

Survey of the State and Change in the Number of Unoccupied Properties in Bulgaria

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Abstract

This article presents the results of a study on the number, dynamics and distribution by area of unoccupied dwellings in Bulgaria. The distinction between unoccupied and abandoned residential property is clarified, as are the reasons why a residential property may be unoccupied. Furthermore, the possible benefits and ways of including part of the non-residential properties into the commercial turnover are discussed and a thesis is substantiated, namely: that the very existence and presence of non-residential residential properties as a form of assets with expected benefits of settlement or price increase in the long-term would not contradict with what market logic is; moreover, if they make a moderate share of the total housing stock they should not be considered a negative as they do increase national and personal wealth. What has been used here is data from the 2011 and 2021 population and housing censuses and statistical methods of analysis including descriptive development indicators, correlation analysis and index factor analysis. Some conclusions were drawn to focus

attention on issues like improving transport, utilities and social infrastructure in rural areas in order to increase the attractiveness of vacant housing in these areas. What is proposed: to intensify controls on the management and use of formally unoccupied housing so as to limit the relative share of the grey sector in letting housing property. The article also contains a summary of both national and international experience in terms of any possible changes to the status of unoccupied properties.

Keywords: unoccupied housing property, exploratory factor analysis, censuses.

JEL: R28, R32

Introduction

The issue of unoccupied properties in Bulgaria is an indisputable issue of interest to both local governments and real estate agents plus population and it rises where any such properties result abandoned and list into the category of self-destructing and become sources of hazards to local communities. The Bulgarian National Statistical Institute's (NSI) data from the 2021 Census shows that nearly 46% of residential buildings in Bulgaria were unoccupied. (Economic.bg, 2023) Given our reality, there are some radical

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and even exotic ideas (Economic.bg, 2023) as to how these properties might be utilised. This problem is not new and a number of studies have been made worldwide dealing with the reasons, the number and effects affecting the urban environment and the real estate business arising from the existence of such uninhabited housing. However, it would be necessary to distinguish between uninhabited and abandoned homes. In addition, they can be seen not only as an unused resource or threat, but also as a reserve, a treasure that is not eternal, but is too durable and would usually tend to raise its price over time very much unlike the money invested as a deposit in the banking system. It could be assumed that this part of the unoccupied properties, which are fully ready and fit for being inhabited and not included in the housing renting turnover, would lead to a deficit of living space in large cities and therefore raise the level of rents, but the same logic would be in force in terms of other assets, which are valuable but not participating in economic turnover such as investment gold, rare and non-ferrous metals, agricultural lands, etc.

The purpose of this study will be to evaluate the change in the number and territorial distribution of uninhabited dwellings across the provinces of the Republic of Bulgaria and to consider some factors that form them.

Discussion of the relevant literature

Unoccupied (free) properties may well be an important aspect on the real estate market; however, they may also entail some major consequences for the society that would not only yield the quantitative measures of offer, they may also trigger some social effects such as reduction in the of the feeling of security, deterioration of urban environment, etc. Therefore, according to us, it will be

essential to clarify the very concept of “unoccupied (vacant) properties” in the first place and this is because at both a scientific and institutional level, a universal harmonised definition is non-existent and this may entail a variety of interpretations and readings. Some authors define the concept too broadly, namely: “as a residential unit that is empty at some point in time.” (Vakili-Zad et. al. 2011) Thus defined, the concept may cover various aspects: 1) properties that are temporarily empty due to a change of occupants or are undergoing renovation; 2) properties that are unfit for habitation; 3) properties that are completed but not yet occupied; 4) properties meant to be owner-occupied over holidays or intended for short-term rental (e.g. AirBnb); 5) properties purchased for investment purposes, etc. Gu et. al. define vacant properties as houses with no households living in them, including houses meant for rent and for sale, a second home and others such as abandoned houses. (Gu, J. & Asami, Y, 2016) The United States Census Bureau distinguishes between seven different categories of unoccupied housing units: (1) vacant to rent out; (2) rented out but not occupied yet; (3) vacant to sell; (4) sold but not occupied yet; (5) maintained for seasonal, recreational, and occasional use; (6) maintained for seasonal, recreational, and occasional use; (7) other vacant. The category “other vacant” would include but would not be limited to properties that are either “neglected” or “abandoned”. (Mallach, A., 2018) What defines a property as abandoned, which is often used as a synonym for vacant property, in most cases complicates the efforts of researchers or government officials to measure their extent and concentration. According to some authors, there are three different aspects of abandoning: functional, financial and physical (Hillier et. al. 2003),

which is also linked to the allocation of resources for the implementation of functional strategies (Mihaylova & Papazov, 2024). Functional dereliction exists when the property is uninhabitable and unsuitable for living due to the absence of essential features that would provide safety and comfort such as broken and/or missing windows and doors. Financial abandonment occurs when an owner stops taking on their financial responsibilities, such as paying a property tax or mortgage. Physical abandonment is typical of properties unfit for habitation owed to neglect by the owner in terms of any necessary maintenance and repairs, such as poor condition of roof or walls or installations, etc. Undoubtedly, this category is an important indicator defining the property and general conditions typical for the neighbourhood, as it would show both the presence of unoccupied yet potentially problematic properties in terms of social instability, depreciation, crime and other possible negative consequences. Of interest is the definition given by the National Statistical Institute of the Republic of Bulgaria, based on the data from the last population and the housing stock census conducted in 2021. In the methodological notes, only the concept of “inhabited properties” is defined, including properties which at the time of the census were permanently inhabited by households” (NSI). In this regard, there should be cases where certain properties are not considered inhabited, although they are actually used, such as: 1) when a family owns two properties and lives in one of them while the other, for example, is where their children live. Although the property is where their children live, it will be classified as uninhabited, since the main home of the family is the property in which they constantly reside. 2) When a property is rented out, but the renting

is not officially declared. In this case, even though the property is rented out and actually inhabited, it would be considered uninhabitable as it does not meet the criteria for inhabited housing according to statistical standards. 3) Vacation/seasonal properties which have temporary residence status, etc. In our view, particular attention should be paid to the methodological aspects of the concept of “uninhabited property” and, more specifically, to how these spaces are defined and measured, in the context of data collection and survey methods. An important question in this regard is: How is a distinction between natural (housing for sale or renting or investment purposes) and problematic housing units (old abandoned houses, hereditary properties, etc.)? In this regard, it would be extremely useful to know the reasons behind this home to be classified as “uninhabited”, information about the geographical location of these properties (urban, rural, coastal, winter, etc.) to determine the possible cause of vacancy, etc. According to Fitzgerald, it is almost impossible to distinguish the second homes from uninhabited housing, because in both cases there is no one to answer the questions of those conducting surveys (Fitzgerald, 2005). It is in these cases that the numbers can be extremely unrealistic and artificially distorted. There are also numerous scientific studies “uninhabited (vacant) residential properties”, with the authors focusing on various aspects and factors that have a direct and/or indirect influence on the level of employment, the causes of uninhabitableness, as well as the economic, social and political consequences concerning the society and the real estate. Couch et. al. studied unoccupied properties, shrinking of cities and the policy responses in Liverpool. In their study, they made an attempt to identify

the different types of vacant properties in the urban market and the reasons for their occurrence. The authors point out that there is a link between vacant housing and shrinking cities. The reasons for this decline, which include regional differences, suburbanisation and internal demographic problems, were also discussed. Structural housing vacancies were indicated to have arisen due to changes in the characteristics of demand for housing, or due to different locations, housing types, size and ownership. According to their study, vacant housing is concentrated in certain inner-city areas of social housing and low-quality housing in the private sector, as well as some peripheral social housing complexes in Liverpool (Couch et al., 2013). In our view, while the above findings reflect the trends of the real estate market in the unit under investigation, they also encompass such phenomena observed in our market as is shrinking of small towns and villages, which lose economic activity in favour of larger urbanised structures. These processes undoubtedly lead to housing vacancies, which is where the consequence is both a reduced demand and a mismatch between the types and quality of the housing stock and population's constantly changing needs and wants. Vakili-Zad et al. examined the correlation between the high vacant housing rate and the high housing prices in Malta using data from 1995 and 2005. By examining vacant properties, they concluded that most of them were in good condition. According to the authors, the house prices can be expected to be decreasing as a result of the high vacant housing rate. Nonetheless, both house prices and the level of vacancies are systematically increasing, given the fact that the Maltese Government's housing policy is encouraging new housing construction. According to the

authors, the State, the family, the church, and the underdeveloped conditions of the financial market cause this situation, which contradicts the law of supply and demand. (Vakili-Zad et. al. 2011) Yiu et. al. in Hong Kong studied the correlation housing price levels and percentage of vacant areas. Taking into consideration the limitations in data availability and methodological approaches, the study looks at annual data covering multiple housing categories by size to reveal different nuances in housing market dynamics. The authors outlined two main contributions: first, their analysis revealed the price elasticity of vacant housing by clarifying how housing prices respond to changes in the levels of vacant spaces over time. Second, by looking at changes in available housing space as a result of interactions between demand and supply, the study challenges the conventional assumption of independence between these variables. The results support the hypothesis that vacancies have a negative impact on house prices (Yiu & Murray, 2024). In their study conducted across Florida, Shlay & Whitman found out that the availability of a vacant property in a condominium tends to write down the values of all remaining properties by an average of \$6,720. Furthermore, they found out that the properties that are located nearer to abandoned real estate tend to show lower price levels than those located farther. For example, if a property is located at less than 150 feet from an abandoned property, home prices would decrease by \$7,627, while properties located between 300 and 449 feet from an abandoned house would decrease by \$3,542. Another study conducted in Michigan found out that abandoned structures within 500 feet would reduce the sales price of a property by 2.27%. (In: Hye-Sung, 2014) In our view, such studies

provide important evidence of the economic consequences of the availability of vacant/ abandoned properties and support the argument that policies and measures for managing these properties can have a direct impact on local markets and social stability.

Sources of information and methods applied in this study

The main source of data on unoccupied housing was the National Institute of Statistics and specifically the data from the 2011 and 2021 population and housing censuses.

The methods used in the present study are relative indicators of intensity and coordination, descriptive indicators of development (growth rate). Pearson's correlation coefficient was used to evaluate the strength and direction of the correlation. (Stoenchev & Stefanova, 2022, p. 176). Exploratory factor analysis was used to study the effect of some factors on the change in the number of uninhabited properties: $S=X*Y$ (Stoenchev, 2013).

The analysis can be performed in two aspects (multiplier and additive). For the purposes of this study, only the additive aspect of the analysis has been used, as the growths are in absolute size and are more convenient to interpret.

The additive aspect of the analysis enables the overall absolute growth of the results to be represented as the sum of absolute sub-growths caused by the isolated effect of each of the factors and their combined joint action. The sub-growths that came out as a result are in the same measure unit, which is the final value. The algorithm used to perform the additive aspect of the analysis is as follows:

- total absolute growth:

$$\Delta_S = S_1 - S_0 = x_1y_1 - x_0y_0 \tag{1}$$

- growth obtained as a result of the change in factor (x)

$$\Delta_S^{(x)} = y_0(x_1 - x_0) \tag{2}$$

- growth obtained as a result of the change in factor (y)

$$\Delta_S^{(y)} = x_0(y_1 - y_0) \tag{3}$$

- growth obtained as a result of joint action of both factors (x and y)

$$\Delta_S^{(xy)} = (x_1 - x_0).(y_1 - y_0) \tag{4}$$

$$\Delta_S = \Delta_S^{(x)} + \Delta_S^{(y)} + \Delta_S^{(xy)} \tag{5}$$

As some difficulties were encountered in the interpretation of the growth of the joint action of the factors $\Delta_S^{(xy)}$, it would be rational for it to be distributed between the growths of the isolated effects of the factors using the proportional method.

“It is assumed that each of the factors involved in the analysis has contributed to the formation of the joint growth in proportion to the strength and according to the direction of its isolated impact.

$$\Delta_S^{(x)} = \Delta_S^{(x)} + \Delta_S^{(x)} \cdot \frac{\Delta_S^{(xy)}}{|\Delta_S^{(x)}| + |\Delta_S^{(y)}|} \tag{6}$$

$$\Delta_S^{(y)} = \Delta_S^{(y)} + \Delta_S^{(y)} \cdot \frac{\Delta_S^{(xy)}}{|\Delta_S^{(x)}| + |\Delta_S^{(y)}|} \tag{7}$$

When finding the relative shares of the influence of the individual factors from the growth of the combined action, the absolute factorial sub-growths from the isolated impact of the factors presented in the denominator of the formula participate with their absolute value due to the possibility of some of them being negative.

The resulting proportionality factor

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$$k = \frac{\Delta_S^{(xy)}}{|\Delta_S^{(x)}| + |\Delta_S^{(y)}|} \quad (8)$$

is used with a positive sign when the corresponding increase in the isolated effect of the factor is with a positive sign. The proportionality factor is used with a negative sign when the growth of the isolated effect of the respective factor is negative.”

$$\text{Ultimately: } \Delta_S = \Delta_S^{(x)'} + \Delta_S^{(y)'} \quad (9)$$

The absolute growths obtained under the additive aspect of the analysis allow the calculation of relative factor predictions by dividing the absolute factor growths of the size of the resultant indicator during the reference period:

$$P_S = P_S^{(x)'} + P_S^{(y)'} = \frac{\Delta_S^{(x)'}}{x_0 y_0} + \frac{\Delta_S^{(y)'}}{x_0 y_0} \quad (10)$$

The result obtained can be transformed into %.

Description of the results

Table 1 presents information on the changes in the total number of properties and uninhabited properties in the provinces in the country retrieved from the latest censuses of the population and the housing stock in 2011 and 2021

The indicators presented in Table 1 reveal various changes across regions, which can be explained by the differing direction and intensity of economic, demographic, and social processes. Based on these indicators, the following conclusions can be drawn:

1. Some significant differences were detected in the rate of growth in the number of properties across Bulgaria’s individual provinces. The largest was detected in the City of Sofia and it accounted for 24.43%. The heady growth rates might be explained

by population migration to Bulgaria’s Capital City, which in turn was boosted by the opportunities for professional career making, education opportunities, better social services and more. For Sofia (city), the average annual growth rate, calculated using the geometric mean, is 2.21%. This is not unusual, as during this period new construction primarily took place on vacant land, and there was no need to demolish old multi-storey buildings, which would have otherwise slowed the overall increase in the number of dwellings.

In these regions, there are numerous completely depopulated villages where the housing stock is not maintained and is deteriorating after having remained unused for a long period of time.

2. Significant growth was also observed in the provinces of Burgas (21.03%), Blagoevgrad (16.03) and Varna (14.75%). In our opinion, the reason thereto is the attractiveness of investment in residential properties in seaside towns and cities and mountain towns, which can be used both to meet some personal needs as well as for the purposes of short-term rental. The provinces of Lovech (-1.93), Gabrovo (-0.92) and Pleven (-0.87) revealed the most significant negative growth. In our opinion, one of the key reasons thereof may be sought in some demographic problems such as population reduction entailing lesser demand for new homes.
3. Over the last decade, the number of unoccupied properties has seen a significant growth. Such an increase can be explained by a variety of factors: the purchase of holiday, seasonal properties for investment purposes that are not declared as primary residence and therefore do not meet the definition of

Table 1. Changes in the number of dwellings in the districts of the country in 2011 and 2021

Provinces	Number of dwellings		Growth rate 2011=100	Unoccupied dwellings		Growth rate 2011=100	Relative share of unoccupied dwellings from the total number for the respective year (%)	
	2011	2021		2011	2021		2011	2021
Vidin	67436	74101	9.88	27190	41039	50.93	40.32	55.38
Vratsa	110190	116418	5.65	38830	53675	38.23	35.24	46.11
Lovech	94159	92338	-1.93	38302	45187	17.98	40.68	48.94
Montana	90896	92742	2.03	33362	41992	25.87	36.70	45.28
Pleven	145492	144219	-0.87	43278	50918	17.65	29.75	35.31
V. Tarnovo	143588	145796	1.54	48675	58432	20.05	33.90	40.08
Gabrovo	79040	78316	-0.92	29589	35217	19.02	37.44	44.97
Razgrad	59576	59408	-0.28	16438	19097	16.18	27.59	32.15
Ruse	124449	123440	-0.81	35463	39261	10.71	28.50	31.81
Silistra	57295	58218	1.61	15354	19484	26.90	26.80	33.47
Varna	243427	279336	14.75	72711	106245	46.12	29.87	38.03
Dobrich	99808	103296	3.49	32423	42325	30.54	32.49	40.97
Targovishte	65056	65376	0.49	21652	25369	17.17	33.28	38.80
Shumen	88475	89274	0.90	23746	27997	17.90	26.84	31.36
Burgas	269353	325988	21.03	117613	175162	48.93	43.67	53.73
Sliven	91648	96282	5.06	24537	33162	35.15	26.77	34.44
Stara Zagora	173923	183969	5.78	51098	67462	32.02	29.38	36.67
Yambol	71284	70801	-0.68	20861	25356	21.55	29.26	35.81
Blagoevgrad	140028	162476	16.03	34100	60263	76.72	24.35	37.09
Kyustendil	86458	91915	6.31	32641	45564	39.59	37.75	49.57
Pernik	95042	99665	4.86	42645	53468	25.38	44.87	53.65
Sofia	176842	176995	0.09	85277	91130	6.86	48.22	51.49
Sofia (city)	607473	755889	24.43	142608	229370	60.84	23.48	30.34
Kardzhali	74321	81712	9.94	25185	29883	18.65	33.89	36.57
Pazardzhik	125960	133785	6.21	32350	48960	51.34	25.68	36.60
Plovdiv	318569	356810	12.00	81726	111009	35.83	25.65	31.11
Smolyan	65522	74309	13.41	19266	33441	73.58	29.40	45.00
Haskovo	121839	128580	5.53	33496	47273	41.13	27.49	36.77

Source: According to data calculated by the authors on the basis of data from the censuses of the population and the housing stock in 2011 and 2021.

occupied housing set out by the NCI, inter alia. In our opinion, this conclusion is also confirmed by the fact that it is in the provinces of Blagoevgrad, City of Sofia and the province of Smolyan that the growth in the increase of uninhabited properties compared to 2011 was highest. The provinces of Blagoevgrad and Smolyan are known for their winter resorts, such as Bansko and Pamporovo, with these attracting seasonal holiday makers. However, from the perspective of holiday properties, it might be quite possible that there is a “saturation” of the market, as a result of which some of these properties remain uninhabitable/vacant for most of the year.

4. The percentage of unoccupied properties from the total number of properties in 2021 was found to vary significantly between Bulgaria’s provinces: from 30.34 % in the City of Sofia to 55.39 5 in the Vidin province. In our opinion, it makes sense that the share of uninhabited homes, with

that comprising the old and unusable houses, was found to be larger in the less populated regions of the country where the levels of economic and social development are lower. These provinces have experienced a more significant migration of the population to the larger cities, which in turn entailed property owners leaving their properties inhabited. Moreover, in smaller settlements, old and abandoned properties are often encountered, which are owned by a large number of heirs and therefore are neither maintained nor renovated.

Figure 1 shows that dwellings intended for seasonal or holiday use are most numerous in tourist regions such as Burgas, Varna, and Plovdiv, which rank at the top of this classification. The share of unoccupied properties for other reasons was found to show extremely high levels in the City of Sofia (217,844), the provinces of Burgas (99,311), Plovdiv (93,795) and Varna (77,674). In our view, this would be due to the number

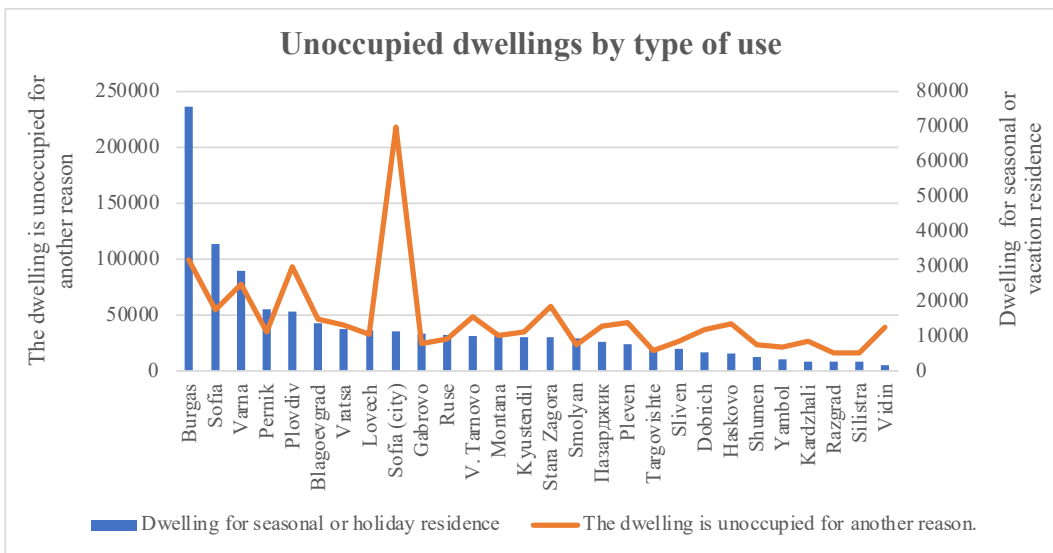


Figure 1. Unoccupied properties by method of use in Bulgarian provinces by 07.09.2021 [1]

of properties purchased for investment purposes, to the availability of new flats that are sold at the state of walls 'putty/plaster' and that will require a certain period of time to be completed, to properties received as compensation from developers whose owners do not have the necessary financial resources to complete or repair them, etc. In our view, the proportion of abandoned properties in this category and more specifically in the territorial units under consideration is rather low. Therefore, we see some reasons for that, with these being economic activity, well-developed infrastructure, rapid restoration of old or abandoned properties caused by the high demand for housing, investment interest, regulation and control over construction and etc.

The indicators displayed in table 2 reflecting the dynamics in the number of unoccupied

properties in the provinces of Bulgaria show a significant growth both in towns/cities and in villages. Among the provinces displaying the highest growth rate in towns/cities rank the provinces of Blagoevgrad (90.65%) and Smolyan (73.61%) and in villages the highest-ranking province stands again that of Smolyan ,with its 73.55%.

The overall number of unoccupied properties grew by 317,385 in the towns/cities in 2021 in comparison with 2011, with their number for villages growing by 119,940. In 2021, uninhabited homes displayed a higher concentration in towns/cities (58.54% of the total number) than in villages (41.46% of the total number), which suggests to us the conclusion that the territories affected were those urbanised ones.

Table 2. Distribution of unoccupied properties in villages and towns/cities in 2011 and 2021

Provinces	Cities		Growth rate 2011=100	Villages		Growth rate 2011=100
	2011	2021		2011	2021	
Vidin	9145	14528	58.86	18045	26511	46.92
Vratsa	17632	25532	44.80	21198	28143	32.76
Lovech	13742	17551	27.72	24560	27636	12.52
Montana	13871	17597	26.86	19491	24395	25.16
Pleven	21279	26548	24.76	21999	24370	10.78
V. Tarnovo	20701	28371	37.05	27974	30061	7.46
Gabrovo	13397	18365	37.08	16192	16852	4.08
Razgrad	6956	8949	28.65	9482	10148	7.02
Ruse	19854	22528	13.47	15609	16733	7.20
Silistra	6285	8625	37.23	9069	10859	19.74
Varna	52997	82104	54.92	19714	24141	22.46
Dobrich	14471	20185	39.49	17952	22140	23.33
Targovishte	9302	11905	27.98	12350	13464	9.02
Shumen	11502	15266	32.72	12244	12731	3.98
Burgas	86593	131335	51.67	31020	43827	41.29
Sliven	14470	19660	35.87	10067	13502	34.12

Provinces	Cities		Growth rate 2011=100	Villages		Growth rate 2011=100
	2011	2021		2011	2021	
Stara Zagora	25942	36313	39.98	25156	31149	23.82
Yambol	9530	13005	36.46	11331	12351	9.00
Blagoevgrad	19332	36856	90.65	14768	23407	58.50
Kyustendil	10822	18361	69.66	21819	27203	24.68
Pernik	11475	17659	53.89	31170	35809	14.88
Sofia	16424	22737	38.44	68853	68393	-0.67
Sofia (city)	128745	207100	60.86	13863	22270	60.64
Kardzhali	7857	13252	68.66	17328	16631	-4.02
Pazardzhik	17307	26927	55.58	15043	22033	46.47
Plovdiv	46635	68900	47.74	35091	42109	20.00
Smolyan	7818	13573	73.61	11448	19868	73.55
Haskovo	19021	26758	40.68	14475	20515	41.73

Source: According to data calculated by the authors on the basis of data from the censuses of the population and the housing stock in 2011 and 2021.

The level of infrastructure and amenities in the unoccupied housing stock can also serve as an indicator of its readiness for use and its ability to meet modern standards of hygiene and comfort. We are witnessing a reality in which even people in crisis situations or migrants refuse to be accommodated in dwellings that have not been renovated.

Table 2.1 presents data on the presence of energy-efficient window frames in unoccupied dwellings in both urban and rural areas. The highest values in each column of the table are highlighted in dark color. It turns out that in both cities and villages within regions of relatively low economic activity, the level of infrastructure in unoccupied properties is quite

low. In urban areas, the installation of energy-efficient windows would make unoccupied dwellings more suitable for rental purposes and would help reduce air pollution if solid fuels such as wood and coal are used for heating. The problem is even more significant in rural areas, where in some cases there is no alternative to solid fuel heating. Electrical grids often cannot handle high loads, and the population has low income levels, making electric heating unaffordable. For this reason, even when dwellings are spacious and have multiple rooms, if they are put into use during the winter season, occupants are often forced to use only one room.

Table 2.1. Analysis of the level of infrastructure in unoccupied dwellings in urban and rural areas by region as of September 7, 2021

Provinces	Share of unoccupied urban dwellings equipped with energy-efficient window frames (in %)			Share of unoccupied rural dwellings equipped with energy-efficient window frames (in %)		
	Fully equipped	Partially equipped	Not equipped	Fully equipped	Partially equipped	Not equipped
Vidin	6,46	2,18	91,37	2,01	1,53	96,46
Vratsa	8,29	4,37	87,34	3,57	3,51	92,91
Lovech	7,86	3,92	88,22	6,92	3,67	89,42
Montana	6,73	3,56	89,71	2,32	2,69	94,99
Pleven	11,49	4,79	83,72	4,85	4,78	90,37
V. Tarnovo	13,05	3,16	83,79	4,55	2,56	92,89
Gabrovo	13,11	4,78	82,11	8,44	4,49	87,06
Razgrad	12,53	8,11	79,36	7,63	8,20	84,17
Ruse	15,32	7,97	76,72	10,61	7,75	81,64
Silistra	11,87	7,46	80,67	8,70	5,99	85,31
Varna	39,29	7,65	53,06	19,27	9,85	70,88
Dobrich	23,96	5,75	70,30	21,03	5,40	73,58
Targovishte	16,01	7,51	76,48	7,66	6,30	86,04
Shumen	15,70	8,49	75,81	7,58	6,87	85,55
Burgas	59,47	4,05	36,47	42,64	4,79	52,57
Sliven	15,27	7,52	77,20	7,05	5,64	87,31
Stara Zagora	13,81	6,58	79,62	8,47	6,49	85,05
Yambol	9,71	5,27	85,02	4,73	5,72	89,55
Blagoevgrad	40,60	4,77	54,63	14,47	5,31	80,22
Kyustendil	9,48	3,42	87,10	5,45	3,22	91,33
Pernik	12,91	4,77	82,32	9,10	4,97	85,93
Sofia	12,68	5,15	82,16	10,26	5,13	84,61
Sofia (city)	21,32	2,29	76,39	16,83	4,89	78,28
Kardzhali	26,91	5,21	67,87	9,57	6,66	83,77
Pazardzhik	14,34	5,10	80,56	8,98	4,57	86,45
Plovdiv	26,63	4,64	68,72	12,87	6,16	80,97
Smolyan	21,16	8,39	70,45	14,11	8,51	77,38
Haskovo	20,28	6,34	73,39	7,28	5,85	86,87

Source: The indicators have been computed by the authors using data provided by the National Statistical Institute (NSI).

It should be noted that the population census was conducted during the COVID-19 pandemic, which implies that the share of this type of dwellings is expected to be temporarily higher in urban areas due to the deurbanization of the population during the census period as a result of the pandemic. And here arises the question: to what extent the presence of uninhabited homes may cause a residential crisis in some regions. In this regard, some European towns/cities adopt restrictions on the possibility of short-term renting city visitors (Niestadt, M., 2024). For this purpose, the number of uninhabited dwellings per 1000 people from the population was calculated. Of course, it should be taken into consideration that the availability of holiday properties near national resorts may stimulate employment for the purpose of ensuring those complexes'

security and maintenance beyond the active tourist season. (Bobchev, 2020)

From the results displayed in table 3, it is visible that the number of unoccupied properties per 1000 people of population has increased in all Bulgarian provinces. The highest growth was reported in the provinces of Smolyan (119.49%), Vidin (102.19) and Blagoevgrad (95.67%). In our view, the causes can be complex and can be considered in two thrusts: 1) internal migration to larger cities and/or external migration abroad, the limited jobs and low income that force people to leave these provinces; it is possible that many homes remain uninhabitable due to high mortality and low fertility rates. 2) speculative construction of buildings — some of the properties may stay empty as an investment, with no inhabitants or may well be seasonal/

Table 3. Changes to the number of unoccupied properties per 1000 population in 2021 compared to 2011 in the provinces of the country in %

Provinces	2011	2021	Growth rate 2011=100	Provinces	2011	2021	Growth rate 2011=100
Vidin	269	544	102.19	Burgas	283	461	62.85
Vratsa	208	351	69.02	Sliven	124	192	54.55
Lovech	271	388	43.34	Stara Zagora	153	228	48.39
Montana	225	350	55.40	Yambol	159	231	45.65
Pleven	160	225	40.36	Blagoevgrad	105	206	95.67
V. Tarnovo	188	282	49.64	Kyustendil	239	408	70.76
Gabrovo	241	358	48.43	Pernik	319	468	46.65
Razgrad	131	185	40.90	Sofia	345	393	14.00
Ruse	151	203	34.61	Sofia (city)	110	180	63.02
Silistra	129	199	55.07	Kardzhali	165	212	28.43
Varna	153	246	60.62	Pazardzhik	117	213	81.46
Dobrich	171	282	64.91	Plovdiv	120	175	46.22
Targovishte	179	258	44.24	Smolyan	158	347	119.49
Shumen	132	185	40.52	Haskovo	136	223	64.26

Source: According to the author's calculations based on information from the Censuses of the population and the housing stock in 2011 and 2021.

holiday properties. The lowest increase was detected in the Sofia province (14%), indicating that demand is high.

As regional prosperity and the influx of labor force along with accompanying family members lead to a need for housing provision, of interest in this study is also the existence of a correlation between the average annual gross wages of employees employed under employment relationship contracts or employment contracts of civil servants and unoccupied properties, as well as between GDP and unoccupied dwellings. The study of the relationship between these variables, in our view, may reveal some important aspects for the development of individual territorial units. In general, high-income levels would be associated with the economic growth and attractiveness of a given settlement, but hypothetically, this might also lead to an increase in uninhabited housing due to speculative or investment purchases. On the other hand, a reduced number of new and uninhabited housing can be observed in provinces featuring lower income levels, which means instability, and in many cases may come as the result of absence of investment and existence of demographic problems. The calculated correlation coefficient between the average annual gross wages of employees under labor and civil service contracts and unoccupied properties is 0.722, indicating that the increase in the income of the population would yield a higher number of unoccupied properties. In our opinion, this result confirms the hypothesis that unoccupied properties

in economically developed areas are in the form of investment properties, meaning that the factor of investment activity aimed at preserving savings outweighs the factor of depopulation and the release of housing stock due to migration. In these territorial communities, the population will buy housing for the purpose of long-term financial benefits without actually inhabiting them. Moreover, high incomes come hand in hand with a higher supply of new construction, which in turn increases the number of available but temporarily vacant homes. As a result, there may be more empty homes in more developed areas, although their economic indicators have proved to be better.

The Pearson correlation coefficient between the number of unoccupied dwellings by region and the GDP per capita for 2021 is 0.802. The higher value of the correlation coefficient compared to that between the number of unoccupied dwellings and the average salary provides grounds for the conclusion that not only the purchasing power of the population plays a role in the increase in the number of unoccupied dwellings, but also the overall economic activity through which newly created value is generated. Construction and related activities significantly contribute to the creation of new value. In this sense, we have an additional argument suggesting that the number of newly built or renovated dwellings that are not being used is increasing — rather than a rise in abandoned dwellings due to migration and depopulation in certain regions.

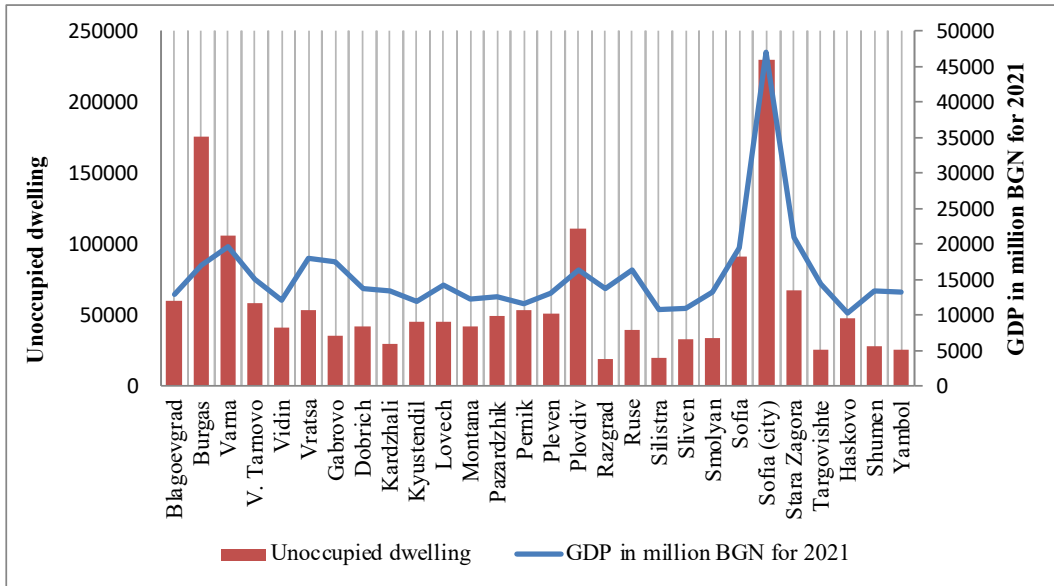


Figure 2. Unoccupied Dwellings and Gross Domestic Product (GDP) per Capita in BGN for 2021

Source: The chart was developed by the authors based on data from the National Statistical Institute (NSI).

If our purpose is to determine more precisely what the reason for the change in the total number of uninhabited housings is, an exploratory factor analysis was used where the form of relationship is: $S=x*y$. The results of the analysis are shown in Table 4.

In the search for an objective reason behind the change in the number of unoccupied properties, Figure 2 provides a visual representation of the apparent synchronicity between the number of unoccupied properties and the level of the average salary by region. The calculated correlation coefficient is sufficiently high to support the existence of such a relationship, which is positive and moderately strong. An additional opportunity to examine the factor-based causality behind the change in the number of unoccupied properties is offered by the index factor analysis using the functional form $S = x * y$.

The algorithm for conducting this analysis is presented earlier in the section: **Sources of information and methods applied in this study**

We will seek for the changes to the number of unoccupied properties under the influence of the factors: number of unoccupied properties per 1000 people and population in provinces of the Republic of Bulgaria over the period between the two censuses of the population and the housing stock 2011 and 2021

S_0, S_1 - the number of unoccupied properties in 2011 and 2021

x_0, x_1 - number of unoccupied properties per 1000 people of population in 2011 and 2021

y_0, y_1 - population number in 2011 and 2021

Table 4. Change in the number and relative percentage of unoccupied properties in Bulgaria by provinces over the period 2011-2021, by factors

Provinces	Δ_S	$\Delta_S^{(x)'}$	$\Delta_S^{(y)'}$	$P_S^{(x)'}$ in %	$P_S^{(y)'}$ in %
Vidin	13849	22142	-8293	8,23	-3,08
Vratsa	14845	22937	-8092	11,04	-3,89
Lovech	6885	14515	-7630	5,36	-2,82
Montana	8630	15868	-7238	7,04	-3,21
Pleven	7640	15448	-7808	9,63	-4,87
V. Tarnovo	9757	20745	-10988	11,02	-5,84
Gabrovo	5628	12316	-6688	5,11	-2,77
Razgrad	2659	5898	-3239	4,49	-2,47
Ruse	3798	10833	-7035	7,19	-4,67
Silistra	4130	7300	-3170	5,68	-2,47
Varna	33534	40612	-7078	26,53	-4,62
Dobrich	9902	17725	-7823	10,37	-4,58
Targovishte	3717	8316	-4599	4,64	-2,57
Shumen	4251	8514	-4263	6,47	-3,24
Burgas	57549	68355	-10806	24,17	-3,82
Sliven	8625	12019	-3394	9,67	-2,73
Stara Zagora	16364	22506	-6142	14,68	-4,01
Yambol	4495	8367	-3872	5,27	-2,44
Blagoevgrad	26163	29755	-3592	28,23	-3,41
Kyustendil	12923	19746	-6823	8,27	-2,86
Pernik	10823	17693	-6870	5,54	-2,15
Sofia	5853	11425	-5572	3,32	-1,62
Sofia (city)	86762	88697	-1935	80,33	-1,75
Kardzhali	4698	6730	-2032	4,08	-1,23
Pazardzhik	16610	22720	-6110	19,35	-5,20
Plovdiv	29283	35447	-6164	29,63	-5,15
Smolyan	14175	18922	-4747	11,96	-3,00
Haskovo	13777	19038	-5261	14,00	-3,87

From the results displayed in Table 4 it may be concluded that for all provinces of the country, the increase in the number of unoccupied properties is mainly due to

factor “number of real estate units per 1000 inhabitants”.

This is an indication of a larger volume of real estate assets in the personal portfolios of the population and companies in Bulgaria.

When interpreting the results of the exploratory factor analysis, it should be taken into consideration that the number of properties per 1000 inhabitants is not entirely accurate due to the existence of a possibility that properties in one administrative province are owned by people from another region. This is particularly the case in large prosperous cities, which are attractive centres for the purchase of investment housing (Kalchev, 2021), with the same being true if the resort complexes of national importance are concerned. However, the analysis makes it possible to distinguish the trend and the strength of the change in the number of unoccupied properties under the influence of the change in the number of inhabitants and their housing stock. Regardless of location, ownership of residential properties provides security that it can be used for living when people reach retirement age or for sale if they become financially disadvantaged. Typically, all provinces showed population number reduction as measured between the two censuses and therefore the need of new owned-inhabited housing also fell. It turns out that both the depopulation of the housing stock in the countryside and the investment housing purchase activity in the towns/cities had similar effects in the same vector, that is to say, the trends found showed an increase in uninhabitable housing, but in our opinion the problem is rather managerial than generated by the objective circumstances relative to low fertility or to internal and external migration and to the disproportion in the location of housing and the people who would need housing. Investment in infrastructure – transport infrastructure (primarily the municipal road network), improvement of water supply, sewerage, domestic waste disposal, provision of health care, pharmacies,

shops, ATMs, security and safety, cultural environments such as community centres (Bulgarian: 'chitalishta') would revive rural areas with clean nature and favourable climatic conditions for living throughout the country. It was not a mere coincidence (BTV (Bulgarian TV channel), 2025) that some municipalities in Italy would sell out some uninhabited properties at the symbolic price of one Euro subject to the condition that the new owners should take the commitment to invest into any such properties, repair them and live there. In large cities running out of building lands, derelict non-agricultural land in the immediate vicinity could be developed by making it attractive by extending the transport network, as has been done in the vicinity of Moscow. Should there be enough housing for the people who would need it instantaneously, there would be no harm in buying out investment housing. Sometimes people would purchase houses with a view to the future, when children and grandchildren have already grown up. Unoccupied properties, if managed with the care of a good landlord, would retain their consumer value for an extended period of time. In other words, the affinity of the Bulgarian consumer and foreign buyers for the purchase of investment housing, which currently falls into the group of abandoned properties, could be used to develop activities related to the repair and maintenance of residential real estate, which at a certain future point will inevitably enter the housing market. Fight against crime is also a key point as the investment activity of foreign buyers will depend on its results. The political situation should not be transferred to the economic sphere in sectors such as the real estate trade, which are expected to be of interest to people living outside Bulgaria either in EU Member States or in countries outside the EU.

Conclusion

This study suggested the following summaries and conclusions:

1. In the period between the last two population and housing stock censuses in the Republic of Bulgaria in 2011 and 2021, the total number of properties in some of the country's administrative provinces decreased slightly, but for all districts the number of unoccupied properties increased, which in large cities created problems related to the shortage of housing space.
2. There are too many of them in areas where there are large rural areas with depressed economies suffering population outflow. In this case, only non-holiday homes are considered.
3. Their distribution by provinces would depend on the density of the settlements and on the total number of inhabitants in them, but in the large cities and regional centres there is a marked increase in investment activity in residential real estate.

The reason may be that rising income levels, low mortgage rates, near-zero interest rates on bank deposits, and rising inflation are causing people to look for ways to protect and increase their savings. The calculated Pearson correlation coefficient between the number of unoccupied dwellings and the average annual gross wage by district is 0.722, and between unoccupied dwellings and GDP per capita is 0.802, the coefficients show that as the income of the population and GDP increase, so does the number of unoccupied dwellings. In our view, this result confirms the hypothesis that the number of unoccupied properties in the form of investment properties in the more economically developed areas of the country

is growing too fast. To address the significant increase in the number of unoccupied properties, international experience may be used, with this including the sale of abandoned properties on favourable terms with a commitment to their renovation and maintenance, and investment by the State to overcome the disadvantages of living in rural areas associated with poorly developed transport and public utilities infrastructure, lack of easy access to social and health care, and lack of security and protection from the most common forms of domestic crime.

4. As regards unoccupied dwellings, some more extensive checks should be carried out by the competent public authorities to verify whether they are indeed unoccupied or part of the grey sector in renting without declaring the income from this activity.
5. It may be possible to set up an affordable low-interest dedicated fund for completion, renovation and maintenance of unoccupied dwellings, provided that their owners put them into commercial circulation. The physical condition of some residential properties that have been uninhabited for a long time does not allow the use of a mortgage loan.

NOTES

[1] The data presented do not include "collective dwellings" because of their lack or insignificant number in the individual areas of the country, namely: Lovech (1), Gabrovo (2), Ruse (1), Shumen (1), Burgas (11), Stara Zagora (2), Blagoevgrad (2), Kyustendil (2), Pernik (1), Sofia Province (2), Capital City of Sofia (3), Kardzhali (1), Plovdiv (5), Smolyan (6), Haskovo (1). These are located in buildings inhabited by collective households (i.e., boarding houses, specialised retreats, monasteries, prisons, etc.)

References

- BTV (2025). "No catch, just conditions to fulfill": How a Bulgarian family bought a house for 1 euro in Italy. Available at: <https://btvnovinite.bg/predavanja/tazi-sabota-i-nedelia/balgarsko-semejstvo-si-kupuva-kashta-za-1-evro-v-sicilija.html>
- Bobchev, K. (2020) Management of Gated Resort Complexes. Sofia: Avangard prima.
- Couch, C. & Cocks, M. (2013) Housing Vacancy and the Shrinking City: Trends and Policies in the UK and the City of Liverpool, *Housing Studies*, 28:3, 499-519, DOI: 10.1080/02673037.2013.760029
- Economic.bg. (2023). Is there a solution to the problem of uninhabited dwellings in Bulgaria? Available at: <https://www.economic.bg/bg/a/view/v-tymnite-prozorci-na-sofija-da-se-nastanjavat-hora-kakvo-e-reshenieto-na-problema-s-neobitaemite-imoti>
- Economic.bg. (2023). Almost half of the residential buildings in Bulgaria are uninhabited. Available at: <https://www.economic.bg/bg/a/view/pochti-polovinata-jilishtni-sgradi-v-bylgarija-sa-neobitaemi>
- Gu, J. and Asami, Y. (2016). Vacant Houses, Duration for Search and Optimal Vacancy Rate in the Rental Housing Market in Tokyo 23 Wards: Based on Landlords' Optimal Search Model. *Urban and Regional Planning Review*, 3, 31-49. Doi: 10.14398/urpr.3.31
- Hye-Sung Han (2014) The Impact of Abandoned Properties on Nearby Property Values, *Housing Policy Debate*, 24:2, 311-334, DOI: 10.1080/10511482.2013.832350
- Hillier, A. E., Culhane, D. P., Smith, T. E., & Tomlin, C. D. (2003). Predicting housing abandonment with the Philadelphia Neighborhood Information System. *Journal of Urban Affairs*, 25(1), 91-105. <https://doi.org/10.1111/1467-9906.00007>
- FitzGerald, J. (2005) The Irish housing stock: growth in number of vacant dwellings, *Quarterly Economic Commentary*, 24, pp. 1-22.
- Kalchev, Sh. (2021). Purchase, improvement, sale - investment strategy for increasing return on investments of real estate in Bulgaria. Construction entrepreneurship and real property. Proceedings of the 36-th International, Scientific and Practical Conference in November 2021. Publishing House "Science and Economics" University of Economics - Varna. Available at: https://conference.ue-varna.bg/emc/wp-content/uploads/2021/12/Sbornik_dokladi_2021.pdf
- Mallach, Alan. (2018) The Empty House Next Door. Understanding and Reducing Vacancy and Hypervacancy in the United States. POLICY FOCUS REPORT. LINCOLN INSTITUTE OF LAND POLICY. Available at: <https://cup.columbia.edu/book/a/9781558443754#:~:text=Renowned%20city%20planner%20and%20housing%20advocate%20Alan%20Mallach,contending%20with%20vacant%20properties%20in%20the%20United%20States.>
- Mihaylova, L., Papazov, E. (2024). Strategic Management of Small and Medium-Sized Enterprises - Is There Space for Functional Strategies? *TEM Journal*, 13(2), 1277-1282, doi: 10.18421/TEM132-41.
- National Statistical Institute. Available at: www.nsi.com
- Niestadt, M. (2024). Data collection and sharing relating to short-term accommodation rental Services. EPRS |

Articles

European Parliamentary Research Service. Available at: [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2023\)739334](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)739334)

Stoenchev, N. (2013). Statistics, Sofia: Publishing House of the University of Forestry, pp. 289-291.

Stoenchev, N., Stefanova, E. (2022). Influence of the territorial specialization in economic activities on the birth rate in Bulgaria. *Humanities and Social Sciences* .Vol. 9, No. 2

Vakili-Zad, C. & Hoekstra, J. (2011) High dwelling vacancy rate and high prices of housing in Malta a mediterranean phenomenon, *Journal of Housing and the Built Environment*, 26(4), pp. 441–455

Yiu, C., Murray, T. (2024) Analysing the Dynamics of Housing Price-Vacancy Relationship in the Hong Kong Housing Markets. doi:10.20944/preprints202402.1361.v1