted amounted to PLN 300,000 at the 75% LtV level, for a 25-year period [26], [27], [28], [29]. The average WIBOR 3M was calculated on the basis of data excerpted from the Stooq.pl website [21]. Then, based on the existing results a credit simulation was performed, according to which an average monthly loan instalment was determined on the grounds of the formula for an equal total instalment loan (this type of loans is predominant in Poland).

It is possible to obtain two pieces of information with a determined value of an average credit instalment for an average household aiming at satisfying average housing needs, having taken into account predetermined average transaction prices on the primary and secondary markets. First of all, whether the average household with the available surplus is creditworthy and will be able to repay the monthly instalments of the loan.

In order to provide comparison, all data included herein were determined for the year 2018 in order to reflect the real financial situation of households and their ability to finance real estate purchases with mortgage credit. The exception is the modified housing availability index, which was additionally calculated both for 2018 and for the last 5 years in order to establish a trend (rising or falling).

3. Results and Discussion

In order to provide clarity, Table 1 presents the results of particular stages of the study according to the division adopted in the methodological part.

When analysing the results obtained, it can be assumed that in most cases the average household consists of 3 persons. Having taken into account the reliability of the survey and simultaneously being aware that in the economic reality there is no household consisting of 2.64 persons, the calculations were based on the indicated value according to the statistical data provided by the Statistics Poland. The results presented will therefore reflect the most realistic economic situation.

Table 1. Average household, average housing needs, market conditions, credit conditions - own research results.

Specification	Value
1. Average household	
Number of persons	2.64

Available income / 1 person	PLN 1,693.46
Total expenditure / 1 person	PLN 1,186.86
Financial surplus	PLN 1,337.42
2. Average housing needs	
Average surface area of the apartment per average household	79.4 m ²
Number of rooms	3 rooms
3. Market conditions	
Average transaction prices - primary market	PLN 5,905/m ²
Value of average apartment - primary market	PLN 468,857
Average transaction prices - secondary market	PLN 5,447/m ²
Value of average apartment - secondary market	PLN 432,491.8
Modified housing availability index - primary market	0.23 m ² (rising trend)
Modified housing availability index - secondary market	0.25 m ² (rising trend)
Average rental prices	PLN 2,323.56
4. Loan conditions	
Average margin	2.04 %
Average WIBOR 3M	1.711 %

Source: Own materials.

Knowing the value of disposable income and total expenses per person, the amount remaining at the disposal of an average household was calculated as a financial surplus which amounts to PLN 1,337.42 per month. The key point of the stage of this research was to check what the total expenditure includes and consequently what the financial surplus may be allocated for. The Statistics Poland [36] indicates that total expenditures include only the costs of using a flat or house together with energy carriers and equipment thereof. It was therefore assumed that the funds related to the satisfaction of housing needs, i.e. those needed for the rental or purchase of a housing property, should come from financial surplus or savings.

Determining the housing needs of an average household is very difficult. First of all, it should be assumed that the average household is the one whose existing housing situation is already satisfied, however, for some reasons these households strive to satisfy thereof in a different (or better) way. It is closely related to the life cycle phase or other conditions such as e.g. moving away from parents, labour migration, a larger usable area needed, striving for ownership. Therefore, it was assumed that average households will endeavour to satisfy their housing needs at the level of minimum average values in terms of usable area and number of rooms for the year under review. According to statistical data, in 2018 an average household occupied a flat with an area of 79.4 m² consisting of 3 rooms. On average, there were 28.4 m² of usable floor space and 1 room per person in the household [31]. Secondly, it should be pointed out that the housing needs are individualised and it is impossible to determine them in real terms on the national level. It was also considered to include data concerning the average usable area of flats brought into use in 2018. It was calculated that this area is even higher and amounts to 90.29 m².

Having only information on average residential property prices in Poland on the primary and secondary markets, it was assumed that each of them meets the requirement of 3 rooms minimum. It was calculated that a flat meeting the needs of an average household will cost PLN 468,857 on the primary market and PLN 432,491.80 on the secondary market. The value of a flat on the primary

market is about 8% higher than on the secondary market. A modified housing availability index was also calculated for individual markets which is 0.23 m² for the primary market and 0.25 m² for the secondary market. This means that if we assume that an average household allocates the entire monthly financial surplus, it can afford to buy 0.23 m² and 0.25 m² of a flat usable floor space respectively. To better illustrate the importance of the results obtained, it was calculated the period in years within which an average household can purchase a property on the primary (about 29 years) or secondary (about 27 years) market, provided that the equivalent of the entire monthly financial surplus is allocated for this purpose. Additional calculations show that the indicator has been increasing in the last 5 years. On each of the markets there was an annual increase in the index value by an average of 0.02 m² per year (in total by 0.1 m² of usable area). The growth rate of the housing availability index and other values prove that in order to meet the housing needs of an average household, it is necessary to use external sources of financing, e.g. a mortgage loan.

Due to the lack of the data concerning the actual rental prices on the residential property market, it was necessary to adopt the average offer price which during the period considered amounted to PLN 2 323,56. In this respect, it should be pointed out that the offer prices are higher than the market rental prices, however, the difference obtained is too big. The average offer rental price exceeds the financial surplus of an average household almost twice which leads to the conclusion that this way of satisfying the housing needs from own funds is not available thereto.

Taking into account the above results concerning the possibility of financing the purchase or renting real estate, it is obvious that an average household has to use external sources of financing. The main hypothesis has therefore been verified positively. While in the case of purchasing a property, one of the options is to use a mortgage loan, in so far in case of renting a flat taking out a loan is not only impossible but most of all irrational. The property purchased increases the household's assets and can be sold or rented out, if needed.

In view of the above results, it is still necessary to check whether the average household can afford to buy a flat with the use of a mortgage loan. In order to make a decision, it was necessary to determine the average credit instalment and carry out a credit simulation. To determine the average credit instalment in 2018, the average 2.04% margin and the average WIBOR 3M = 1.711% were taken. Assuming that an average household would have funds for the owner's contribution (25% of the loan value) and would obtain a loan for 25 years at a fixed interest rate, the average credit instalment for an average residential property on the primary market would amount to PLN 1,800, whereas on the secondary market to PLN 1,167.77 (Table 2).

Table 2. Loan simulation.

Market	Value of the apartment (PLN)	Wibor 3M (%)	Average margin (%)	Interest rate (%)	Capital (in PLN)	Number of instalments in total	Value of monthly instalment (PLN)	Loan cost in total (PLN)*
Primary	468,857	1.711	2.04	3.751	351642.75	300	1808.00	542401.15
Secondary	432,491.8	1.711	2.04	3.751	324368.85	300	1667.77	500331.76

*The total cost of the loan shall not include additional costs, i.e. bank commission, insurance, etc.

Source: Own materials.

When comparing the value of the loan average monthly instalment with the value of an average apartment on the primary and secondary market, the results clearly indicate that an average

household cannot satisfy the average housing needs by purchasing a property with a mortgage loan. The auxiliary hypothesis should therefore be rejected.

Therefore, it was verified which usable area of a residential real estate an average household could afford to satisfy housing needs thereof with a mortgage loan. The results are presented in Table 3 below divided into primary and secondary market for the same assumptions as those adopted in the credit simulation presented in Table 2.

Table 3. Average value of a mortgage loan instalment with a lower usable floor area.

Market	Average instalment for area of 35 m ² (PLN)	Average instalment for area of 50 m ² (PLN)	Average instalment for area of 60 m ² (PLN)
Primary	796.92	1138.54	1366.25
Secondary	735.16	1050.23	1260.38

Source: Own materials.

In view of the assumptions adopted previously, an average household could satisfy lower housing needs, i.e. for both primary and secondary markets and up to an area of approximately 60 m². In the case of the primary market, the average instalment slightly exceeds the financial surplus.

4. Conclusions

In accordance with the presented results, the situation of an average household aiming at satisfying average housing needs in the real estate market should be described as critical. Household income is not rising as fast as property market prices which causes quantifiable difficulties. The financial surplus, which remains every month after the necessary expenses have been paid, is not sufficient for the rental or purchase of a real estate, both on the primary and secondary markets, even if it is allocated for this purpose in 100%. Moreover, assuming that the household has savings on equity, this amount shall not be sufficient to repay the average monthly instalment of the loan.

Nowadays the growing role of banks in household life is indisputable but a study has shown how important it really is to have mortgage loans granted by banks. An average household is not able to satisfy its average housing needs because the financial surplus at its disposal is too low and it cannot even repay the loan. Without external financing, the average household will not be able to meet its average housing needs. Moreover, there is currently no product on the financial market that could effectively replace a mortgage loan. Thus, with the current financial conditions of households and the situation on the housing market, a household which wants to satisfy its housing needs is forced to take out a mortgage. The bank, and more precisely the loan it grants, is the only chance for the average household to meet its housing needs. Its role is therefore significant.

The assumptions applied in the study were extreme, i.e. the assumption that the entire financial surplus would be used to satisfy average housing needs or that the average housing area would be relatively high in the author's opinion. Many households, particularly those purchasing the first property, choose a smaller area, therefore other scenarios may be considered.

The only possibility seems to be the satisfaction of the housing needs of an average household to a lower degree than originally assumed, i.e. with a residential property not exceeding the usable area of 60 m². However, it will be possible to meet these needs, only provided that mortgage loan financing is granted.

It should also be pointed out that the financial situation of households and the housing market is different in many regions. Different transaction prices and income are achieved in Warsaw, others in smaller towns. In order to fully show the differences between the regions, it is necessary to take into account, in particular, the specificity of each local real estate market, along with the situation on the labour market. The survey shows averaged values for the whole of Poland both in terms of data on the housing market and the assets of an average household.

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Notes

1. The term "housing stress" is defined by the 30/40 rule which means that housing costs amount to at least 30% of income and are concentrated in 40% of households with the lowest income, adjusted and characterised by the size of the household. According to the Eurostat data, in 2017, 6,7 % of polish households spent 40 % or more of their equalised disposable income on housing [20].

2. The original formula for the housing availability index is the quotient of the average monthly wage in the enterprise sector and the transaction price. It expresses the number of square meters of housing that can be purchased for an average wage in the enterprise sector in a particular city, at an average transaction price in a particular market”.