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Buying vs. Renting a Home in View of Young Adults in Poland

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Abstract: The deteriorating housing situation of young adults in many countries has become a subject of global interest. Researchers point to a number of factors that influence young adults' decisions to own or rent a home. This paper examines the relationship between young adults' inclination to own their own home and a range of different socio-economic factors. The study is of a quantitative-qualitative nature and was based on the results of a computer-assisted web interview (CAWI) questionnaire. The survey was conducted among young Poles aged 18–45 (n = 983). To analyse the results of the questionnaires, a logistic regression was used in which 24 different dichotomous and categorical variables were considered. Taking into account a number of individual characteristics (e.g., gender, education, hometown population size, etc.), the results show, for example, that single individuals and those with a higher level of tolerance for mortgage interest rates are more likely to own a home than to rent. This result highlights the desirability of easier access to mortgage credit. At the other end of the spectrum are those living with parents and those with dependents. The results imply that they are less interested in buying a home. Interestingly, declarations of a lack of funds for an own contribution when buying a new house/dwelling, or reluctance to expose oneself to financial difficulties throughout one's life, do not discourage young adults from striving for their own dwelling, which further demonstrates the need to create appropriate mechanisms/instruments to facilitate the purchase of a dwelling for young adults.

Keywords: renting vs. home ownership; housing preferences of young adults in Poland; logistic regression analysis

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1. Introduction

In public debate and in the literature, it has been debated for years whether it is better to buy or rent a house [1–4]. As far as young adults in Poland are concerned, it is true that many of them vegetate for years without being able to satisfy one of the basic needs in life, namely, to have their own home [5]. In order to purchase a home financed with a mortgage, a young adult must come up with an own contribution of at least 10–20% of the property value [6] and often pay high insurance costs [7]. In the vast majority of cases, these individuals cannot afford this. It can take many years to accumulate enough capital to pay one's own contribution [6]. Furthermore, if a young adult is a renter, it can be challenging for them to set aside even a portion of their monthly salary [6]. Most of them also cannot count on government programmes, which are few in number and whose resources are very limited [8]. Governments often fail to keep up with changing market conditions, which does not make it easier for 18–45-year-olds to move out from their parents. At the same time, it should be emphasised that the state has considerable power to shape housing policy and influence young adults' decisions. A good example in this respect is Germany, which, thanks to its specific housing policy (the so-called "soft" rent regulation), offered very high

rent security to tenants, which over the years led to the expansion of the private rental sector [9]. We do not suggest that the Polish government should follow this example. We merely point out that there is an opportunity for the state to play an active role in shaping the housing conditions of young people. This makes it all the more important to carry out relevant research in this area in order to determine what is more cost-effective for Polish conditions. Comparing Poland to Germany without explaining the broader economic and cultural context would not necessarily lead to meaningful conclusions. First, Germans are richer, still earning more than Poles. In their case, rent is not as big a financial burden relative to income as it is in Poland. Moreover, from the cultural point of view, Poles in their majority still prefer to buy apartments/houses instead of renting them [10]. In general, they prefer to own things/assets [11]. However, it cannot be ignored that the number of Poles who choose to rent is growing [12]. Therefore, it is worth investigating what are the reasons for this state of affairs. There is much evidence to suggest that it is a necessity rather than a preference, as is the case, for example, in Germany [8]. Moreover, buying a home is in most cases cheaper than renting, as Hargreaves [13] argues. This is especially useful for people who plan to live in a particular place for a long period of time [13]. It is worth noting that the biggest challenge in the pursuit of home ownership currently appears to be the stricter own contribution requirements [6,8]. The fact is that young adults' decision to rent is not necessarily dictated by their preferences, but rather by circumstances and financial constraints [14–17]. Although usually, Poles prefer to own houses and flats rather than rent them [18], it is worth remembering that the current pandemic situation may well reverse this trend [19]. It should also be noted that in purely economic terms, due to the coronavirus, every third person has lost part of their earnings and every twentieth person has been completely deprived of any income [11]. It is therefore worth being more prudent with all major expenditures, and the purchase of housing is one of them. In this context, renting has the advantage over buying a flat that it leaves a lot of flexibility. With the rental option, one can quickly change the place of residence, move out of a given neighbourhood or even the city. There is also no need to worry about currency fluctuations (currency risk), rising interest rates on loans, inflation, etc. [20]. On the other hand, a large group of young people in Poland (interested in buying a flat) do not qualify for a mortgage at all and are forced to rent [6]. Buying a property with a mortgage is increasingly difficult to achieve [8]. Many young adults can only afford to take out a mortgage when they are 35 or older [6]. Still another group of individuals cannot even afford to rent a flat, even though they earn more than the minimum wage [8,15–17]. On the other hand, by Polish standards, they already earn enough (usually slightly above the national minimum wage) to be ineligible for a council housing unit. A report of the Ministry of Development shows that young Poles cannot afford to move out from their parents [21]. About 45 per cent of young people aged 25–34 still live with their parents. This puts Poland well below the EU average, which is below 30 per cent.

In recent years there has been an ongoing discussion about the formation of housing bubbles in Poland [22–24]. Property values in Poland have been on a strong upward trend since 2016 [22]. As Poles have become wealthier due to rising incomes, there has been some price adjustment, which should not be surprising given the rise in global property prices. However, this does not change the fact that young adults are being priced out of housing markets where they were once able to buy. Deng et al. [25] argue that housing is unaffordable for many young adults. It is disheartening that not only is buying a home unaffordable for young adults [25,26] but renting has also become increasingly unaffordable for them, even though the decline in interest rates has made mortgages more affordable [27]. Moreover, the pandemic further complicates the situation of many young people in this context. Taking the above into consideration, the aim of this study is to draw a factual picture of the housing situation and preferences of young adults aged 18–45 in Poland, based on a comprehensive questionnaire survey. The survey was conducted in the period from 26 August to 20 September 2020, several months after the outbreak of the pandemic. It therefore reflects relatively up-to-date opinions on the subject. The aim of the survey is

to determine the housing preferences of young people, in particular, whether they prefer to rent or are interested in buying their own home due to the precarious situation caused by the pandemic and the general uncertainty about the future as well as the already prevailing trends on the housing markets. The study also indicates what systemic solutions can be applied to make it easier for young people to buy their own home. We note that such a comprehensive study for the Polish market is missing in the literature, and with this study, we aim to fill this gap.

In the paper, we review the literature and point out possible determinants of young adults' preferences regarding housing, describe the research methodology and the variables associated with the empirical study, and finally present the discussion of the results and conclusions. The structure of the study is very simple. In the following section, we discuss some theoretical aspects related to the topic of our study. In the empirical part that follows, we focus on the analytical aspects, the presentation of the data and the model, the descriptive statistics and the methodology in order to better understand the intricacies of the contemporary housing market in Poland and the relationship between home ownership and renting in the context of young adults aged 18–45.

2. Literature Review

The study of young adults' housing preferences has gained popularity in recent years [28–33]. A considerable part of this research is devoted to the evaluation of young adults' housing choices. From a Polish perspective, it is worth studying the housing preferences of young adults, as they fall into the category of dynamic consumers and their decisions are also crucial for understanding how the housing market and related sectors (e.g., the construction sector, banking, etc.) will develop in the future.

The importance of home ownership and studies on home ownership are reported quite extensively and richly in the literature [28–33]. The severity of young adults' housing problems is recognised in many countries and has become a topic of global interest and discussion [32,34,35]. A variety of different factors influence young people's decision to own or rent housing [36]. Jacobsen and Monteiro [37] attribute the greatest importance to aspects of an economic nature. Thus, factors such as income and wealth, housing prices [13], interest rates and related tax policies [38,39], accessibility of financing, mortgage credit [8,40–42] and perceived inflation [43] can be mentioned here, to name a few. There is a strong relationship between the macroeconomic and microeconomic experiences of households in relation to their propensity to own a house. For example, those who have had negative experiences with high inflation or rapid price increases in the housing market in the past are more inclined to own their own dwellings or houses [43]. Moreover, the results in this regard depend on the availability of fixed-rate loans and inflation hedging instruments in the studied countries [38]. In general, the propensity to own a home is lower in countries where there is little access to risk hedging instruments [8]. Poles have had a bad experience in this regard, linked to the global housing crisis of 2008–2009 [8]. Many young adults financed their real estate purchases with mortgages denominated in Swiss francs, whose exchange rate skyrocketed when the aforementioned crisis broke out. This situation led to many life tragedies.

However, it is important to emphasise that home ownership, unlike renting, has some social benefits. There is a wealth of non-economic evidence of the superiority of home ownership over renting [36], such as more positive social behaviour, greater civic awareness [28,31,33], lower crime [1,29], better conditions for starting a family, better educational attainment [1,30], greater overall life satisfaction [44] and higher fertility rates [45], and much more. From a governmental perspective, home ownership affects household wealth, human mobility, urban structure and segregation, labour force participation, demographics, health, political and social activism, self-esteem, and educational success [28].

Rowlands and Gurney [46] point to the economic, political and cultural dimensions of consumption as aspects that shape attitudes towards home ownership. Since the socialisa-

tion process regarding housing influences the perception of home ownership, numerous debates and public education campaigns on this topic are necessary [46].

Moreover, it is not possible to overlook significant changes in housing markets. First, the bursting of bubbles in these markets due to the subprime crisis, followed by difficulties in accessing mortgage finance due to the general economic uncertainty after the crisis, problems in the banking sector and the emergence of highly financialised markets [8,22,47]. This crisis triggered a general trend of declining home ownership rates [48]. Countries with high employment levels in construction that were affected by asset bubbles, such as Spain, were the most affected by the 2008–2009 crisis [35,49]. In the post-crisis period, these countries experienced a transformation of housing markets, affecting young adults in particular [35]. The consequences of this crisis are still felt in these markets today, as evidenced by, among other things, the high degree of financialisation of these markets [5,8,47,50] and an increased propensity to rent compared to home ownership. This is reflected in a higher proportion of rental housing and a greater preference for renting [48]. Mínguez [35], Öst [51], Lennartz et al. [34] and Coulter [5] point out that this poses a number of different socio-economic challenges, including a lower propensity of young adults to start their own families, an increasing prevalence of living with parents for longer and a reluctance to leave the parental home due to general economic insecurity. The juxtaposition of current housing dynamics in the context of forced changes in living conditions and lifestyles manifested in changing norms and aspirations of young adults, can lead to disruptions in previously known and prevalent housing paradigms [34,49], which in turn can have significant social implications. Such changes in housing dynamics can be excellently illustrated by the example of Spain, where the traditional process of young adult emancipation is currently severely disrupted [49]. The 2008–2009 economic crisis of 2008–2009 has led there to changes in social expectations and aspirations regarding housing preferences and the process of young adults moving out from their parental homes [35,49]. A natural consequence of all this is that young people see home ownership less and less through the lens of security and stability, but rather perceive it as a financial risk and lifelong burden. Added to this is the general uncertainty about the stability of prices in housing markets, which many consider overvalued, and a possible future oversupply in these markets due to unfavourable changes in the population structure.

Moreover, it is a well-known fact that young adults are afraid of financial burdens, especially those that potentially expose them to financial risks and uncertainties that will accompany them throughout their lives [52]. Moreover, debt and all financial burdens have social and economic consequences for young adults. To some extent, this is reflected in their interest in home ownership. In other words: Where young people are more indebted, they are less interested in buying a house for obvious reasons. Houle and Berger [52] have presented evidence of a link between young adults' indebtedness and a declining homeownership rate among them. Filandri and Bertolini [53] point out that young adults today rely more than ever on the support of their parents, and in this context, the social class and socio-economic background of young adults' parents play an increasingly important role. Similarly, Öst [51] and later Druta and Ronald [54] and Coulter [5] have shown that young adults' entry into homeownership today is increasingly through parental support in the form of financial transfers, loans and in-kind contributions. Thus, understanding the reality of young adults' lives in today's complex world is therefore far from straightforward.

The material status of young adults is also influenced by social policy, although state benefits are negatively correlated with home ownership rates. The latter seems to depend more on young people's education and socialisation, as well as on cultural factors and family values [53]. An excess of state social assistance may paradoxically have a negative impact on home ownership rates.

Furthermore, home ownership is more popular in countries traditionally associated with family values, family stability, and greater social security [45]. That is, in countries where the concept of home ownership is generally associated with wealth and social security, mostly due to historical, cultural and anthropological factors [53]. In this context,

it should be noted that there are some systemic differences between countries in this respect, which cannot be explained solely by their actual economic situation. For example, in Romania, Poland or Spain the percentage of households with their own home is higher than in the much richer Germany or Austria [38,43]. In other words, countries differ in their systemic approach to home ownership. There are a whole range of different aspects that need to be taken into account, including institutional differences, demographic factors, housing policies, cultural factors, etc. [43]. In most cases, specific decisions in this regard are determined by non-financial considerations, such as 'lifestyle' or cultural heritage, etc. There is a whole range of financial and non-financial factors associated with such decisions [1,13,43,55]. Home ownership is primarily an investment in social capital with many positive consequences, including a reduction in crime, better educational, cognitive and behavioural outcomes for children [30]. Hargreaves [13] attributes the reasons for the significant increase in popularity of rental housing to the uncertainty of future income due to job insecurity, resulting in a delayed decision to start a family, but also to the erosion of the previously dominant family model, resulting in an increasing number of single-person households, i.e., singles or single parents.

In the past, the popularity of home ownership was primarily determined by its affordability, which favoured owning as opposed to renting [51]. However, the rapid rise in prices in many markets has led to changes in the perception of ownership, and the risks that come with it. Less affordability in many markets and restrictions on access to financing have led to a situation where young adults are increasingly reliant on parental support insofar as the purchase of a home and emancipation from the family home are concerned [5].

There is evidence of episodic bubbles in many housing markets, including New Zealand [56], Australia [57], the United States and the United Kingdom [58]. In part, this situation results from the artificial creation of money, which, to some degree, also finds its way into the system of housing markets. The blame for this state of affairs should be attributed to the US Federal Reserve, which for the past 12 years has been implementing the monetary policy of "printing money" [59]. Vogiazas and Alexiou [59] point to the impact of excess liquidity and credit financing on the formation of housing bubbles [26]. Indeed, housing bubbles are a product of poor government policies that perpetuate an environment of rising housing prices, making homes unattainable for many young adults [26].

Flynn [41], on the other hand, investigated the relationship between national governments' housing policies and young adults' attitudes towards home ownership. The results of her research showed that success in this regard depends on appropriate government solutions (policies) facilitating easier access to efficient, stable and liquid mortgage markets. The importance and relevance of the existence of adequate market financing instruments for the housing market were also stressed by Chiuri and Jappelli [40]. They highlighted the relationship between the availability of mortgage finance and housing purchases by young adults. Guren et al. [42] pointed out the importance of the mortgage financing system and the flexibility of loan repayment for the perspectives of the overall housing market.

Compared to previous generations, young adults are also finding it increasingly difficult to fulfil their housing aspirations [41]. Interestingly, this is also true for young adults in well-developed countries with a good economic situation and liquid and stable housing markets. Improvements in the situation of young adults can be achieved through solutions such as offering adequate mortgages (deep mortgage markets) [41], promoting social rental housing [8], appropriate tax incentives [39], low transaction costs or supporting greater housing mobility [41]. It is therefore in the state's own interest to design appropriate housing policies, which should address issues such as taxes on the purchase or transfer of a dwelling/house, household taxes, capital gains taxes, rent taxes and mortgage tax credits [39]. In this context, Poterba [60], Poterba and Sinai [61] and Barrios et al. [62] have examined distortions in the tax system related to housing markets and argued that they negatively affect households' housing decisions. In general, government housing policy should aim to reduce marginal tax rates, which would reduce deadweight losses,

which in turn would encourage home ownership [60–62]. McKee notes that young people increasingly feel that they are excluded from access to home ownership [63]. They often live in their parents' homes, from which they cannot move out because, among other reasons, they have difficulty obtaining mortgage financing [6,63]. In this way, young adults become a generation of renters. However, Lennartz et al. [34], who to some extent polemicise with McKee [63], argue that young adults today are not the 'renter generation' at all, but rather the "generation of young adults living with their parents", which they describe as the dominant trend currently shaping housing markets worldwide. Lennartz et al. [34] and Coulter [5] attribute the decline in the number of young adults in Europe who own homes to poorer labour markets and the nature of housing markets themselves, which are becoming increasingly financialised, making it even more difficult to become homeowners. In turn, poorer affordability and the financialisation of housing markets lead to greater housing inequality, lower social mobility and greater intergenerational wealth transfers [5,50].

Housing policy should address the problems described above and aim to build wealth and bring about positive social, economic and demographic changes [63]. Government policy (and resulting legislation) should reflect issues such as demographics or social habits, and furthermore, as housing conditions themselves change, housing policy should adapt to such changes.

Finally, it should always be kept in mind that there are a number of positive effects associated with home ownership, both at the micro and macro level [62]. From a micro perspective, home ownership clearly boosts household savings and leads to greater social participation. On the macro level, in turn, it affects consumption, investment and public finances [62].

3. Materials and Methods

3.1. Data Collecting: Questionnaire and Variables

The survey and the data collection were conducted with the participation of staff from the Warsaw School of Economics on behalf of the Warsaw Institute of Banking (WIB) [15,16]. It was conducted between 26 August and 20 September 2020. The survey involved 983 respondents aged 18–45 living in Poland. The aim of the survey was to determine the situation of young adults in the housing market. It was conducted with the use of the CAWI method—the questionnaire was opened by 1983 people and completed by 983 people. The survey was conducted on the Survio platform with commercial access, with a special link for the questionnaire. As the researchers wanted to reach many social groups, especially people renting a flat, the questionnaire was made available on internet portals offering flats in Poland both for rent and for sale. In addition, the questionnaire was also placed in research centres in the whole country that deal with the real estate market. There were alternative answers to all questions, both complementary and contradictory. In most cases, the respondent could also choose the option "other" and add his/her own answer (meaning that respondents always had a choice).

The number of visits to the survey page was 1893, and 910 individuals only opened the questionnaire. The number of completed answers was 983. In the end, 51.9% of the visitors to the website completed the survey positively. All of them answered via a direct link. In most cases, respondents took about 5–10 min to complete the whole survey (60.2%). In 26% of the cases, it took them about 2–5 min, and for 10.8% of the respondents, it took between 10–30 min. Only a small part of the respondents (about 1.5%) needed more than half an hour to answer all the questions.

The applied survey was preceded by a pilot study among students from the University of Warsaw and Warsaw School of Economics, with the help of a market research specialist from Warsaw School of Economics. The pilot survey was made available on the Google platform in the period June-July 2020. The final survey included 26 questions, 5 of which were so-called metrics, concerning basic information about the respondents, while the remaining questions were related to the topic under study.

The prepared research report was submitted to the Warsaw Institute of Banking (WIB) Foundation and was accepted by them after its review. The WIB Foundation makes the report available free of charge upon request. CAWI, or computer-assisted web interview, is an Internet surveying technique used in quantitative research projects [64]. The CAWI method assumes that interviewees (respondents) follow a custom-made script that is provided to them in the form of a link to a website. The nature of the population under study can be identified by means of representative sampling. Typically, a subset of a certain sample is selected from the collection of all surveys (i.e., target population), which minimises the costs and time required to collect necessary data. In order to obtain unbiased estimates for the whole population, it is necessary to use methods such as stratification, clustering, assigning appropriate weights/probabilities for the selection of participants. Out of various methods of survey data analysis, there are some that are worthy of special emphasis, e.g., various forms of regression (i.e., logistic, ordered logistic, or multinomial logistic one), scenario tables or time-to-event analysis.

As a result of the process described above, the weighted sample consisted of 983 young adults aged 18–45. Assuming that the research population is all young adults in Poland aged 18–45 (i.e., 15,023,736), based on the FPC (finite population correction) indicator, it can be concluded that the obtained results are not biased by the sample size error, i.e., the obtained results do not need to be corrected due to the maximum standard measurement error. Samples drawn for quantitative research meet the condition of selection in which each element of the population has a known probability of being selected that is different from zero—even if this probability is different for individual elements [65], and thus meet the condition of a probabilistic random sample.

To sum up, it can be concluded that the adopted methodology, taking into account the complexity of the studied phenomenon, guaranteed maximum accuracy and reliability of the results. However, when interpreting the results of the survey, one should bear in mind that the sample of individuals invited to participate in the survey could not be representative for specific features of the surveyed characteristics due to sample bias resulting from different response rates in particular strata (e.g., gender, education, hometown population size, etc.). This could, of course, be compensated for by an appropriate weighting procedure, but this was not the purpose of the survey. Such a study would have been unduly elaborate, and besides, there are some costs of weighting as Thomas [66] argued in his study. The cost of weighting the data is, for example, its reduced accuracy, increased sample variance, standard deviation and standard error.

The computer-assisted web interview (CAWI) as a survey method was developed from a combination of previously used popular methods such as paper and pencil interviews (PAPI) and computer-assisted telephone/personal interviews (CATI/CAPI). With the widespread use of the internet, CAWI has gained popularity as an effective research tool in recent years. Conducting a survey using the CAWI method amounts to creating a research questionnaire and then making it available on a website so that respondents can access it online and complete it easily [64]. Fowler et al. [67] point out that the questions and responses in a CAWI questionnaire need to be predefined and standardised. CAWI is therefore a variation of the classic questionnaire survey methods CATI and CAPI, although conducting a survey based on this particular method does not require the presence of an additional interviewer who would act as an intermediary between the respondent and the questionnaire. Therefore, CAWI can rather be viewed as survey research where respondents fill in the questionnaire without the presence of an interviewer [64]. This issue seems relevant from the perspective of the methodological standard recognised as questionnaire or interview and boils down to the difference in control of the research process. Bethlehem [68], on the other hand, points out the importance of selecting the research sample in such a way that it is possible to generalise the statistical results to the whole population, which can be a problem in the context of the difficulties in determining the representativeness of the respondents. Nevertheless, CAWI works quite well to elicit respondents' opinions. For example, Kempa et al. [69] used the CAWI method to identify

student preferences in the housing market of major Polish cities. Słaby [70] relied on CAWI to investigate the needs of people aged 60+ with regard to the housing system for Polish seniors. Konopielko [71] used CAWI to outline the potential economic and non-economic motivations for changing residence and to explore opinions on the phenomenon of suburbanisation and the impact of the pandemic on issues related to suburbanisation processes.

For the study, we selected 24 variables relevant to this particular type of analysis. The descriptions and nature of the variables can be found in Table 1. A more detailed rationale for the relevance of the variables can be found in Appendix A Table A1. The responses form the basis for an in-depth analysis of young adults' preferences for home ownership or renting. The questions in the questionnaire were single-choice questions. Table 1 summarises the questions of the questionnaire and their underlying variables. Subsequently, a logistic regression model is developed on the basis of these variables, which describes the phenomenon under study and in particular the relationships between the different observable variables quite accurately.

Table 1. List of variables included in the logistic regression model.

Var	Variable	Description	Nature of Variable
Y	inclination towards home ownership	0 = no; 1 = yes	Dichotomous
X_1	gender	1 = male; 2 = female	Dichotomous
X_2	age bracket	1 = 18–25 years of age; 2 = 26–35; 3 = 36–45	Categorical
X_3	education	1 = primary education; 2 = low secondary education; 3 = vocational education; 4 = secondary education; 5 = post-secondary education; 6 = bachelor degree; 7 = MSc/Ingineer; 8 = academic degree	Categorical
X_4	hometown population size	1 = rural area; 2 = suburb area; 3 = small town; 4 = medium city; 5 = large city	Categorical
X_5	employed	0 = no; 1 = employed or self-employed	Dichotomous
X_6	jobseeker	0 = no; 1 = yes	Dichotomous
X_7	student	0 = no; 1 = yes	Dichotomous
X_8	family/relationship status	0 = no; 1 = yes (family or marital status, or in a relationship)	Dichotomous
X_9	rising children	0 = no; 1 = yes	Dichotomous
X_{10}	living with parents	0 = no; 1 = yes	Dichotomous
X_{11}	living alone	0 = no; 1 = yes	Dichotomous
X_{12}	number of persons per room	1 = max 1 person; 2 = 1–2 persons; 2–3 persons; more than 3 people	Categorical
X_{13}	dependents (number)	0 = only myself; 1 = myself/ourselves + 1; 2 = myself/ourselves + 2; 3 = myself/ourselves+3; 4 = myself/ourselves + 4 and more;	Categorical
X_{14}	renting a home	0 = no; 1 = yes	Dichotomous
X_{15}	length of renting period	0 = I/We do not rent a home; 1 = not longer than 1 year; 2 = 1 to 3 years; 3 = 3 to 5 years; 4 = 5 to 10 years; 5 = over 10 years	Categorical
X_{16}	(level) of rental and all related fees	0 = I/We don't pay; 1 = up to 500 PLN; 2 = over 500 to 1000 PLN; 3 = over 1000 to 2000 PLN; 4 = over 2000 to 3000 PLN; 5 = over 3000 PLN	Categorical

Table 1. *Cont.*

Var	Variable	Description	Nature of Variable
X_{17}	my share in all housing payments	0 = I/We do not pay; 1 = less than half; 2 = half; 3 = more than half; 4 = all payments	Categorical
X_{18}	mortgage rate compared to rental payments (perception)	0 = I/We do not need/want to buy; 1 = same amount as rental payments; 2 = under 200 PLN more that the rental payments; 3 = 200 to 500 PLN more that rental payments; 4 = from 500 to 1000 PLN more that the rental payments	Categorical
X_{19}	insufficient funds for own contribution	0 = no; 1 = yes	Dichotomous
X_{20}	insufficient funds for mortgate repayment	0 = no; 1 = yes	Dichotomous
X_{21}	expectation of the inheritance of a dwelling in the future	0 = no; 1 = yes	Dichotomous
X_{22}	unwillingness to expose oneself to financial hardship over the course of one's entire life	0 = no; 1 = yes	Dichotomous
X_{23}.	awaiting housing assignment from the state/municipality	0 = no; 1 = yes	Dichotomous
X_{24}	already have one's own dwelling and does not need one	0 = no; 1 = yes	Dichotomous

3.2. Description of the Sample

3.2.1. Potential Population of Young Adults in Poland and Sample Size of the Study

According to Central Statistical Office (CSO) data, the potential population of young adults in Poland between the ages of 18 and 45 oscillates around 15,023,736. There were a total of 983 participants who took part in our survey.

In order for the survey to provide reliable conclusions, we had to select an appropriate number of respondents. The minimum sample size is determined by the sample design and depends on several factors, such as the size of the population (1), expected proportion of the phenomenon under study in the population (2), confidence level (3) and standard error of estimate (4).

Therefore, if the survey is about the opinion of young adults aged between 18 and 45, it is necessary to know the number of people in this age range in the entire country. Regarding the expected proportion of the surveyed phenomenon in the entire population, we assume such measure to be 50 per cent, since the survey refers to different housing questions and issues whose relative frequencies are different [1]. The reason for this is that we have no specific expectations about relative frequencies of the analysed problems in the surveyed sample, in the context of the opinionated topics, in relation to the entire potential population of young adults in Poland (aged between 18–45 y.o.). Not having such knowledge, we assumed the level of 50 per cent to be the most accurate.

Regarding the confidence level (i.e., which tells us how certain we can be about the outcomes and whether they are applicable to the whole population), we made a default assumption of 95 per cent (hence $\alpha = 0.05$). In terms of the standard error of the estimate, it is equal to 7 per cent, meaning that the obtained results of the survey may deviate from the actual values in the entire population by 7 per cent. Having all the above data, we examine how many respondents should take part in the survey. A specific formula for minimum sample size is as follows: $n = \frac{P(1-P)}{\frac{e^2}{Z^2} + \frac{P(1-P)}{N}} = 983$,

where:

[1] In statistics, the frequency of an event i is the number n_i of times the observation occurred/recorded in an experiment or study.

P—expected proportion of the phenomenon under study in the population;

e—standard error of estimate;

Z—the value calculated on the basis of the adopted confidence level (which is 95 per cent, therefore *Z* = 1.96)

The confidence coefficient is the confidence level stated as a proportion, rather than as a percentage.

N—the size of the population.

In the survey we collected complete responses from 983 young adults. The standard error = $\sqrt{pxq/n} = \sqrt{56.4 \times 43.6/983}$, where p is the proportion of people in the sample interested in buying a dwelling (56.4%%) and q is the proportion of people in the sample not interested in buying a dwelling $q = 1 - p$, i.e., (100% − 56.4% = 43.6%), and n is the sample size (983 people).

3.2.2. Characteristics of the Study Sample: Age, Gender

Due to the specificity of the study—the survey was addressed mainly to people who were potentially interested in purchasing their own home, and who were aged between 18 and 45 y.o. Based on the sample of individuals who participated in the study, we have distinguished three age groups: 18–25-year-old; 26–35-year-old; 36–45-year-old, respectively. The division into the above-mentioned groups resulted from the assumed phases of human social development, which coincide with different stages of a man's life [15,16]. The largest group of respondents were those who fall into the second age bracket (26–35 y.o.), who filled in 425 questionnaires, followed by those of "student age" (18–25 y.o.)—with 310 responses. The group of the oldest respondents (36–45 years old) was represented by 248 individuals.

Women accounted for more than 2/3 of all respondents (69.2 per cent or 678 individuals). In turn, men represented a group of 30.8 per cent of all respondents (303 people). The results show that women are much more likely to participate in the survey. In fact, this is only a validation of the evidence already provided in prior studies, namely that it is primarily women whose opinions are decisive when it comes to purchasing a home [72]. As a party who is more emotionally involved in the process of purchasing a dwelling [72], women are interested in details and it is women who make the final choice of the desired place to live. Men, in turn, are more oriented towards the financial value-to-price ratio of a dwelling and on its functionality [72]. There is also an increasing number of singles who are interested in buying their own home. The group of singles is overwhelmingly dominated by women, who outnumber men by appx. 30 per cent. It is characteristic that women are interested in higher standard dwellings and at the same time they are aware of and prepared for all the additional costs this entails. Consequently, today's marketing activities are specifically oriented towards the fairer sex, since—in the opinion of real estate agents and professionals in the field—women usually have the final word when it comes to buying a home [73,74].

Among the respondents, there was a considerable predominance of individuals with higher education, master's or engineering degree—almost 2/3 of the responses (643)—and with bachelor's degree—130 responses. People with secondary education filled in 95 questionnaires. There were also 3 respondents with primary education, 6 with secondary education, 6 with lower secondary education, 4 with vocational education and 44 people with an academic degree. Almost two-thirds of the questionnaires were filled in by the residents of the Mazowieckie voivodeship (i.e., 633 responses). The remaining voivodeships had diverse representation, i.e., from one response (in the case of Opolskie Voivodeship) to more than 40 as in the case of Małopolskie and Pomorskie Voivodeships. Figure 1 shows the regional distribution of respondents' living areas.

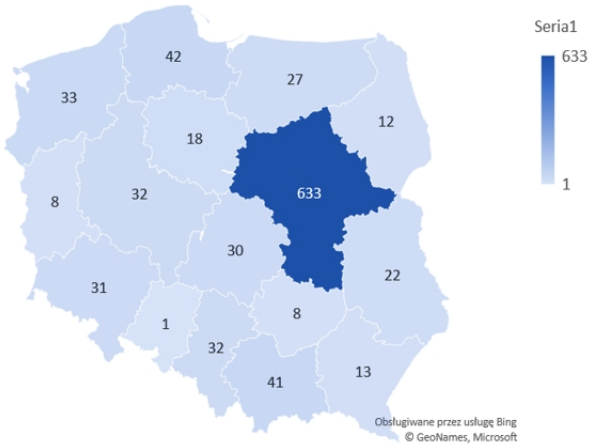

Figure 1. Regional distribution of respondents' living area.

More than 75.5 per cent of the respondents live in large cities (with population over 100 thousand), and therefore their living situation and opinions strongly influence the results of the survey. Medium-sized cities are represented by 113 individuals. Sixty-three respondents live in rural areas and 24 survey participants come from suburban areas. Unfortunately, there was little interest in participating in the survey among those who indicated a small town as their place of origin—there were only 41 such respondents. A larger representation of this group of respondents would provide a better opportunity to learn about their opinions, possibly showing the demand for housing in such towns, allowing to fill the existing housing gaps by means of some practical actions. It should be noted that small towns, due to their low economic potential, are not the beneficiaries of construction developers' activities [8,14]. On the other hand, they are subjected to strong market-driven pressures. More importantly, they are affected by an ongoing process of population outflow, caused by various, predominantly market-related reasons [75].

The questionnaire comprised a question with regards to professional activity, which was aimed at examining respondents' current professional status. Respondents were asked to indicate their source of income, housing situation, age, etc. The question about respondents' permanent locations seems to be important since it is usually easier to find a job in a larger city (it can be regarded as a proxy for one's financial situation) [76]. The results indicate that over 83 per cent of the participants were employed (819 people), and almost 26 per cent were students (254 people). A number of respondents indicated the category: "raising children" as their existing activity (122 individuals). Fifty-three people were looking for a job, and 23 respondents were attending schools. With regards to the area of professional activity, respondents were allowed to provide multiple responses, which many of them did (e.g., students and employed, or employed and raising children, etc.). Further details are provided in Table 2.

Table 2. Respondents' sources of income.

Souce of Income	Primary	Additional	Not-Applicable
Dependant	167 (17.1%)	99 (10.1%)	712 (72.8%)
Employment contract	624 (63.8%)	27 (2.8%)	327 (33.4%)
Task-specific contract	21 (2.1%)	6 (0.6%)	951 (97.2%)
Mandate contract	96 (9.8%)	144 (14.7%)	738 (75.5%)
Allowances	18 (1.8%)	28 (2.9%)	932 (95.3%)
Scholarship	12 (1.2%)	51 (5.2%)	915 (93.6%)
Self-employment	102 (10.4%)	32 (3.3%)	844 (86.3%)
Royalties	8 (0.8%)	54 (5.5%)	916 (93.7%)
Other	17 (1.7%)	82 (8.4%)	879 (89.9%)

One of the questions was aimed at identifying respondents' ongoing housing status. The idea was to determine the extent to which the respondents have already satisfied their needs to "live on their own". It turns out that out of all respondents almost 400 individuals (399—i.e., 40.6 per cent) have their own home. Two hundred and forty-seven live with their parents (25.1 per cent). The remainder (i.e., more than 1/3, or 34.3 per cent to be precise) lives in rented homes, of which 270 people (27.5 per cent) rent a home from a stranger.

A further question addressed the "number of people living under the same roof". The results show that the largest number of respondents were living with a partner/husband/wife—34.6 per cent, followed by married couples or civil partnerships with a child/children—23.5 per cent and single individuals—13.9 per cent. More details are shown in Table 3.

Table 3. A structure showing with whom young adults share a home.

Who Are You Living with?	Responses	Share
Alone	137	13.9%
Partner/husband/wife	340	34.6%
Parents	73	7.4%
Parents and siblings	69	7.0%
Colleagues/friends	72	7.3%
Partner/husband/wife and children (child)	231	23.5%
Partner/husband/wife and children (child) and parents	26	2.6%
Other reasons	35	3.6%

Respondents also had the opportunity to give their own answers. There were 35 answers classified as "other reasons", mainly referring to single persons, i.e., widows/widowers, divorced persons or persons living with their parents. In general, the housing conditions of the respondents can be considered as good. Another question aimed to find out the number of occupants per room in occupied housing units. Almost $\frac{3}{4}$ (72.8 per cent) indicated that there was no more than 1 person per room. More than $\frac{1}{4}$ of the respondents declared no more than 2 individuals per room, and only 15 people (1.5 per cent) declared that there were between 2 and 3 persons per room.

3.3. Statistics and Frequency Analysis of the Survey Data

3.3.1. Expectations of Young Adults Living with Their Parents, Siblings or Family with Regards to Renting or Buying a Home

Insofar as the reasons for living with their parents/siblings or friends were concerned, 74.4 per cent of all respondents stated that this issue did not apply to them. Out of all those taking part in the survey, 252 respondents provided miscellaneous responses, although the main reason they pointed out was related to their financial situation. As a result, 146 people pointed to financial difficulties—as a reason for their inability to buy/rent a home ("I/We cannot afford to rent a home", "I/We cannot afford to buy a home", "I/We am/are afraid of credit burdens"). In contrast, 67 individuals indicated that they prefer such a state of affairs because of convenience. Thirty-nine respondents, or 15.5 per cent of those living with their parents, and a total of 4 per cent of all survey participants opted for the answer "other reasons".

3.3.2. Attractiveness of Renting a Home amongst Young Adults

In the survey, we also addressed the issue of the attractiveness of renting a home in the eyes of young adults. From the perspective of contemporary challenges, we considered the following research question: if renting a home represents a convenient and attractive lifestyle for young adults, at what point does it turn into a desire for stability accompanied by an urge to own one's own house? Examining each age group separately, the survey clearly demonstrated that the proportions between those living with their parents or some other people, and those to whom the question does not apply (since they already have their own home), varies noticeably as the age of the respondents increases. The fact of the matter is that it is mainly young adults from the lowest age bracket, i.e., people of "student

age", i.e., 18–25 y.o., who live with their parents or siblings. However, even people from this particular age group are not devoid of the desire to their own home.

The next question: "Would you like to buy your own home as a foundation for your future?"—was answered affirmatively by 555 people (56.4 per cent of respondents), of which 320 (32.6 per cent) explicitly declared that they want to purchase a home, as they do not have one, while 180 people (18.3 per cent) want to buy a larger home, and 53 people (5.4 per cent) want to buy it in another location. There were 221 respondents who were not interested in home ownership, and those who did not have any opinion at all (and selected the answer "I do not know") were 89. Finally, 120 individuals indicated the answer "other reasons" providing more detailed justifications.

The reasons behind the willingness to buy a dwelling are illustrated in Table 4.

Table 4. Verified responses addressing the reasons for buying a home.

Would You Like to Buy a Home to Live in?	Responses	Share
Yes, I/We want to buy because I/We do not have my/our own home	328	33.30
Yes, I/We want to buy bigger home	180	18.30
Yes, I/We want to buy in another town	53	5.40
I/We do not want to buy a home	326	33.20
I/We do not know	89	9.10
Other . . .	7	0.70
Total	983	100

As shown in Table 4 above, approximately 1/3 of respondents, i.e., 328 people, are willing to buy a home for their own use (so as to owner-occupy it), since they do not have such a home. This number coincides with the number of individuals renting a home or a room—327. It can be concluded from the survey that the desire to buy a home for one's own use is widespread among those who participated in the survey. Furthermore, it is worth noting that 22.7 per cent of respondents would like to buy a home that is bigger or located in a different place. Analysing responses obtained from the survey, one may come to the conclusion that renting a home is not a lifestyle, but rather a necessity. Nor should renting by young adults be regarded as undervaluing the essence of owning a home. On the contrary, owning a home is desired by those who do not have one and find themselves in a position in which they are forced to rent.

3.3.3. Young Adults' Expectations with Regards to Changes in Mortgage Finance

The necessity or desire of young adults to own their own home is not adequate to their financial capabilities. When asked: "Why are you reluctant or unable to buy a home"—290 individuals responded—"I/We don't have sufficient funds for my/our own contribution (mortgage-down payment)"; 117 individuals responded—"I/We cannot afford to repay the mortgage loan"; 192 individuals provided responses: "I/We do not want to expose myself/ourselves to financial hardship over the course of my/our entire life".

Based on the large number of responses, it appears that 599 respondents (61 per cent of respondents) do not find the mortgage system as providing an affordable opportunity to finance home ownership. The answers: "I/We cannot afford to repay the mortgage loan" and "I/We do not want to expose myself/ourselves to financial hardship over the course of my/our entire life"—do not have the same meaning. In fact, they differ from each other. However, it is worth noting that every respondent was allowed to give more than one response, and therefore, the responses are not aggregated as such (the number of responses exceeds the number of respondents). It was therefore assumed for further analysis that a person who indicated two or three reasons regarded them as equivalent, e.g., "I/We cannot afford to repay the mortgage loan" and "I/We don't have the funds for my/our own contribution (mortgage-down payment)". Assigning weights of 1/2 or 1/3 to these responses respectively, and adding them up, resulted in a total of 441 respondents (out of 983 respondents), representing 44.9 per cent of all those taking part in the survey. Financial difficulties (declared by 441 respondents) as a reason for the inability to purchase a home categorised separately are shown in Table 5.

Table 5. Reasons behind financial difficulties in purchasing a home.

Reasons behind Financial Difficulties in Purchasing a Home	Total	18–25 y.o.	26–35 y.o.	36–45 y.o.
I/We do not have the funds for my/our own contribution	226.42	113.25	90.66667	22.50
Insufficient funds for mortgage repayment	67.25	35.41667	22.83333	9.00
I/We do not want to expose to financial hardship over the course of my/our entire life	147.42	45.58333	65.16667	36.66667
Sum of all the above	441.08	194.25	178.6667	68.16667

It is worth noting that in all age groups, respondents indicated insufficient funding resources for their own contribution (money-down payments) as the primary reason for their inability to purchase a home (51 per cent). Another respondents' anxiety was associated with "high credit exposure". In turn, the least numerous were respondents who indicated "insufficient funds for mortgage repayment". The importance of specific reasons for what is defined as "financial difficulties" varies from one age group to another.

In the group of the youngest respondents, insufficient funds for one's own contribution was identified as the most problematic aspect (declared by 58 per cent). The second is their unwillingness to expose themselves to long-term mortgage loans (24 per cent). On the other hand, the least problematic turned out to be the issue of the means for repaying the credit (18 per cent). Among those from the "middle" age group, fewer people are concerned about their own contribution (51 per cent), whilst there is an increasing aversion to long-term credit exposure (36 per cent). Only 13 per cent of respondents indicate potential financial problems related to credit repayment. A noticeable increase in negative attitudes towards long-term credit repayment points to natural economic and social processes which take place in subsequent stages of human life.

As for the 36–45 age group, 54 per cent of the respondents do not want to be exposed to financial hardship over their entire life cycle. 33 per cent of respondents "do not have enough money for own contribution", while similar to the previous age group—13 per cent of respondents do not have enough money for credit repayment.

4. Results

4.1. Logistic Regression Model

Having discussed the research framework of the paper, the theoretical background and the description of the sample, we proceed to discuss the research methodology used in this paper, namely the logistic regression model. In short, logistic regression is an efficient and powerful method to analyse the impact of a group of independent variables on a binary outcome by quantifying the unique contribution of each independent variable. More specifically, logistic regression is used to obtain odds ratios in the presence of more than one explanatory variable [77,78]. It is a very useful statistical technique for understanding complex phenomena. Hui et al. [79] point out that logistic regression modelling is a widely used method in social science research and is suitable for studying a wide range of housing behaviours. Law and Meehan [80], for example, used panel logistic regressions to examine how the likelihood of homeownership and housing affordability depend on a variety of demographic and economic variables. Brown-Robertson et al. [81] used logistic regression models to measure generational and age group housing preferences. Weeks et al. [82], on the other hand, used logistic regression to examine the housing preferences of older adults and the variables that predict housing preferences. These are just a few examples, of which there are many more.

In the logistic regression model, we assume that the response variable has two possible outcomes. The discrete probability distribution of a random variable takes the value 1 with probability $P(y_i = 1) = \pi_i$ and the value 0 with probability $P(y_i = 0) = 1 - \pi_i$. Each observation can therefore be expressed with the use of the following probability function: $f(y_i) = \pi_i^{y_i}(1 - \pi_i)^{1-y_i}, i = 1, 2, \ldots, n$. The multiple logistic regression model of the response variable $Y = \pi(X) - \varepsilon$, with $\pi(X)$ being an $n \times 1$ vector and $\pi_i(x) = E[Y|X =$

$x_i] = P[Y_i = 1] = \frac{exp(\beta_0 + x_i\beta)}{1+exp(\beta_0+x_i\beta)}$, where β is a $k \times 1$ vector of estimated parameters. The logit function of $\pi_i(x)$ is $logit[\pi_i(x)] = ln\left(\frac{\pi_i(x)}{1-\pi_i(x)}\right)$ or in linear form can be re-written as: $L(X) = X\beta$. Put differently:

$$ln(p) = ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots \beta_p X_p \quad (1)$$

Moreover, since p is defined as the probability that the outcome is 1, the multiple logistic regression model can be written as follows:

$$\hat{p} = \frac{exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p)}{1 + exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p)} \quad (2)$$

where $X_1, X_2, \ldots, X_p$ are the predictor variables: gender, age bracket, educational, home-size pop. size, employed, jobseeker, student, marital/non-marital relationship, etc. (see Table 1 for more details), and p denotes the probability that a respondent declared his/her inclination towards home ownership. The parameters were estimated by maximising likelihood function $L(\beta) = \Pi_{i=1}^{N} \pi_i(x_i)^{y_1}(1-\pi_i)^{n_1-y_i}$. When the log-likelihood is differentiated with respect to β equal to zero, we obtain $\hat{\beta}_{ML} = (X'\hat{W}X)^{-1}X'\hat{W}Z$, where Z is $n \times 1$ column vector with elements $z_i = logit\left(\hat{\pi}_i + \frac{y_i\hat{\pi}_i}{\hat{\pi}_i(1-\hat{\pi}_i)}\right)$,$\hat{W} = diag[\hat{\pi}_i(1-\hat{\pi}_i)]$ [83].

To identify key determinants of the willingness to buy a dwelling we first computed a dichotomous variable (Y) indicating whether a respondent is interested in purchasing his/her own home. That is:

$$WBD = \begin{cases} 0, & \text{No, I/We do not want to buy a dwelling} \\ 1, & \text{Yes, I/We want to buy a dwelling} \end{cases} \quad (3)$$

WBD denotes the willingness to buy a dwelling. On the basis of Pearson's chi-square statistic, we determine whether the predictors (24 different variables displayed in Table 1), were associated with the willingness to buy a dwelling, *WBD*. Suppose that all other variables except X_4 take the value zero. Then:

$$logit(\hat{p}(x)) = log\left(\frac{\hat{p}(x)}{1-\hat{p}(x)}\right) = \hat{\alpha} + \hat{\beta}x = -1.6706 + 0.1357X_4 \quad (4)$$

with $\hat{OR} = e^{0.1357} = 1.1454$. A 95 per cent confidence interval for β for the variable "hometown population size" is $-0.008901 \leq \beta \leq 0.280520$. This logit scale is where the real work and theory is done. To obtain a confidence interval for the odds ratio, simply exponentiate everything:

$$e^{-0.008901} \leq \beta \leq e^{0.280520}$$

$$0.991138 \leq OR \leq 1.323819$$

4.2. Logistic Regression Analysis

Binary logistic regression is carried out in those cases where there is a dependent variable that is dichotomous with the levels representing group membership and the basic idea is that we make an attempt to predict group membership as a function of a set of predictor variables ($X_1, X_2, \ldots, X_P$, $p = 24$). For the data set that we use, the dependent measure is the willingness to buy a dwelling (*WBD*), and the data or the analysis is essentially going to be aimed at predicting respondents' intentions towards being interested in purchasing a home or not being interested in purchasing a home. The dependent variable is actually coded 0 in the case of no intention to purchase a home and 1 representing the intention to purchase a home. The logistic regression model allows us to study whether the inclination towards home ownership is a function of a set of specific predictors.

It is important to note that in the context of a logistic regression we generally focus on the probability of membership in a target category, thus we have to think about any given category that reflects a baseline or reference category and a target category so it is very much akin to our standard notions of dummy coded variables when one level serves as a reference or a baseline group the other one represents a target group. Therefore, any dichotomous variable, be it gender, for example, by virtue of being dummy coded with only two levels can be treated as a scale variable even though it is technically a nominal variable. When evaluating the logistic regression model there are two levels that we want to pay attention to. In the case of a nominal, ordinal (categorical) variable with more than two levels it can be perceived as a factor. The results of the model estimation based on the collected data are presented in Table 6.

Table 6. Estimated coefficients and odds ratios for the logistic regression model containing 24 independent variables.

Variable	Coefficient	Std. Error	Odds Ratio	*Z*	$p > \|Z\|$ [1]
X_1	−0.1247643	0.1526862	0.882705	−0.72	0.471
X_2	−0.2261293	0.1203860	0.797615	−1.50	0.134
X_3	0.0332428	0.0786275	1.033802	0.44	0.662
X_4	0.1358099	0.0845735	1.145464	1.84	0.066
X_5	0.008543	0.2616786	1.00858	0.03	0.974
X_6	−0.4003189	0.2382118	0.6701063	−1.13	0.260
X_7	0.1519902	0.2647534	1.164149	0.67	0.504
X_8	0.2227783	0.2849536	1.249543	0.98	0.329
X_9	0.3238161	0.3849086	1.382393	1.16	0.245
X_{10}	−0.1617417	0.2057888	0.8506609	−0.67	0.504
X_{11}	0.7178044	0.6040112	2.049927	2.44	0.015
X_{12}	0.5930059	0.3236754	1.809419	3.32	0.001
X_{13}	−0.218885	0.0848741	0.8034141	−2.07	0.038
X_{14}	0.1174722	0.1197498	1.12465	1.10	0.270
X_{15}	−0.145042	0.0824701	0.8649859	−1.52	0.128
X_{16}	0.1002081	0.1156578	1.105401	0.96	0.338
X_{17}	−0.0093129	0.0528097	0.9907304	−0.17	0.861
X_{18}	0.6223702	0.1202678	1.863339	9.64	0.000
X_{19}	0.8321992	0.4965759	2.298368	3.85	0.000
X_{20}	0.0499405	0.2799143	1.051209	0.19	0.851
X_{21}	−0.7627512	0.1383390	0.4663815	−2.57	0.010
X_{22}	0.2586861	0.2751482	1.295227	1.22	0.223
X_{23}	0.736895	2.824049	2.089438	0.55	0.586
X_{24}	−1.013119	0.0783137	0.3630847	−4.70	0.000
CONSTANT	−1.670628	0.1341579	0.1881288	−2.34	0.019

[1] These variables are significant at $\alpha = 0.10$ level.

Firstly, we assess the overall fit of the model to the data and then we look at individual predictors in the model. The likelihood-ratio chi-square statistic indicates whether the model which contains a full slate of predictors represents a significant improvement in fit over a null model with no predictors. Since this test is statistically significant there is evidence of a good model fit, at least in relation to a null model (prob > chi2 = 0.00, pseudo R-squared = 0.2889) [2]. The *p*-value is less than the conventional 0.05 threshold, therefore we can reject the null (that the baseline model and our full model exhibit equivalent fit), and thus we can conclude that our model exhibits a significant improvement in fit over the baseline or null model. Moreover, the pseudo R-squared (which is basically McFadden's R-squared) is equal to 0.2889 which constitutes an analogy to the least-squares R-squared (though it is not computed in the same way and it really does not mean exactly the same

[2] Log-likelihood-based pseudo-R-square measures draw comparisons between the log-likelihood of the estimated model and the log-likelihood of the null model. The null model contains no parameters but the intercept. Pseudo-R-squares can then be interpreted as a measure of improvement over the null model in terms of log-likelihood and thus give an indication of goodness of fit.

thing) [84]. It does not represent the proportion of variation of the dependent variable accounted for by the predictors.

In a binary logistic regression model, there can be a multicollinearity problem, a situation where the explanatory variables are highly correlated with each other. The problem of multicollinearity arises when one explanatory variable is not a linear function of another explanatory variable [85]. This would result in biased coefficient estimates and larger standard errors. Thus, if such a problem exists, it is recommended to solve it by removing some of the explanatory variables causing the nonlinearity. Multicollinearity can be mitigated by omitting highly correlated variables or combining variables into an index, or with the use of Tikhonov regularisation in which all parameters are regularised equally (a.k.a ridge regression). In addition, Allison [86] notes that multicollinearity does not pose a problem when dealing with high VIFs of (dummy) variables representing a categorical variable. Multicollinearity problem can also be solved with an increased sample size; in the case of our study, the sample size is large enough (40× number of variables), meaning that multicollinearity should not be of concern. Nevertheless, we performed certain tests that showed that this problem does not occur for the logistic regression model we rely on in our study.

Table 6 displays individual predictors (denoted as X_1, X_2, ... , X_{24}) accompanied by regression coefficients, standard errors, odds ratios, Z values (i.e., Z scores—computed as a ratio of the regression coefficients to the standard errors), and p-values. The latter can be interpreted the same way as it is interpreted in the case of a standard least-squares regression, where a p-value equal to or less than 0.05 would be judged as statistically significant for the predictor; a value that is greater than 0.05 might be an indication that the predictor is not significant in the model. In least-squares regression models the regression coefficient can be interpreted as the amount of change in the dependent variable as a function of one unit increase on the predictor variable. Put differently, the unstandardised coefficient is capturing the predicted change in raw score units for the dependent variable in terms of a raw score change on the predictor. In the context of logistic regression, it is interpreted a little bit differently. It yields the predicted change in the log odds and what this is pertaining to is really the predicted probability of group membership in the target group. Essentially, we kind of model the predicted likelihood or probability of falling into our target group. This is captured through a ratio of two probabilities—probability of a, which is membership in the target group over probability of b which is membership in the non-target group (assuming that these two events are mutually exclusive), and this is what is referred to as the odds ratio.

The term odds stands for a ratio of probabilities; the probability that one event will occur over the probability that another event will occur, assuming that these two events are mutually exclusive so in the context of logistic regression we only consider two groups. In the case of our study, a is the probability of falling into the target category (the intention to purchase a dwelling), whereas b is essentially the probability of falling into the non-target category or the intention not to purchase a dwelling. The natural log of the odds reflects predicted change in log odds for every one-unit increase on the predictor variable.

Why not just model the predictive relationship between studied variables and predictive probabilities? Firstly, the relationship between the predictors and the dependent variable is nonlinear. In the context of a logistic regression, this should be viewed through the lens of a logistic curve, taking into account the probabilities of falling into the above-mentioned two groups. In other words, the relationship between the predictors and the outcome variable is modelled through the process of converting the probabilities to odds and then to log odds.

Speaking about the odds if the probability of the target event is equal to the probability of the non-target event the odds will equal one. If the probability of the target event is greater than the probability of the non-target event then the odds are greater than one. In contrast, if the probability of the target event is less than the probability of the non-target event the odds are then less than one. One can still loosely think about it in terms of a

relationship between the variables and the predicted probabilities with respect to target group memberships. If the odds are greater than one that indicates a greater likelihood for an event *a* (the membership in a target group as opposed to a non-target group).

In the case of our model the variables: X_4, X_{11}, X_{12}, X_{13}, X_{18}, X_{19} (our predictors) are positively related to the likelihood of falling into the intention to purchase a dwelling group (and statistically significant) [3]. Therefore, at higher levels of those predictors, one would expect a greater likelihood that a respondent (young adult) would fall into the intention to purchase a dwelling group whereas at lower levels of those predictors one would expect less probability of falling into the intention to purchase a dwelling group. The opposite is true for the predictors: X_{13}, X_{21}, X_{24} (i.e., the ones that are statistically significant).

For example, X_4 (hometown pop. size; see Equation (4)) is a positive value which indicates that young adults that come from a larger place of origin also are more likely to express an intention to purchase their own dwelling whereas those representing the opposite end of the spectrum are less likely to express an intention to purchase their own dwelling. We interpret the odds for other variables in a similar way. A positive coefficient indicates a positive relationship between the predictor and the likelihood of falling into the target group, and a negative value indicates that at higher levels of the predictor the likelihood of falling into the target group is lower. For example, the negative coefficient for gender (coded zero for male one for female) indicates the probability of falling into the intention of purchasing a dwelling group was higher among females than among males but that difference really was not statistically significant in the model.

The likelihood is not expressed in the form of probabilities but rather captured through the vehicle of log odds, reflecting the ratio of probabilities of falling into the target group over the probability of falling into the non-target group. The odds ratio is actually reflecting the changes in odds for every unit increase on the predictor variable.

The beta coefficients and confidence intervals allow us to make a decision about the null hypothesis; the null is the same as it is in the context of a least-squares regression—that a regression coefficient is equal to zero. Taking 95 per cent confidence intervals we verify whether the null value of 0 does fall within the 95 per cent confidence interval (CI) or not (i.e., falls outside). Basically, we check whether zeros fall outside of the confidence intervals; assuming a two-tailed test for each of the predictors only those with $p < 0.05$ are significant (variables: X_{11}, X_{12}, X_{13}, X_{18}, X_{19}, X_{21}, X_{24}). We also have a confidence interval for the odds ratio and the null hypothesis is that the odds ratio is equal to one, therefore, if the value one falls outside of the confidence interval then we reject the null, and if it falls between the lower and the upper bounds of the confidence interval then we maintain the null.

To evaluate the model, we performed some specification diagnostics and goodness-of-fit analysis. The Hosmer–Lemeshow goodness-of-fit test is another sort of global measure of fit (a chi-square test). Unlike the chi-square test above indicating a good model fit for p-value < 0.05, the Hosmer–Lemeshow test yields a good fit measure for non-significant chi-square statistic. Therefore, non-significance with the Hosmer–Lemeshow test is an indicator of a good model fit. In the case of our model, the chi-square value is equal to 999.52 and the p-value is 0.115 (Pearson chi2 (947) = 999.52, prob > chi2 = 0.115), which indicates a good model fit to the data. Another bit of information is provided by the classification table and sensitivity tests. Tables 7 and 8 shows the classification results.

The logistic regression model allows us to generate predicted probabilities for group membership and based on those predicted probabilities we can essentially generate a prediction as to whether a young adult (respondent) would fall into the group "zero"—the *intention not to purchase a dwelling* group and the group "one"—the *intention to purchase a dwelling* group. The classification table addresses the correspondence between the observed group membership and group membership that is predicted based on the logistic regression model. There are true and classified measures, reflecting the observed group memberships

[3] Predictor X_4 is not significant in case a two-tailed criteria is used; if we adopt a one-tailed criteria it would be considered statistically significant.

and the memberships based on the classification (based on the prediction model). In the case of our model, we have—555 cases that were observed to fall into the *intention to purchase a dwelling* group whereas 428 cases that fell into the *intention not to purchase a dwelling* group. Of those 555 respondents who expressed an intention to purchase a dwelling, 449 were predicted correctly by the model, falling into the target category. Therefore, the accuracy rate for the target group (coded one) is almost equal to 81 per cent (80.90 per cent to be exact) which is a high score, meaning that our model exhibits a high predictive power. Put differently, the model does a very good job in terms of predicting those individuals who would express an intention to purchase a dwelling. Moreover, 312 individuals were predicted by the model to express an intention not to purchase a dwelling, meaning that 298 out of 428 instances were correctly classified based on the logistic regression model. Hence, its accuracy rate (to predict non-target group values) is about 70 per cent. The overall accuracy rate of the mode is equal to 76 per cent (those correctly classified on both ends of the spectrum). The overall conclusion is that our model does quite a good job when predicting those who express an intention to purchase a dwelling versus predicting those who express the intention not to purchase a dwelling. This is very useful information when making a judgement about the overall fit of the model.

Table 7. Classification results for the logistic model.

	True		
Classified	**D**	**~D**	**Total**
+	449	130	579
−	106	298	404
Total	555	428	983

Note: D reflects all cases observed to fall into the group of intention to buy a dwelling, and ~D corresponds to cases observed to fall into the group of intention not to buy a dwelling. The + sign counts all cases that were correctly predicted by the model and fall into the target category, while the − sign counts those that were not correctly predicted by the model.

Table 8. Sensitivity, specificity, positive and negative predictive values of the logistic regression model.

Measure	**Classification**	**Accuracy**
Sensitivity	Pr(+ | D)	80.90%
Specificity	Pr(− | ~D)	69.64%
Positive predictive value	Pr(D | +)	77.56%
Negative predictive value	Pr(~D | −)	73.76%
False + rate for true ~D	Pr(+ | ~D)	30.36%
False − rate for true D	Pr(− | D)	19.10%
False + rate for classified +	Pr(~D | +)	22.44%
False − rate for classified −	Pr(D | −)	26.24%
Correctly classified		76.00%

Note: Classified + if predicted Pr(D) $\geq$ 0.5, True D defined as wbd ! = 0.

5. Discussion

The results of the logistic regression analysis conducted led to a number of interesting findings. The inclination towards home ownership tends to be more prevalent among women than men (X_1). The estimated odds ratio is 0.8827, or 1/1.1328, which is less than one, indicating that men are less likely to declare their intention to purchase one's own home compared to women's odds ratio of making a similar declaration. More specifically, the probability of a woman declaring her intention to purchase a home is 1.1328 times as large as the probability of a man declaring a similar intention. That is to say, women are much more interested in purchasing a home than men, which holds true after adjusting the sample weights accordingly so as to make it representative of the population as a whole. In fact, this is only a confirmation of the evidence already provided in previous studies, namely that it is mainly women whose opinion is decisive when it comes to buying a

dwelling [72]. Consequently, today's marketing activities are specifically targeted at the female sex, because according to real estate agents and professionals in the field, women usually have the last word when it comes to buying a house [72]. However, the result for variable X_1 fails to be statistically significant ($p < 0.05$).

Every higher age bracket implies a lower willingness to purchase a home. The variable age bracket (X_2) displays a coefficient of −0.226. The odds ratio is equal to 0.797615, i.e., 1/1.2537. The odds ratio of the desire to purchase a home in the age group 18–25 is 1.2537 times greater compared to the 26–35 age group. The same is true when we compare the average age group 26–35 with the oldest studied age group, i.e., 36–45. This shows that, on the one hand, as people become older, they usually have already made certain life choices which they have no intention of backing away from. As de Jong et al. [87] note, while housing market mobility declines sharply with age, the motivation associated with the willingness to purchase a home should increase with age among young adults. Unlike younger age groups, older adults tend to "stay put". There is little evidence to indicate whether this immobility of older adults is due to choice or constraints.

Moreover, a higher level of education attained translates into a higher estimated odds ratios for purchasing one's own home. Education (X_3) has a coefficient of −0.033. It turns out that the chances of purchasing a dwelling are higher while transitioning to each subsequent educational group, which is expressed by the odds ratio that is equal to 1.0338. In the case of this last variable, the obtained result turned out to be statistically significant ($p < 0.05$). The predicted probabilities for variables X_2 and X_3 are displayed in Figure 2.

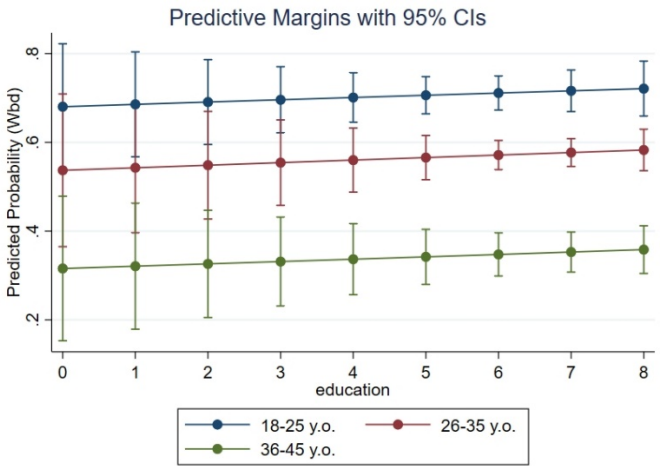

Figure 2. Predicted probabilities of the inclination towards home ownership.

This is consistent with the findings of Wang and Li [88], who argued that the influence of education on housing preference is very strong.

The size of the respondent's hometown population (five different categories) is meaningful in the sense that each higher category increases the odds ratio by 1.1454 (a statistically significant result). In other words, those most interested in home ownership are primarily those individuals who come from large cities. The results show that personal financial situation is of certain importance, although from being employed (variable X_5—employment status), which only marginally increases the odds ratio (actually the results are impartial—the odds ratio equals 1.0085), much more important—and in this negative sense—is the lack of any job, as evidenced by the status of a job-seeker (X_6). The impact of this variable turned out to be negative in terms of the propensity to own a home. In other words, having a job is perceived by respondents conservatively (it does not specifically affect the outcome), while not having a job is perceived radically, causing them to stop thinking about home ownership. Thus, in the latter case (variable X6), job-seeking status (coefficient −0.4003), the estimated odds ratio is 0.670106, or 1/1.4923, which is less than one, indicating that the probability of an individual who does not declare job-seeking status and is inclined

towards purchasing a home is 1.492 times higher compared to an individual who has declared such (jobseeker) status.

The positive effect on the propensity to purchase a home is evidenced by the odds ratios for such predictors as: being a student ($X_7, \hat{OR}$: 1.1641, 95%CI : 0.7454–1.8179), remaining in a marital/non-marital relationship ($X_8, \hat{OR}$: 1.2495, 95%CI : 0.7991–1.9537), raising children ($X_9, \hat{OR}$: 1.3823, 95%CI : 0.8009–2.3858), the number of persons per room ($X_{12}, \hat{OR}$: 1.8094, 95%CI : 1.2743–2.5692), the level of rental and all related fees ($X_{16}, \hat{OR}$: 1.1054, 95%CI : 0.9004–1.3570), and the perception of the mortgage rate compared to rental payments ($X_{18}, \hat{OR}$: 1.8633, 95%CI : 1.6419–2.1146). In this context, the results of our study are consistent with the findings of previous research, such as that conducted by Sitek [6] for a group of undergraduate and graduate students, which showed the need to address this social group in government policies. More specifically, government programmes should be designed to provide real credit support to young people early in their adult lives, rather than once they have a stable, well-paid job. This could be possible through:

- Supporting young people not only by subsidising the interest but also the personal share of the mortgage loan;
- the introduction of "credit holidays", especially at the beginning of the repayment of the mortgage loan;
- adjusting the terms of the mortgage loan subsidy so that they are attractive not only at the beginning of the loan repayment but throughout the entire period (previous government programmes offer an interest subsidy only in the first half of the loan repayment) [6].

The positive effect of the relationship status variable is consistent with the economic theory put forward by Becker [89], namely that marital status is an economic decision, and its natural consequence is a joint pursuit of resources and division of labour in the household. Relationship status, in this sense, has a motivational significance, in that those in some form of relationship have greater aspirations to raise their level of utility above what it would be if they remained single [89]. Similarly, Abramsson and Andersson [90] argued that relationship status (they were specifically referring to a change in civil status) is important and even more important than "age" in this respect. According to these authors, being married reduces the likelihood of living in a type of property other than home ownership. On the other hand, being divorced or widowed increases the probability of living in a type of ownership other than homeownership. Marital or relationship status may be more likely to motivate young adults to strengthen family ties, for which, according to the traditional worldview, one needs one's own home.

The positive impact of having a child, in turn, is consistent with the research findings presented by Berach and Johnson [1] and Levy et al. [91], who consistently argued that having a child is an important factor influencing the overall decision-making process regarding a household's housing situation. Moreover, previous research has shown, for example, that children who grow up in owner-occupied housing also tend to perform better academically [1].

In turn, the number of persons per room or living space per person is a factor that correlates with the material situation of households. On the one hand, it can be assumed that households aim to minimise the number of persons per room (maximise the living space per person), as this improves living comfort, on the other hand, this indicator can be a proxy variable reflecting the material situation of the household [8]. This is also consistent with what Ulman [92] has argued, namely that households inherently strive to improve their living conditions, and that the living area per person—as well as the number of persons per room—indicate worse conditions for poorer households.

An important issue arising from the survey results is the variable perception of mortgage instalment amount compared to rent payments. The higher this perception/awareness of the respondent, the more he/she is interested in purchasing a dwelling, which is in line with the expectations. Similar conclusions were reached by Kim and Cho [93], who argued

that household income and the mortgage interest rate are the two key determinants of housing affordability.

Interestingly, individuals who declared insufficient resources for one's own contribution $(X_{19}, \hat{OR} : 2.2983, 95\%CI : 1.5049–3.5101)$, insufficient funds for mortgage repayment $(X_{20}, \hat{OR} : 1.0512, 95\%CI : 0.6237–1.7715)$, and unwillingness to expose oneself to financial hardship over the course of entire life $(X_{22}, \hat{OR} : 1.2952, 95\%CI : 0.8541–1.9641)$—at the same time paradoxically showed a higher inclination towards home ownership. The estimated odds ratios are respectively: 2.2983, 1.0512, and 1.2952. It is evident that respondents are least concerned about the lack of funds for their own contribution, and only distantly further in the order is the awareness that they are burdened with mortgage loans for life, and finally, the conviction that they cannot afford to repay the mortgage. The conclusion is that despite the difficulties, the desire to own a house/dwelling is very strong among young adults and the awareness of difficulties does not discourage them from the intention to purchase their own home. This proves all the more that offering them appropriate financial products (in the form of easy-to-access mortgage loans) is not only necessary but also desired and urgent. In a similar study, also conducted for the Polish realities, Sitek [6] highlights the importance of own contribution in taking out home loans. Most mortgage loans were granted with a personal contribution of more than 20% of the value of the purchased property. One of Sitek's [6] conclusions was that potential borrowers often make a low own contribution. Therefore, the level of own contribution can potentially influence the decision-making process when it comes to choosing housing preferences. Interestingly, the explanation of not having sufficient resources for their own contribution or not feeling ready to face a lifetime of financial hardship does not discourage young adults from purchasing housing. This shows that appropriate mechanisms/instruments need to be put in place to facilitate their acquisition of housing.

On the other hand, those individuals who expect to inherit a house/dwelling in the future $(X_{21}, \hat{OR} : 0.4663, 95\%CI : 0.2607–0.8341)$ and those who already own a house $(X_{24}, \hat{OR} : 0.3630, 95\%CI : 0.2379–0.5541)$ are less inclined towards purchasing a home, which appears to be self-evident. As home ownership in many countries has grown and matured, aspects of wealth and inheritance have become an important dimension of housing debates [8]. The exception here is when young adults are waiting for a social housing allocation from the state/municipality $(X_{23}, \hat{OR} : 2.0894, 95\%CI : 0.1477–29.546)$, as this situation does not weaken their aspirations to own a dwelling; alternatively, they equate receiving such a dwelling from a social allocation with their aspirations towards home ownership, which may have been what they wanted to express in the survey. As family policy and combating negative demographic trends are among the Polish government's top priorities, the Polish government is creating appropriate housing programmes specifically targeting these individuals. Such programmes aimed at supporting young people in Poland have been implemented in the past and should be modified in view of the changing environment [8,22]. The list of such programmes was given in the work of Sobieraj [8], including such programmes as the *Family on Its Own* programme (2007–2012) or the *Housing for Newlyweds* programme (from 2014). Moreover, our findings are consistent with Zillow's [94] report on consumer housing trends, which shows that the longer someone has been renting a dwelling, the more likely he or she is to stay put. According to this report, more than half of tenants who do not want to move have rented for five or more years. In other words, the length of the tenancy has a negative impact on the desire to buy their own home. Therefore, we argue that raising young people's awareness of this issue from an early age, stimulating their awareness and encouraging young people's interest in home ownership must play an important role in housing policy. The higher the tenant's payments, the more inclined they are to change their attitude towards renting and shift their preference in this regard towards home ownership. This means that those who bear a greater burden of the costs associated with rent payments are also likely to have a greater awareness of existing housing alternatives and know, for example, that they could pay

off the mortgage on their own home with the amounts equivalent to (or possibly slightly higher than) the rent payments.

It should also be mentioned that those declaring that they live with their parents did not show a desire to own their own home $(X_{10}, \hat{OR} : 0.8506, 95\%CI : 0.5294–1.3667)$. In contrast, those living on their own showed a very strong inclination towards home ownership $(X_{11}, \hat{OR} : 2.0499, 95\%CI : 1.1506–3.6521)$. Probably such individuals are very aware of the high costs of renting, which they could better utilise if they decided to buy their own dwelling.

6. Conclusions

In this paper, we provide evidence on the propensity of young adults in Poland to acquire home ownership. The study is based on a 2020 CAWI (n = 983) survey conducted among young Poles aged 18–45. The questionnaire allowed us to examine whether young people in Poland (in the age group 18 to 45) prefer buying a home to renting and what determines their decisions in this regard.

Firstly, our results show that the prevailing view that young people prefer renting to buying their own property is demonstrably false, contrary to previous research. The survey showed that the vast majority of young people in Poland prefer to be homeowners. Over time, they realise their plans in this area with the financial resources they accumulate during their careers and the affordability of home mortgages. This is evident from the survey data, which shows that the number of respondents who rent a dwelling decreases with each age group, while the number of homeowners increases. It is mainly young people (from the lower age group) who choose to rent, i.e., from the first age group (18–25). On the other hand, home ownership is important for more than 90 per cent of the respondents because it gives a feeling of security and stability and creates good living conditions.

Secondly, the path to home ownership is not an easy/straightforward one, and the difficulties in following it can be attributed to two main reasons: (1) insufficient funds to raise the minimum equity required to purchase a housing unit; (2) lack of creditworthiness in the respondent's own or the bank's estimation, or the respondent's concern about the sustainability of such creditworthiness. This suggests that the housing finance subsystem has certain shortcomings when it comes to financing young people. Strategically, it should be complemented by: (1) a long-term building savings plan or programme; (2) new types of mortgage loans for housing that take into account the specificities of the financial situation of young people. The first solution should be developed in cooperation between the banks and the Polish Government, while the second solution can be developed independently by the banks within the framework of the housing loan evaluation regulations established and supervised by the Polish Financial Supervision Authority. There are already proven models to follow in this regard. The American system seems to be a good solution, as there is a wide range of different types of housing loans developed over decades and aimed at US citizens. There is a possibility that banks operating in Poland offer similar loan products.

Thirdly, of the 252 respondents (just over 1/4 of all responses) who live with their parents: 63.9 per cent choose this option because of financial difficulties, i.e., because they are unable to take out or repay a loan; 33.7 per cent live with their parents because of their current living situation. The survey data shows that those who are in some way forced to live with their parents are almost twice as many as those for whom this is a preferred (comfortable) solution. This suggests that this group would also be interested in a long-term building savings programme and in appropriately structured mortgage loans. The basic conclusion from our study seems to be that a certain gap in the banking sector needs to be filled in the area of real estate financing, i.e., in the housing finance subsystem [95].

Fourthly, taking into account a number of individual characteristics (e.g., gender, education, hometown population size), it appears that single individuals and those with a higher tolerance for mortgage interest rates are more inclined to home ownership compared to renting. This result underlines the desirability of easier access to mortgage credit.

Contrary to Banerjee [96], who claimed that singles are less motivated and only 60 per cent of them decide to buy a house, our study shows the opposite. At the other end of the spectrum are people living with their parents and individuals sharing their home space with other family members. The results indicate that they have a lower interest in buying a home. Interestingly, explaining that one's own means are not sufficient to make a personal contribution or that one is not willing to face a lifetime of financial hardship does not discourage young adults from purchasing a dwelling, which again shows that appropriate mechanisms/instruments need to be put in place to facilitate their purchase of a dwelling.

All in all, the study contributes to a better understanding of the motivations young adults in Poland (aged 18–45) underpinning their housing preferences and specific choices in this regard.

7. Limitations of the Study

One of the limitations of the research method we have employed is the risk of its application in a non-optimal way. Hence, there is a common tendency to overestimate the conclusions drawn from the logistic regression analysis, for example, in terms of both its strength and the validity of the results. It is important to stress that logistic regression models are usually only approximations of reality. On the other hand, the same holds true for all statistical models. When conducting logit analysis, a common mistake is to omit some variables that would better explain the causal processes and other features of the studied phenomenon. As a consequence, there is a risk of biased parameter estimates and inaccurate estimates of standard errors. And although our model exhibits a good fit to the data, this in no way guarantees that all relevant variables were incorporated into the model.

When interpreting the results of the survey, one should bear in mind that the sample of individuals invited to participate in the survey could not be representative for specific features of the surveyed characteristics due to sample bias resulting from different response rates in particular strata (e.g., gender, education, hometown population size, etc.). This could, of course, be compensated for by an appropriate weighting procedure, but this was not the purpose of the survey.

Furthermore, the related future line of research could focus on the following issues: (1) Identification of solutions to overcome the domination of mortgage loans provided on the Polish housing market by banks, while still preserving the golden rule of banking and the banks' efforts to increase people's interest in mortgage loans; (2) identification and analysis of effective and efficient methods of mortgage financing which is used by banks operating in the United States of America; (2) indication of propositions for a new way of crediting home purchases that could be applied in Poland; (3) determination of the demand for a new type of mortgage loans in Poland; (4) analysis of mortgage lending models based on the US experience, following a review and evaluation of the banking literature.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A.

In this section, we provide a more detailed rationale for the relevance of the variables used in the logistic regression model.

Table A1. List of variables used in the analysis and their relevance in the context the logistic regression model.

Var	Variable	Reason
Y	inclination towards home ownership	the phenomenon under study
X_1	gender	Levy et al. [91] found that women were generally more likely to recognise the need to acquire property, especially among younger families. In families made up of older couples, men were seen as having a greater influence, particularly when it came to the ongoing maintenance of the current property. Madigan et al. [97] point to gender differences in the understanding of home ownership. They argue that men are often more concerned with issues of status and exchange value than women. On a broader level, Dowling [98] argues that initial thinking about gender and homeownership led to a simple focus on gender issues that centred on the notions of men-status-homeownership and women-family homeownership. Dowling's [98] work seeks to break through this simple orientation and highlights the complexities that exist. She argues that there is a conflict between family and status-based home ownership, a conflict that is different for men and women and according to geographical location. In the New Zealand context, Dupuis and Thorns [99] and Winstanley et al. [100] address issues of home, identity and gender. Dupuis and Thorns [99] found strong stereotypical gender roles in their interviews. Women were concerned with the wealth kept and displayed in the home, while men focused on increasing the value of the home through structural maintenance. However, Winstanley et al. [100] argue that the pastime of home improvement is deeply embedded in New Zealand culture and was demonstrated by both male and female participants in their study. Clearly, gender issues play a role in the decision-making process of families buying a house. The current study picks up on the gender issues discussed by the respondents. Gender was also one of the variables Law and Meehan [80] used in their model to examine the likelihood of home ownership and housing affordability.
X_2	age bracket	The division into the age groups resulted from the assumed phases of human social development, which correspond to different stages of a person's life [14–16]. The above age groups are confirmed to some extent by data from the Polish Central Statistics Office (CSO), which indicate that young adults change their marital status much later today than two or three decades ago. Age was analysed using the following three age groups: 18–25, 26–35 and 36–45 years respectively: (a) 18–25 years—a period when one enters adulthood, begins studies or post-secondary education, or starts work. It is usually associated with the need to rent a flat, which usually involves a change of residence; (b) 26–35 years—entering the workforce after graduation or consolidating previously acquired professional position. Stabilisation of life, including the desire to separate from parents, which confirms one's status as an adult. In this age category, many people start their own family; (c) 36–45 years—at this age, young adults are expected to stabilise their occupational and housing situation. Many people at this age own their own home.
X_3	education	Haurin et al. [30] point to better social outcomes, a favourable environment for starting a family or higher educational attainment. Dietz and Haurin [28] studied the economic and social consequences (impacts) of home ownership. Their results show that home ownership is important from a governmental perspective and has an impact on young people's education and outcomes. Conversely, parents or single people with higher levels of education may consciously or unconsciously transfer some entrenched, normalised choices about buying or renting their own home. It would therefore be expected that individuals with higher levels of education would seek to purchase their own dwelling. Wang and Li [88] find that the influence of education on housing preferences is very strong. The estimated choice equations show systematic differences between education groups. According to Wang and Li [88], education, which directly shapes a person's preferences, has implications that go beyond the effect due to income as far as housing preferences are concerned.
X_4	hometown population size	The hometown population size leads to a greater willingness to buy a house. This can be indirectly (implicitly) inferred from the study by Wessel and Lunke [101].

Table A1. *Cont.*

Var	Variable	Reason
X_5	employed	Law and Meehan [80] used logistic panel regressions to examine how the likelihood of home ownership and housing affordability depends on a wide range of demographic and economic variables. Income was one of the variables they used in their model. Employment is the main source of income for most households. By contrast, household income and mortgage interest rate are the two most important determinants of housing affordability [93].
X_6	jobseeker	Leishman et al.'s [102] study found that jobseeker interventions significantly affect the incidence of housing affordability stress.
X_7	student	Rhodes [103] notes that full-time students are a large and growing group of people. They are a part of the population that represents a particular major demand group for housing, as they have relatively well-defined requirements that distinguish them from most other people of a similar age. Despite this, there has been little research into how student housing needs are met, how local housing markets respond to their demand and the interaction between full-time students and other competing groups of demand for housing. Broton and Goldrick-Rab [104] point to the challenge faced by a growing number of students: Housing insecurity. A perfect storm created by a weak economy, a lack of affordable housing, high university costs and inadequate financial aid means that more and more students are pursuing their degrees without a roof over their heads at all times. Sitek [6] notes that the interest of Polish students and graduates (aged 25–30) in investing in the purchase of housing is increasing. He also points out that there is a lack of government programmes and insufficient support for the housing needs of this particular social group (i.e., students and graduates).
X_8	family/relationship status	Becker's [89] economic theory of marriage, which states that the decision to marry is essentially an economic decision. Becker outlined two principles of marriage. First, people marry to gain resources and achieve a division of labour in the household. He stated: "It is reasonable to assume that individuals who marry (or their parents) expect to raise their utility level above what it would be if they remained single". Traditionally, men sought marriage as a way to partner with someone to run the household and raise the children, while women traded their domestic labour for financial security. According to the study by Abramsson and Andersson [90], marital status is also important, even more important than "age". Being married decreases the likelihood of living in a tenure type other than homeownership. Being divorced or widowed, on the other hand, increases the likelihood of living in a tenure type other than owner-occupied. Marital or relationship status would be more likely to motivate young adults to strengthen their family ties, for which, according to the traditional worldview, one needs a house of one's own. Finally, previous research has shown, for example, that children who grow up in owner-occupied housing also tend to have better educational outcomes [1].
X_9	rising children	According to Beracha and Johnson [1], home ownership can be associated with social factors such as crime prevention, child development and educational benefits. Levy et al. [91] point to a more equal gender role in situations where adult family decision-makers do not have children. In this context, there is no doubt that having a child is an important factor influencing the overall decision-making process regarding a household's housing situation. The stage in the family's life cycle and the type of family structure thus influence attitudes towards housing preferences in relation to decision-making within the family. Chi and Laquatra [105] also developed a model showing that the burden of high housing costs falls disproportionately on certain groups of households, namely households with three or more children and female-headed households with three or more children. These groups tend to have a higher risk of excessive housing costs.
X_{10}	living with parents	Previous research shows that young adults are somehow forced to live with their parents or become renters [34,50]. Financial transfers from parents increase the chances of young adults buying their own home [34,50].
X_{11}	living alone	The phenomenon of increasing numbers of one-person households is gaining momentum and is highlighted by many researchers [106–108]. From a global perspective, modern families are undoubtedly not as integrated as they once were, as evidenced by statistical data on marriage breakdown or cohabitation dissolution and the growing number of one-person households. The increasing insecurity associated with modern relationships may paradoxically contribute to a sense of insecurity and instability among those living in such relationships.
X_{12}	number of persons per room	The number of persons per room or the living space per capita is a factor that correlates with the material situation of households. On the one hand, it can be assumed that households strive to minimise the number of persons per room (maximise living space per capita), as this improves living comfort; on the other hand, this indicator can be a proxy variable reflecting the household's material situation [8]. According to Ulman [92], living space per capita, as well as the number of persons per room, indicate poorer conditions of poorer households.

Table A1. *Cont.*

Var	Variable	Reason
X_{13}	number of dependants	The number of dependants affects household economics [109]. According to Rikwentishe et al. [110], family size and the number of dependents affect savings as they are associated with expenditure. The study by Sampige Narayana Rao [111] concludes that the number of dependents affects the repayment of loans by borrowers and household expenditure affects the ability of the borrower to repay loans. Moreover, previous studies suggest a significantly low negative correlation between the number of dependents and financial risk-taking tolerance [112].
X_{14}	renting a home	The relationship between rent and housing preferences was explained in the Zillow Group study [94].
X_{15}	length of renting period	Zillow's [94] report on consumer housing trends shows that the longer someone rents a flat, the more likely they are to stay put. According to this report, more than half of tenants who do not want to move have rented for five or more years. In other words, the length of tenancy has a negative impact on the desire to buy a home. Therefore, we argue that raising young people's awareness of this issue from an early age, stimulating their awareness and encouraging young people's interest in home ownership must play an important role in housing policy. The higher the tenant's payments, the more inclined they are to change their attitude towards renting and shift their preference in this regard towards home ownership (buying a home). This means that those who bear a greater burden of the costs associated with rent payments are also likely to have a greater awareness of existing housing alternatives and know, for example, that they could pay off the mortgage on their own home with the amounts equivalent to (or possibly slightly higher than) the rent payments.
X_{16}	(level) of rental and all related fees	Chi and Laquatra [105] have shown that renters suffer from a higher housing cost burden than homeowners and that the lower the household's income, the greater the proportion of income spent on housing. Therefore, the level of cost burden associated with rent may influence the decision/choice of housing preferences.
X_{17}	my share in all housing payments	One's share of all housing payments influences the perception of the person answering the questions on housing preferences. A larger share of housing costs may affect one's opinion in this regard [15,16].
X_{18}	mortgage rate compared to rental payments (perception)	According to the construct, household income and mortgage interest rate are the two most important determinants of housing affordability [93].
X_{19}	insufficient funds for own contribution	Sitek [6] highlights the importance of own contribution in taking out home loans. The majority of mortgage loans granted were those where the own contribution was more than 20% of the value of the property purchased. One of his conclusions was that potential borrowers often make a low own contribution. Therefore, the level of own contribution can potentially influence the decision-making process when it comes to choosing housing preferences.
X_{20}	insufficient funds for mortgate repayment	The mortgage interest rate was one of the variables Law and Meehan [80] used in their model to examine the likelihood of home ownership and housing affordability. According to the construct, household income and mortgage interest rate are the two most important determinants of housing affordability [93].
X_{21}	expectation of the inheritance of a dwelling in the future	As home ownership has grown and matured in many countries, aspects of wealth and inheritance have become an important dimension of the housing debate [113]. The links between housing and the accumulation of wealth have received little attention in recent years. The dominant concerns of housing policy and housing research have been issues of access, mobility and use. Murie and Forrest [114] argue that housing has reached a critical stage in its development where new issues are emerging, particularly in relation to the inheritance of property and differential accumulation of wealth. Current trends point to increasing polarisation between owners and non-owners of property, an increasingly stratified sector of owner-occupation, and a situation in which housing processes can create and sustain new patterns of inequality.
X_{22}	unwillingness to expose oneself to financial hardship over the course of one's entire life	Fuster et al. [49] argue that home ownership among young adults is no longer associated with security and stability, but rather perceived as a life burden and financial risk. Discourses on rental norms have also changed. Young people are increasingly confronted with making decisions under conditions of high uncertainty, e.g., uncertainty about job stability, uncertainty about the future, uncertainty about the durability of a relationship with a partner, binary events such as COVID-19 that change the optics of looking at financial burdens; uncertainty about price stability in the housing market, the increasing occurrence of 'black swans' [115]. Therefore, renting is seen by young adults as something that offers them greater security and more flexibility. Goodman et al. [48] predict that the processes we are currently experiencing will lead to a decreasing number of new household formations in the current decade (between 2020 and 2030).

Table A1. *Cont.*

Var	Variable	Reason
X_{23}	awaiting housing assignment from the state/municipality	Sobieraj [8] points out that under Polish conditions, waiting for a communal flat is the only chance for many young people in Poland to own a flat; therefore, it is worth including this aspect in the model describing the decision-making process regarding housing preferences.
X_{24}	already have one's own dwelling and does not need one	Some of the respondents already own a flat but may be interested in buying a second flat for investment purposes or in buying a larger flat [15,16].

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