

The Ownership Structure of Housing Market and Unemployment in Czech Republic

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Abstract

The paper tries to explain the relationship between the unemployment and structure of supply of housing market. There are investigated three segments of housing market, which is the rental, home ownership and cooperative segments. There was find out some correlation between the unemployment and cooperative housing. In the paper there are presented the likely reasons of this relationship in conditions of the Czech legal system. They are: 1. the financial barriers between the cooperative segment of housing and the rest segments (rental, home ownership). 2. the concentration of elderly generation in cooperative segment. The research shows that the private rental and home ownership segments are working in harmony with the tenure neutrality principals.

Keywords: unemployment, home ownership, rental housing, cooperative housing

JEL Classification: R15, R23, A11

1 Introduction

The paper is focused on the relation of the ownership housing market supply structure with the actual rate of unemployment. I am explaining some coherences between the kinds of ownership and its specifics which are currently traded on the housing markets with the current unemployment in cities and regions of the Czech Republic. In accordance of many of researches on the similar topic, which were developed since 70s, I assume that even in Czech housing market conditions it is possible to find out the evidence of basic relations between the housing ownership represented by the ownership structure of housing supply and unemployment.

Oswald [6] argues that the main problem of European unemployment is caused by the structural (un)balance of the housing market. He recommends to revive private rental housing as treatment for reducing of unemployment. His surveys show that unemployment rates had risen most quickly in the nations with the fastest growth in home ownership. In his paper he compares the statistical data from 1990s and 1960s to confirm his arguments.

Hughes and Mc Cormick [2] in their paper discovers the connection between the housing markets and the labour market flexibility. They found some relationships between the labour market flexibility and unemployment by the analysing the households migration data from U.K. and U.S.

The other quality of relationship between home ownership, job duration and wages try to develop Munch, Rosholm and Svarer [5] in their paper which analysed the Danish employment data. By analysing of the data they find out that the home ownership has a negative impact on job – to – job mobility both in terms of transition into new local jobs and new jobs outside the local labour market. They confirm a clear negative effect of home ownership on the unemployment risk and positive impact on wages.

The aim of this paper is to find out whether the relationship between unemployment and the structure of housing supply can be indicated by the basic analysis of the current housing supply. By the reading of articles on the similar topic I have not found the intention to use such approach for analysis of relationship between unemployment and structure of housing market.

The most of researches compare the official statistical data describing mostly very past situation from the dynamic point of view. This is what I would like to avoid. The official Population and Housing Census in Czech Republic was organised in 2011. From the year the structure of housing ownership due to the market effects could change a lot. In such conditions it could not be comparable the current rate of unemployment and the 2011 year structure of housing ownership rate of course.

On the other hand the online advertising services can detect the changes of households behaviour in connection with their way of living much more better than rigid official statistic figure. For instance the loss of job can motivate the household to rent its dwelling (or own already rented dwelling to sell) which is immediately recorded in e-advertising, while the official statistic states the dwelling as part of home ownership (or private rental sector) which it is not in fact. That is why I assume the data of real estate servers can detect any changes in behaviour of households due their job situation just in time. The housing supply structure can be analysed very

simply by the IT technologies. You can find many of e-real estate servers with the day to day records of changes in structure of real estate supply.

In case of high rate of unemployment (or expecting rise of unemployment) the housing supply structure should be changed. The rate of home ownership in supply structure should be higher relatively comparing to private rental sector. In accordance of this assumption I would like to try to make the research of the present local supply housing market structure. In the paper there will be the relationship between the present local supply of housing market structure and the present rate of unemployment analysed.

The real estate data will be analysed on the sample of Czech Republic particularly the regional data will be observed and compared. In the Czech Republic there are basically three different sectors of housing. The ownership housing, the cooperative housing and the rental housing.

The official Population and Housing Census in Czech Republic which was organised in 2011 presents the most dominant is ownership housing with its share 59%. The ownership housing includes the family houses form as well as private dwellings with its share 20% of the housing stock. The rental housing holds 22,4% of the housing stock while the cooperative housing takes 9,3%.

2 Material and Methods

To analyse the situation from the point of regional housing supply structure the valuable data will be used. It was decided as main source of housing data the S-Reality server will be used. The S-Reality server (<http://www.sreality.cz/>) is one of the most popular servers which is used for dealing of property in Czech Republic. It provides quite qualitative data for the objective research. The structure of web pages allows to sort the ads in accordance of the research requirements. The data will be collect from the regional point of view.

The information concerning of the unemployment from the portal of the Ministry of Labour and Social Affairs of the Czech Republic (<http://portal.mpsv.cz/sz/local>) will be taken. It allows to sort the information in accordance of regional level to be comparable with the similar ones describing the housing structure of the market.

Some data from the Czech Statistical Office (www.czso.cz) will be used as well.

In the paper there will be the similar procedures used as I was used together with my university colleagues in the latest monography [3] as well as in the latest paper [7] published in Hradec Králové. In the monography we were processing the database describing the local housing market of Ostrava region.

The main information describing the present situation of the housing market is summarised in the next table 1.

Table 1 – Supply of the flats, regional unemployment.

Region	Rate of Unempl. 5/15	Adds in Total	Rental	Home Ownership	Cooperative Ownership
Praha	4,6	12428	5719	6709	731
Středočeský	5,6	3686	770	2916	341
Jihočeský	4,8	1761	357	1404	323
Plzeňský	4,6	1441	412	1029	64
Karlovarský	7,2	2267	175	2092	102
Ústecký	9,7	3868	714	3154	1305
Liberecký	6,7	1457	428	1029	273
Královéhradecký	5,0	1426	230	1196	164
Pardubický	4,8	883	188	695	103
Vysočina	5,8	526	66	460	91
Jihomoravský	7,0	3939	1817	2122	261
Olomoucký	7,2	1533	359	1174	253

Zlínský	6,1	1404	338	1066	169
Moravskoslezský	8,8	5132	1738	3394	1895

Source: S-Reality, 30.5.2015, Ministry of Labour and Social Affairs, own processing

For the searching of the relationship between structure of housing market and regional level of unemployment the Pearson correlation coefficient will be used. The mathematic formulation is:

$$r = \frac{\overline{xy} - \bar{x}\bar{y}}{s_x s_y} = \frac{\frac{1}{n} \sum_{i=1}^n x_i y_i - \bar{x}\bar{y}}{\sqrt{\left(\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2\right) \left(\frac{1}{n} \sum_{i=1}^n (y_i - \bar{y})^2\right)}} \quad (1)$$

where n is number of observations, s_x is standard deviation of first variable, s_y is standard deviation of second variable, x_i is value of i -statistical unit of first variable, y_i is value of i -statistical unit of second variable, \bar{x} is average value of first variable and \bar{y} is average value of second variable.

For the statistical significance of the collecting data further the analysis of variance (ANOVA) will be used in order to analyse the differences between group means and their associated procedures. For the ANOVA analysis the EXCEL software is suitable.

3 Results and Discussion

The results of the survey are indicated in the table 2. While in accordance of the researches on the similar topic I expected the clear confirmation of positive correlation between the rate of unemployment and the rate of home ownership sector in the housing market supply structure, the story seems to be likely modified in condition of the Czech Republic. The table 2 as well as figure 1 show no correlation between rate of unemployment and the rate of home ownership sector in the housing market supply structure.

The figure 1 presents the variation of rate of unemployment and the rate of home ownership sector in the housing market supply structure, where each dot is a region of the Czech Republic.

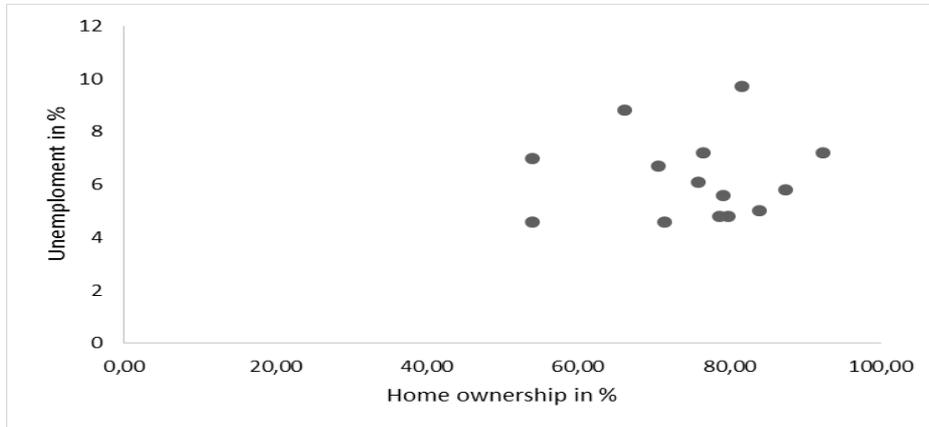
Table 2 – The Pearson correlation coefficient

Sector	Unemployment 5/15
Private rental %	-0,038453694
Home and cooperative %	0,485280826
Home ownership %	0,038453694
Cooperative ownership %	0,71268794

Source: own processing

What is surprising, the figures confirm relatively high relationship between rate of unemployment and rate of cooperative housing sector in the housing market supply structure. The figure 2 presents the variation of rate of unemployment and the rate of cooperative ownership sector in the housing market supply structure, where each dot is a region of the Czech Republic. The figure 2 shows the polynomial regression relationship with its coefficient of determination $R^2 = 0,6$. The R^2 explains variance to the total variance of the dependent variable, which is in this sample 60%. This coefficient confirmed the statistical significance of this correlation ($p = 0,0042$).

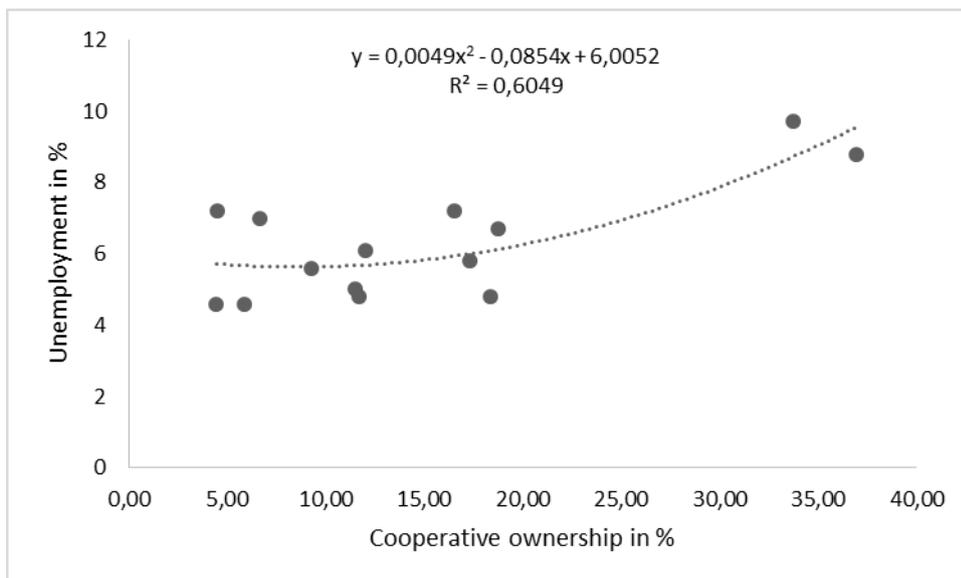
Figure 1 – The relationship between unemployment and home ownership sector in the housing market supply structure. Source: Own processing, 5/2015



This significant relationship is not fully understood, but some of explanations with the knowledge of the Czech legal system can be presented. The questions which I would try to answer are:

1. Why there is the relationship between rate of unemployment and rate of cooperative sector in the housing market supply structure, while there is no relationship between rate of home ownership sector in the housing market supply structure and rate of unemployment?
2. Is there any reason why job mobility of families living in homeownership is higher than the ones occupy the cooperative dwellings which it can follow from the table 2 and figures 1 and 2 ?

Figure 2 – The relationship between rate of unemployment and cooperative ownership sector in the housing market supply structure. Source: Own processing, 5/2015



The main reason consists in explanation of the legal content of the home ownership on one side and cooperative housing on the other side.

3.1 Home ownership and cooperative housing

The home ownership, its rights and obligations are defined by the Civil Code number 89/2012. This kind of ownership is certified by an extract from the ownership deed, which is issued by the Cadastral Office of the Czech Republic. This certification gives the right for occupancy of the flat, of course. The law says, the occupant of the dwelling is the owner who disposes by the widest ownership rights.

The decisions how to use the dwelling belongs with some exceptions to the owner. It is simply up to the owner whether or to whom the dwelling is rented, or whether or to whom is sold or donated for instance. There is also the possibility to use the dwelling as pledge and get the loan in case the owner needs funds, or even to finance the purchase of the flat by the getting of mortgage. There is a competitive financial market in the Czech Republic with many of banks which are ready to provide the financing.

From the perspective of financial institutions, there are nearly no barriers to provide the loans to the owners. The dwelling is a liquid good with the potential of the price growth in this economic period. The banks are willing to lend. The interests under the competitive pressure decline.

According to the Act number 90/2012 the owner of cooperative dwelling is not occupant, but the cooperative. The occupants of cooperative dwellings are not the real owners. According to the law the authorized occupant of the cooperative dwelling is in the position of the "better" tenant to say honestly.

Authorization (tenant rights) for usage of cooperative dwelling gives to its occupant the ownership share of the cooperative. To be a shareholder of cooperative which is the real owner of the house where the dwelling is situated means, that the shareholder must respect the cooperative authorities.

The decisions how to use the dwelling belongs primarily to the authorities of the cooperative. It is subjected to the decision of cooperative authorities or administrative whether or to whom the dwelling will be sublet. The full tenant rights can be transferred only with the cooperative share. There is no possibility to use the dwelling as deposit and get the loan in case the owner needs funds, or even there is nearly no chance to finance the purchase of the dwelling by the getting of loan.

The main differences between the quality of the home ownership and cooperative housing are summarized in the next table 3.

Table 3 – The comparison of home ownership and cooperative housing rights.

Sector	Certification of occupancy	Law status	Financing of purchase	Renting (subletting) possibilities
Home ownership	Cadaster	Owner	Mortgage	No restriction
Cooperative	Cooperative administration	Tenant	Consumer credit	Cooperative authorities decision

Source: own processing

By providing of comparison in table 3, there are the main differences between the home ownership and cooperative housing shown. There are several main differences, which are making the cooperative housing less attractive in comparison to home ownership and even to rental housing.

First is the finance possibility. The way how to finance the purchase of cooperative dwelling is quite different in comparison to home ownership. To finance the cooperative dwelling, the typical way how to do it is to get the consumer credit, while to finance the home ownership, you can get the mortgage. At the moment there is the difference in the interest. While the interests of mortgages is at about 2,0% at the present, the consumer credit it is possible to get from let say 7,0%, which is three times more at least. This difference comes from the legal status of the two housing sectors. It is not possible to give the pledge in case of cooperative dwelling, because the cooperative dwelling is owned by the cooperative, not by the cooperative member.

Second main reason for the difference is the rental possibility. To rent a dwelling in ownership is easier than to rent a cooperative dwelling. The right of owner provides the freedom in decision. It is up to him (her) to whom it is rented.

To rent a cooperative dwelling is not so easy. Because the cooperative member is not the owner of flat, he (she) must respect the decision of cooperative authority. The procedure of renting the cooperative dwelling in accordance of the law is, that the cooperative member must ask the cooperative authority for certification to whom can be the dwelling rented.

It seems by the analysing the situation, the likely reason for the relationship between the cooperative housing and unemployment is generally saying the unbalanced tenure neutrality.

3.2 Tenure neutrality as the likely reason

It is known, the tenure neutrality describes the situation in which the household is financially indifferent between owning and renting a dwelling. Tenure neutrality is about households being able to move across tenure according to their circumstances. It gives the choice to decide on one side and protects against abuse of monopolistic power of owners on the other side. Tenure neutrality means that modes of finance do not distort household choices between renting and owning.

In economies where are the barriers in moving from ownership to tenant segment it is assumed the significant correlation between the rate of ownership and unemployment. The most typical barriers can be the rent regulations for instance. It is clear that in situation where the tenant is protected by the government with the level of maximal rent, his (or her) motivation to move into the ownership sector due the new job is not so high. The main decision is done by the comparison of present rent, the payment of mortgage and benefits from new job.

Barr [1] introduces the main advantages of tenure neutrality:

1. there are no financial barriers in household mobility across the housing sectors (principle of effectiveness),
2. no housing sector is in advantage comparing to others (principle of equity),
3. there is no shortage of dwellings in one sector at the expense of other.

If we adapt the tenure neutrality conditions on the relationship of home ownership - cooperative (and for simplification not consider with rental sector) we can present the basic economic figures of the purchase the dwelling in home ownership and cooperative ownership.

Table 3 – The basic financial comparison of home ownership and cooperative ownership, the sample of Ostrava city, one room and kitchen dwelling, panel house, in thousands of Kč.

Segment	Home ownership	Cooperative ownership
Average bid price of dwelling	557	470
Interest in %	2,1	7,0
Sum of year payment of interest	11,7	32,9

Source: own processing, www.sreality.cz, 19.6.2015

I found out two likely reasons why there is a relationship between the rate of cooperative sector and rate of unemployment. First it is the financial motivation and the other nonfinancial affairs, second the elderly generation mentality.

Despite the fact that the cooperative dwellings are in average cheaper than dwellings in home ownership (see the second line of the table 3), the sum of year interest payment is higher in the case of cooperative dwelling. The reason for this difference is the legal status of the two housing sectors. It is not possible to give the pledge in case of cooperative flat, because the cooperative flat is own by the cooperative, not by the cooperative member. Because of it the banks provide logically higher level of interest (higher risk of financial transaction) than in case of financing the dwelling in home ownership.

It is understandable, that the households in case of looking for a new job votes for dwelling in home ownership rather than in cooperative ownership. The financial motivation for this decision looks so high (compare the year sum of interests 11,7 vs. 32,9). There are the other barriers why likely the households prefer home ownership as well. For instance: the certification of subletting by the cooperative administrative, no possibility to get the pledge etc.

For the young households and their ability to be mobile because of their employment the cooperative dwellings are not attractive. It seems it is not the whole story of relationship between the unemployment and dwellings in cooperative ownership. I assume the concentration of older generation households in cooperative dwellings rather than in home ownership dwellings.

It is generally known that the unemployment of elderly generation is more difficult than the young one. The elderly generation is not so adaptable for new working conditions. The generation is more conservative even in making the decisions in case of changing the place of living where they already grassed their roots.

These are the main arguments for explaining the identified relationships.

4 Conclusion

The economic conditions in such dynamic society we are living can be changed from day to day. The new modern life influenced by the IT technologies is typical with its transmission of information in time. The influence of online information due to IT technologies on the dynamic of real estate markets is significant in my opinion. Financial instruments allow the transfer of funds just in time and conditions of financial institutions for providing it are obtrusive.

From this point of view it is necessary to search present relationship in economic word. The described economic relationships in past do not have to work in these days necessary.

The ignored element in explaining of the relationship between rate of housing ownership (cooperative ownership) and rate of unemployment seems to be the implementation of tenure neutrality principals, which is in my opinion the key to comprehend the function how to explain correlation between the share of home ownership and rate of unemployment.

The main findings of my research are:

1. I find out the positive correlation between the share of cooperative housing sector in the housing market supply structure and regional level of unemployment rate,
2. there are the financial barriers between the cooperative segment of housing and the rest segments (rental, home ownership),
3. the barriers can cause the rise of concentration of elderly generation in cooperative segment,
4. the private rental and home ownership segments are working in harmony with the tenure neutrality principals.

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