

# Impact of Housing Allowance and Housing Supplements in the Czech Republic

Martin KRÁL\* and Martin MATĚJÍČEK

University of Hradec Králové, Hradec Králové, Czech Republic; martin.kral.2@uhk.cz;  
martin.matejicek@uhk.cz

\* Corresponding author: martin.kral.2@uhk.cz

**Abstract:** In most established countries, housing allowance and housing supplements as housing benefits play a key role. These instruments are designed to provide affordable housing at an affordable price for low-income citizens. The aim of this paper is to identify regions, with the use of cluster analysis, that are similar in terms of selected socio-economic indicators related to social housing support policies in the Czech Republic. Furthermore, the socio-demographic factors that differ significantly from region to region are identified. It turned out that the worst housing situation is in the Moravian-Silesian Region, which itself constitutes one cluster. Based on the results of the analysis of variance, it can be stated that the characteristics and thus statistically significant factors for the determination of individual clusters are only live births and deaths in addition to the number of recipients of housing benefits and aid paid. On the other hand, the situation in the area of state housing support is not surprisingly dependent on unemployment, the number of completed dwellings, nor on migration or immigration.

**Keywords:** housing allowance; housing supplement; public finance; Czech Republic

**JEL Classification:** H22; H53; R21

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## 1. Introduction

In most established countries, housing allowance and housing supplements play a key role. These housing policy instruments are designed to provide affordable housing at an affordable price for low-income citizens. (Flambard, 2019; Kemp, 2007) Of course, the specific conditions for receiving this type of support vary from country to country.

Hykšová (2017) states that the provision of housing allowance and housing supplement contributes to reducing the number of people at risk of poverty or material deprivation. However, the payment of these entitlement benefits cannot address the cause of the problem. The benefits provided merely maintain the situation and, by increasing people's incomes, prevent them from falling into poverty and losing their housing or social exclusion. Moreover, the legislation in force is set up so that a person without income is entitled to a higher allowance and housing allowance than a person with his / her own income, because the person's income is considered when calculating these benefits and reduces the final amount of the benefit. At the same time, the allowance and the housing supplement are paid indefinitely. These facts reduce the motivation to gain economic self-sufficiency in addressing housing issues.

There are several journal articles and conference papers housing allowances in literature and expert databases. For example, a few authors have examined whether the amount of housing benefits has any effect on the price of rentals. The authors agree on the results. Kangasharju (2010) states in his study that an increase in the housing allowance of 1 Euro will cause a 60-70 cent increase in rental prices in the private sector. However, prices remain the same in the public sector. Viren (2013) analyzed the data of a set of 50,000 Finnish households who were receiving housing allowances in 2000-2008. The results reveal that an increase in the housing allowance may indeed have an impact on rental prices. The estimated increase in rent is from one third to half of the increase in the housing allowance. Similar results were also obtained by the authors Hyslop and Rea (2019) and Laferrère and Le Blanc (2004).

Other studies analyze the situation in specific countries and draw conclusions. Chen (2008) dealt with the situation in Sweden. In particular, he examined the effect of the introduction of the 1997 housing allowance reform. The situation in Norway was described by Nordvik and Sørvoll (2014) in an article entitled "Interpreting Housing Allowance: The Norwegian Case" and also in another paper by single Nordvik (2015). Norwegian situation with housing benefit also describes Ytrehus (2015). However, it specifically deals with housing allowances for elderly and their views. Grösche (2009) criticizes the situation in Germany. It points out that there is a tendency to choose cheap but energy-intensive flats to reduce government spending in case of housing allowance. This can lead to much higher energy expenditure, which is environmentally and financially inappropriate. Fallis et al. (1995) analyzed in Canada whether housing allowance program or a social housing (nonprofit housing program) is more cost effective. In most cases are programs equally costly. However, housing allowance seems to be more effective if private-sector real estate is favourably treated under income tax law. The situation with housing allowance in the Czech Republic was described by Lux and Sunega (2007) in the book called "Housing Allowances in Comparative Perspective".

Unfortunately, we did not find any scientific papers about the housing supplements as a tool for financial support of housing. This form of housing support is therefore probably used only in the Czech Republic. Also, none of the papers has yet used cluster analysis and variance analysis to determine which socio-economic indicators have a significant impact on housing allowance and housing supplement. We find this as a research gap.

The aim of this paper is to identify regions, with the use of cluster analysis, that are similar in terms of selected socio-economic indicators related to social housing support policies in the Czech Republic. Specifically, these are housing allowances and housing supplements. Furthermore, the aim is to identify socio-demographic factors that differ significantly from region to region, and thus makes it possible to identify the reasons leading to lower or higher expenditure on housing support. The analysis of variance will be used for this.

## **2. Situation in the Czech Republic**

In the Czech Republic is the housing allowance one of the state social support benefits regulated by Act No. 117/1995, On State Social Support. The housing supplement is one of the benefits of assistance in material need, which is regulated by the Act No. 111/2006, On Assistance in Material Need. MoLSA (Ministry of Labour and Social Affairs of the Czech

Republic) is a superior authority of the Labor Office of the Czech Republic, which administers and pays the allowance and the supplement for housing. The MoLSA manages and controls its activities and decides on appeals against its decisions. Housing allowance and housing supplements are financed from the state budget, concretely from the MoLSA budget class. The MoLSA monitors on a monthly basis the number and volume of paid housing allowances. However, it does not regularly monitor and evaluate the number and structure of recipients of these benefits, although it has access to this information. (Hykšová, 2017)

The owner or tenant of a flat, who is registered in a flat for permanent residence, is entitled to the housing allowance if his housing costs exceed the product of decisive family income and a coefficient of 0.30, respectively 0.35 in Prague. (MPSV, n.d.b)

According to Act No. 117/1995, On State Social Support, housing allowance or part of it can be used without the consent of the recipient for direct payment of housing costs, so that it points to the payer's contribution to the landlord or service provider or providers of energy. In the event that the owner of the unit, as a service provider, has not paid the community of unit owners an advance for services related to the use of the apartment and a contribution to the repair fund, the lessee of the community of unit owners is considered as the service provider.

Hykšová (2017) states that the amount of the housing allowance is determined on the basis of actual or normative housing costs. The normative costs are set by the Act on State Social Support according to the number of persons in the household and the number of inhabitants of the municipality. However, actual costs may be lower than normative. The Act on State Social Support only states the amount of the so-called comparable costs for the ownership or cooperative form of housing and the costs of solid fuels. The amount of rent and costs of services provided in connection with the use of the apartment are not ceilinged. In the absence of a housing cost price map, there is a risk of artificially increasing the individual components of housing costs up to the total normative costs. In practice, applicants can purposefully increase advance payments, for example for services or electricity, thus entitling them to a housing allowance, which they can receive for three quarters, i.e. until the advance payment billing.

A person in material need is entitled to the housing supplement. It may primarily be the owner of the apartment or another person using the apartment. However, their income after reimbursement of justified housing costs, less the housing allowance, plus the living allowance paid, must be less than the amount of living. The housing supplement can receive also owner of the recreation building, a person living in the apartment, in an accommodation facility or in a non-residential area or person staying in a residential social service. (MPSV, n.d.a)

According to Act No. 111/2006, On Assistance in Material Need, the housing is set on the basis of justified housing costs up to the maximum amount that is usual in the given place. The Act on Assistance in Material Need only refers to comparable costs set out in the State Social Support Act when establishing similar housing costs for owner-occupied or cooperative forms of housing and provides a way of establishing demonstrable necessary energy consumption. Otherwise, there is no customary adjustment in place. In the absence of

a housing cost price map, there is a risk of artificially increasing the individual components of housing costs. In order to unify the procedure for determining the amount of the housing supplement, the Labor Office resolved the insufficiency of legislation by issuing an internal procedure for determining the place of usual rent for the system of benefits in material need with effect from 1st April 2015. With effect from 1st June 2017, they issued an instruction, the annex of which contains the procedure for calculating the usual amount of housing-related costs (water, sewage and central heating). The usual level of energy costs at the site is determined in cooperation with the Energy Regulatory Office. (Hykšová, 2017)

### **3. Methodology**

This paper identifies regions that are similar in terms of selected socio-economic indicators related to social housing support policies. The added value is, in particular, the identification of factors that differ significantly from region to region, and thus makes it possible to identify the reasons leading to lower or higher expenditure on housing support.

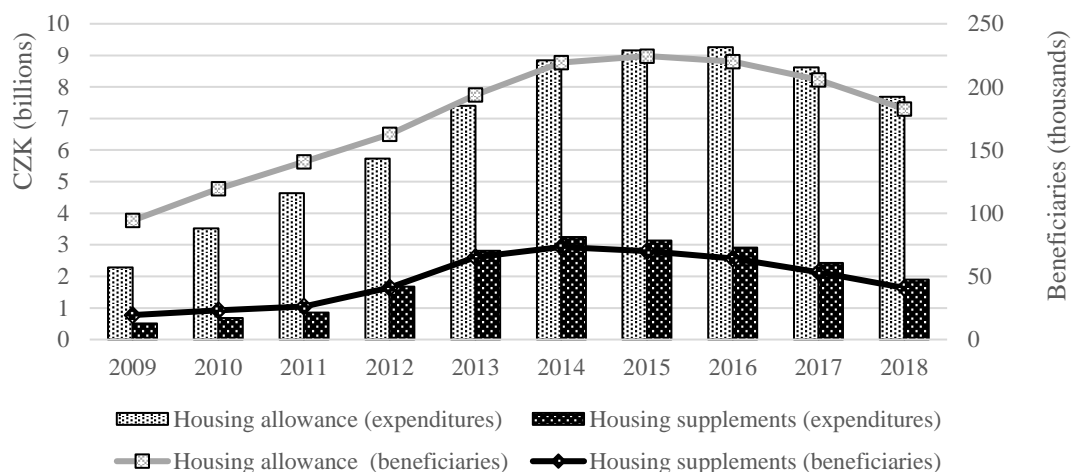
In the first part, it first analyzes the long-term development of funds spent as housing benefits - housing allowance and housing supplement. The period 2009-2018 was chosen, i.e. it is 10 years, covering different phases of the economic cycle. The analysis uses primary data published annually in the Statistical Yearbooks by the Ministry of Labor and Social Affairs: total state expenditure on housing allowance and housing supplement, and the average monthly number of recipients of housing allowance and average monthly number of recipients of housing supplement.

In the second part, a cluster analysis is carried out. "Cluster analysis encompasses different methods and algorithms for grouping objects of similar kinds into respective categories." (Frades & Matthiesen, 2010) The aim is to identify regions that are similar in terms of the overall policy associated with state support for housing. In addition to the data related to the above-mentioned benefits, socio-demographic indicators published annually through the Czech Statistical Office (ČSÚ, 2020) are used for the cluster analysis. These are natural population growth, unemployment rate, migration balance, share of population 65+, completed dwellings, completed dwellings in family houses, live births, deaths, immigrants, and emigrants. Cluster analysis uses the average linkage (within groups) and Euclidean distance method, the total number of three clusters was chosen - the regions with the least problems to the regions with the greatest housing problems. Part of the cluster analysis is also the analysis of variance (ANOVA), thanks to which it is possible to identify variables that are statistically significant for the formation of clusters and therefore differ significantly between groups. "ANOVA asks whether at least one of the group means of the data set differs significantly from any one or more of the other group means of the same dataset." (Gaddis, 1998) This analysis has the potential to identify secondary problems associated with social housing policies that may not be obvious at first sight.

### **4. Results**

In terms of long-term development, the volume of benefits paid and the number of beneficiaries in the Czech Republic has significantly increased over the last ten years. While

in 2009 the volume of paid housing allowances was “only” CZK 2.3 billion, ten years later it was CZK 7.7 billion. Even though the largest amount was paid out in 2015 (a total of CZK 9.3 billion), it is still an increase of more than three times higher. A similar trend is observed for housing supplements, whose volume was almost four times higher in 2009 compared to 2009:



**Figure 1.** Expenditure on allowances and supplements to housing and average monthly number of beneficiaries in 2009–2018 (own processing based on (MPSV, 2020)).

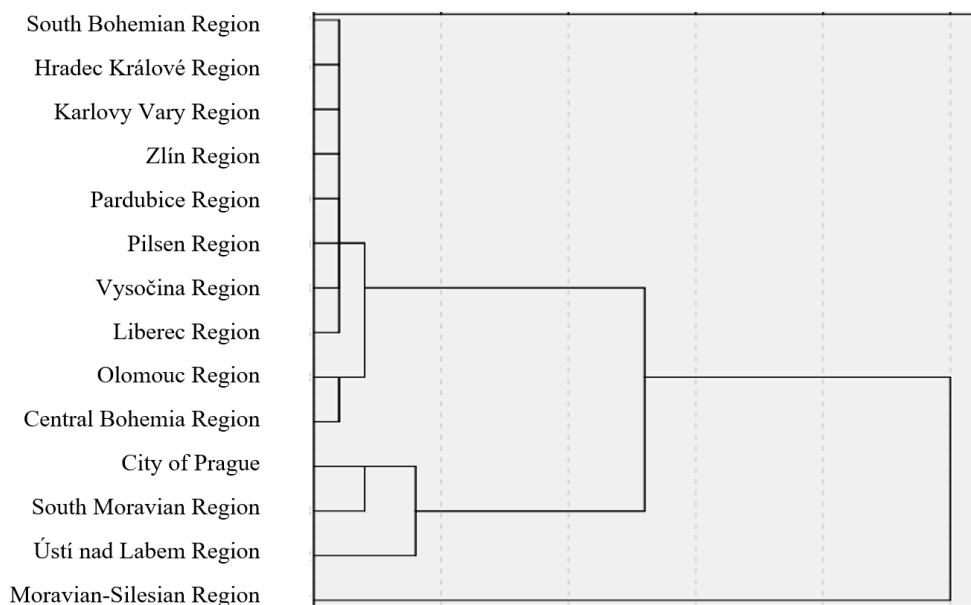
Over the past three years, there has been a slight decrease in both the aid paid and the number of beneficiaries. To some extent, these developments correspond to very strong economic growth, which is accompanied by extremely low unemployment rate of around 2%. However, if a critical view were taken and only the number of recipients of housing benefits and unemployment rates were compared, it would be concluded that, despite the historically lowest unemployment rate, the number of recipients of housing benefits is high. It is therefore clear that other influences cause high government expenditure within these benefits. The most significant influence is the significantly rising cost of housing in recent years. These costs correspond to the property prices development, which have been experiencing an unprecedented boom in the past few years.

However, for this paper, we will not describe all the macroeconomic effects that affect property prices. Our analysis is based on the assumption that the direct factors that influence the situation in the housing market from society as a whole are the supply factor - especially the number of dwellings or houses (The smaller the supply of apartments or houses in a given location, the higher their relative price), and demand factor - especially the number and composition of the population (the higher the population and their increase, the higher the demand for flats and houses, and thus their relative price increases). Unemployment rate was chosen as an accompanying factor, as we assume natural migration of the population to locations with more job opportunities.

Cluster analysis was performed after selecting variables representing the above factors. It aimed to identify demographically similar regions and at the same time, this similarity will reflect the long-term development in the area of housing benefits. Average values over ten years were used as input data for this analysis, the target number was 3 clusters - it was

desirable to identify areas that perform best, areas that could be evaluated as “risky” and areas where is a long-term problem with the housing situation.

The following diagram illustrates the formation of individual clusters:



**Figure 2.** Cluster analysis – dendrogram using average linkage (within groups).

This confirmed the generally known information about a very bad situation in the Moravian-Silesian Region but is interested in the fact that this region itself constitutes a separate cluster. The Ústí nad Labem Region, which also reports negative information in connection with housing issues, was included together with the City of Prague and the South Moravian Region in the second cluster, which brings together areas where the situation can be assessed as risky. The last cluster consists of the remaining regions, which can thus be described as areas that are almost risk-free in terms of social housing issues. However, this does not mean that the situation in these regions is perfect, as compared to the Moravian-Silesian Region, half of the population receives housing benefits in these regions. More detailed characteristics of all clusters are given in Table 1.

In terms of population, it can be stated that there is a decline in the Moravian-Silesian Region, while other groups are characterized by (although sometimes only minimal) population growth. Paradoxically, however, while in the Moravian-Silesian Region there has been a long-term decline in population and an increasing number of completed dwellings and houses, the share of housing benefit recipients is the highest in the Czech Republic (more than 3%). The situation in the third, least risky cluster may at first glance be bad in terms of the number of completed residential properties, on the other hand, given the economic situation in these areas, the share of beneficiaries of housing benefits is below 1.5%. This fact can only be explained by a significantly different rate of unemployment and thus by an average wage. The low average wage may then be the cause of the lack of funds to cover the cost of housing and the increasing number of applications for state aid.

**Table 1.** Final Cluster Centers.

	Cluster		
	Moravian-Silesian Region	South Moravian Region, Ústí nad Labem Region, City of Prague,	Karlovy Vary Region, Hradec Kralove Region, Liberec Region, Olomouc Region, Pardubice Region, Pilsen Region, Central Bohemia Region, South Bohemian Region, Vysočina Region, Zlín Region
Natural population growth	-1,142.2	989.3	155.6
Unemployment rate (%)	9.14	7.58	7.43
Migration balance	-2,710.10	3,095.00	1,287.30
Share of population 65+ (%)	16.02	17.05	17.28
Completed dwellings	2,453.90	3,388.20	1,708.60
Completed dwellings in family houses	1,752.40	1,116.30	1,188.90
Live births	12,200.00	12,026.50	6,384.30
Deaths	13,342.20	11,037.30	6,228.70
Immigrants	24,557.40	29,598.90	16,348.00
Emigrants	27,267.50	26,503.80	15,060.70
Housing allowance (thousands CZK)	1,383,900.60	860,713.10	274,768.50
Share of beneficiaries of housing allowance (%)	3.17%	1.98%	1.37%
Housing supplements (thousands CZK)	507,509.40	203,990.30	89,590.00
Share of beneficiaries of housing supplements (%)	1.02%	0.51%	0.36%

To determine which factors resp. variables are essential for clusters determination and therefore statistically significantly differ between clusters, an analysis of variance (ANOVA) was performed. Its results are shown in Table 2.

Based on the results of the analysis of variance, it can be stated that the characteristics and thus statistically significant factors (at the level of significance  $\alpha = 0.05$ ) for the determination of individual clusters are only live births and deaths in addition to the number of recipients of housing benefits and aid paid. On the other hand, the situation in the area of state housing support is not surprisingly dependent on unemployment, the number of completed dwellings, nor on migration or immigration. This result means that no statistically significant dependence has been identified between these clusters - therefore it cannot be explicitly stated that the low unemployment rate has a positive impact on the housing situation (due to higher employment and higher incomes of the population, the number of recipients of housing benefits is decreasing.). Similarly, no statistically significant level of dependence has been identified for the number of completed dwellings and multi-dwelling buildings - again it cannot be argued that a higher supply of housing increases the availability of housing and reduces the number and volume of benefits paid.

Table 2. ANOVA.

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Natural population growth	1,832,939.36	2	741,340.42	11	2.472	0.130
Unemployment rate (%)	1.33	2	2.51	11	0.531	0.602
Migration balance	12,818,869.68	2	14,781,168.07	11	0.867	0.447
Share of population 65+ (%)	0.73	2	0.98	11	0.747	0.496
Completed dwellings	3,314,508.44	2	2,715,306.01	11	1.221	0.332
Completed dwellings in family houses	162,404.26	2	1,193,976.70	11	0.136	0.874
Live births	46,190,864.33	2	9,821,526.16	11	4.703	0.033
Deaths	43,414,766.20	2	5,895,627.42	11	7.364	0.009
Immigrants	214,919,502.58	2	116,676,121.34	11	1.842	0.204
Emigrants	193,577,437.05	2	51,896,212.89	11	3.730	0.058
Housing allowance (thousands CZK)	836,530,321,708.36	2	7,674,095,903.04	11	109.007	0.000
Share of beneficiaries of housing allowance (%)	1.70	2	0.28	11	6.015	0.017
Housing supplements (thousands CZK)	862,700,174,33.45	2	3,235,827,905.91	11	26.661	0.000
Share of beneficiaries of housing supplements (%)	0.21	2	0.05	11	4.261	0.043

## 5. Discussion and Conclusion

While in 2009 the volume of paid housing allowances was “only” CZK 2.3 billion, ten years later it was CZK 7.7 billion. A similar trend is observed for housing supplements, which in 2018 were almost four times higher than in 2009. Furthermore, a cluster analysis was carried out to identify regions in the Czech Republic that are similar in terms of overall policy related to state housing support. It turned out that the worst situation in terms of state spending on housing benefits was in the Moravian-Silesian region in the long term. For ten years, the largest share of the population receiving both housing allowance and housing supplement has lived in this region. The fact that comparable housing construction has been comparable to that in other regions of the Czech Republic does not alter this situation - it is therefore evident that housing policy alone does not have a major impact on the situation in terms of state spending on housing benefits.

It is interesting to note that other regions have been evaluated as risky, which at first glance is problem-free in terms of the socio-economic situation. It is especially the capital city of Prague and the region of South Moravian Region. Although the average wage in Prague is about thousands of crowns higher than the national average, the share of housing benefit recipients is comparable to that in the Ústí nad Labem Region. The reason is undoubtedly rising property prices, which are rising much faster than wages. Therefore, many people are entitled to state aid despite their relatively higher incomes.

We agree with the audit conclusion from the NKÚ (2018) that the provision of housing allowances and supplements contributes to reducing the number of people at risk of poverty or material deprivation, but the payment of these benefits does not address the cause of the problem. The benefits provided merely maintain the situation and, by increasing people's



incomes, prevent them from falling into poverty and losing their housing or social exclusion. In the Czech Republic, under the legislation, persons without income are entitled to a higher allowance and housing supplement than persons with their own income. This fact undoubtedly reduces the motivation to gain economic self-sufficiency.

Indeed, by supporting housing (housing benefits), the state artificially increases the incomes of the population, which are intended to cover the cost of housing, thus essentially stimulating demand. By stimulating demand, rent prices are rising (this fact was already confirmed by the following authors: Kangasharju (2010), Viren (2013), Hyslop and Rea (2019), Laferrère and Le Blanc (2004) and state expenditures on social benefits are even higher. There is no doubt that this is not the only reason, but we are convinced that, together with increasing social benefits, market distortions and inefficiencies that could not stand up in the face of free competition - such as, for example, miserable conditions in northern Bohemia or around Ostrava, from which their owners demand disproportionately high rents. Unfortunately, people in an unfavorable social situation have no choice but to accept their offers. Real estate owners or those who can now obtain a mortgage loan to acquire investment property (Hedvicakova & Svobodova, 2016; Hedvicakova & Pozdilikova, 2015) are becoming major winners who take socially weak people hostage. The main loser is then the state because it devotes billions of crowns every year to maintain the existing system, which in the long term does not solve the essence of the problem or even make it worse.

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