

EXPLORING THE NEXUS BETWEEN HOUSING AFFORDABILITY AND SUBJECTIVE WELL-BEING IN CZECHIA AND SLOVAKIA

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Abstract

In recent years, many factors have been studied in relation to subjective well-being (SWB). The most common research includes indicators such as income, health, work. In addition to these factors, SWB may also be influenced by housing affordability. The aim of this paper is to examine the relationship between housing affordability and SWB in Czechia and Slovakia. It is argued that living in a city is associated with higher SWB due to wider employment opportunities, higher income and better access to services. However, this advantage is often associated with higher housing costs. One of the most important aspects to consider in the relationship between housing and SWB is neighborhood. Living in a disadvantaged neighborhood characterized by higher crime rates may lead to lower levels of SWB, even if the housing is more affordable. Conversely, it is hypothesized that individuals may seek housing in rural areas where housing is more affordable, which may have a positive effect on SWB. In addition, individuals for whom housing is unaffordable may experience stress, which may manifest itself in a variety of health problems. The results of the research indicate how housing policy and housing affordability considerations affect the SWB of individuals in these countries.

Key words: subjective well-being, housing affordability, Czechia, Slovakia, stress

JEL Code: I31, D14, O18

Introduction

In the pursuit of a good and happy life, individuals seek various factors that contribute to their subjective well-being. Traditionally, research to understand subjective well-being has examined indicators such as income, health, and work, but in recent years, attention has also turned into housing affordability (Burger et al., 2022) as a determinant. The aim of this paper is to explore the complex relationship between housing affordability (HA) and subjective well-being (SWB) in the context of Czechia and Slovakia.

Housing and home ownership are central aspects of people's lives that often influence their overall well-being. Although urban housing can provide greater employment opportunities, higher incomes, and better access to services, it is often associated with higher housing costs, making home ownership unaffordable for many.

Assessing HA involves, for example, examining the ratio of housing expenditures to household income or the loan-to-income ratio (Hancock, 1993). The most common method of measuring HA is to assess housing expenditure as a proportion of household disposable income, with the threshold usually set between 30% and 40%. In addition, those for whom housing is unaffordable may experience stress, leading to a variety of health problems that ultimately negatively affect their SWB. Housing goes beyond basic needs; it is a critical factor in overall life satisfaction. This research aims to reveal the complex interplay between affordability and individuals SWB in the context of the two countries.

One of the key aspects in understanding the relationship between housing and SWB is the neighbourhood in which one lives. The quality of a neighbourhood, characterized by phenomena such as crime rates, availability of basic services, and noise levels, may significantly affect SWB even when housing is more affordable. Conversely, it is hypothesized that individuals may seek housing in suburban or rural areas where affordability is higher, which may have a positive effect on their SWB.

The aim of this study is to examine the relationship between SWB and HA in Czechia and Slovakia, and whether living in cities is more financially burdensome in the context of housing affordability.

1 Subjective well-being and housing affordability

SWB is a complex construct that encompasses various aspects of an individual's emotional experiences and life satisfaction (Diener, 1994). Individuals consciously assess their overall satisfaction with life or with specific aspects of their lives. SWB is measured from the individual's own perspective and focuses on longer-term states rather than momentary moods (Diener et al., 1997). Because SWB is a multidimensional concept, it depends on and is influenced by multiple factors such as education, income, health, and age (Steptoe et al., 2015; Kristoffersen, 2018). It has also been argued that in addition to income and health, HA is an important determinant of SWB (Burger et al., 2022).

Affordability in the context of housing is often assessed by examining the ratio of housing expenditures to household income or the amount of credit relative to income, as noted

by Hancock (1993). This perspective highlights the essence of HA, which revolves around the opportunity cost of securing housing - what individuals or households must sacrifice to obtain adequate housing. A widely accepted method of measuring HA is to measure housing expenditure as a proportion of household disposable income. An essential aspect of the definition of HA is the establishment of a threshold. This threshold serves to identify households that may be at risk or for whom housing costs are considered unaffordable, as outlined by Heylen (2021). This threshold is typically in the range of 30% to 40%. The official Eurostat approach, for example, uses a ratio of total housing costs to income of 40%. Nevertheless, such (objective) thresholds are often arbitrarily chosen, and Ng et al. (2023) propose a procedure aimed at estimating a subjective affordability ratio that discriminates between subjective house-poor and non-house-poor households.

Moreover, as highlighted in the study by Andre et al. (2017), it is clear that under certain life circumstances, such as divorce, homeownership can become a source of financial strain due to the burden of high monthly mortgage payments. This highlights the dynamic nature of HA and its impact on individual's financial well-being.

Mortgage debt as a form of financial obligation not only negatively affects income satisfaction, but also reduces the positive aspects of homeownership, which ultimately reduces overall emotional well-being. When the debt-to-income ratio increases as a result of mortgage debt, there is a subsequent decrease in life satisfaction (Will and Renz, 2023).

Homeownership presents a twofold impact on satisfaction. It can contribute positively to personal security and overall housing satisfaction, but its impact on satisfaction can turn negative when households face significant financial burdens (Hu, 2013). Gender differences also come into play, with some studies suggesting that women tend to place a higher value on home ownership. In addition, homeownership is associated with a lower prevalence of depressive symptoms compared to renting (Park and Seo, 2020). The risk of depression associated with housing unaffordability is more pronounced for those living in substandard conditions, underscoring the detrimental impact of HA on psychological well-being.

Interestingly, the transition from rental housing to homeownership leads to an increase in the life satisfaction of the tenant who has become a homeowner, which is accompanied by other related benefits (Diaz-Serrano, 2009). Housing characteristics and property values also play a role in shaping SWB, and there is a possibility that when mortgage becomes the main debt burden of a household, people's SWB may decrease (Zhang and Zhang, 2019).

At the same time, in addition to the adverse effects of housing unaffordability on SWB, the neighbourhood itself can also have a negative impact on SWB, particularly in areas with

high crime rates or poor infrastructure, which can negatively affect residents' well-being even if housing is more affordable.

The aim of this study is to contribute to the stream of literature on the determinants of SWB by examining the objective and subjective (un)affordability of housing in the context of dividing the sample into urban and non-urban areas.

2 Data and methods

The data used in this article come from the 2018 European Union Statistics on Income and Living Conditions (EU-SILC). EU-SILC provides statistics on income, living conditions and social exclusion in the 27 EU member states. We worked with data at the cross-sectional level for 2018 for the countries of Slovakia and Czechia.

The main SWB variable is operationalized by responses to the question 'Overall life satisfaction': *"Overall, how satisfied are you with your life these days?"* measured on a scale from 0 (not at all satisfied) to 10 (completely satisfied). In addition to the HA variable, we examine differences between subjective and objective HA. In defining the objective affordability of housing, we draw on Eurostat, where housing is considered unaffordable if the total amount of housing costs is more than 40% of the total gross household income. Subjective HA is operationalized by responses to a question on financial burden: *"Please consider your total housing costs including mortgage repayments (instalment and interest) or rent, insurance and services charges (sewage removal, refuse removal, regular maintenance, repairs and other charges). To what extent are these costs a financial burden to you? A heavy burden; A slight burden; Not burden at all."*

Based on previous studies, we use linear regression to define the relationship between HA and SWB. Since our main variable is ordinal, we transformed it using the POLS transformation (Van Praag, 2007). We build two models for the two countries:

1. where SWB is influenced by subjective housing affordability.
2. where SWB is influenced by objective housing affordability.

In the estimated models, we consider the following set of control variables: deprivation; education; tenure status; age; sex; economic activity; marital status; chronic illness. We present the results of these models in the next section.

3 Results

In Table 1 we present descriptive statistics of the main variables. The average SWB value (in points) for Slovakia is 6.89 with SD 2.28, while the average SWB value in the Czech Republic is 7.26 with SD 1.97, so we can assume that Slovaks as well as Czechs are on average satisfied with their lives. The average income is slightly higher in the Czech Republic, 1 359.58 €/month, while in Slovakia it is 1 240.98€/month. The average household costs are higher in the Czechia (252.20 €/month), while in Slovakia it is 187.06 €.

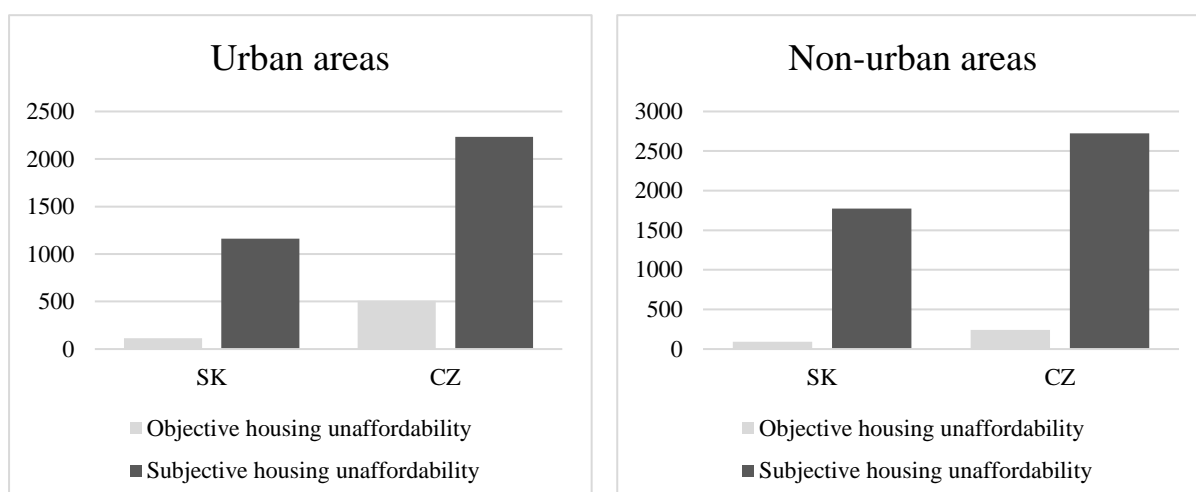
Tab. 1: Descriptive statistics

	<i>Slovakia</i>				<i>Czechia</i>			
	<i>Min</i>	<i>Mean</i>	<i>S.D</i>	<i>Max</i>	<i>Min</i>	<i>Mean</i>	<i>S.D</i>	<i>Max</i>
<i>SWB</i>	0	6.89	2.28	10	0	7.26	1.97	10
<i>Income</i>	41.79	1 240.98	679.271	4 953.84	74.45	1359.58	881.42	10 955.69
<i>Household costs</i>	0	187.06	72.82	680	1.1	252.20	130.46	1 421.45
<i>n</i>	3 394				5 586			

Source: authors' calculations based on data from EU-SILC

Prior to the OLS analysis itself, we looked at the distribution of responses in terms of subjective and objective HA, focusing on differences between urban and non-urban areas (Figure 1). The x-axis shows the countries and the main variables. The y-axis is the number of respondents. The results are interesting. We can observe a clear distinction between subjective and objective housing unaffordability (HUA), with respondents in both areas (urban and non-urban) indicating that housing costs represent a sense of financial burden for them (subjective HUA). In terms of objective HUA, urban areas in both countries have more housing cost problems, or the financial burden in terms of the ratio of household expenditure to total income is more prevalent in urban areas.

Fig. 1: Frequency



Source: authors' calculations based on data from EU-SILC

The main objective of our analysis is to investigate the relationship between SWB and housing affordability, so we implemented an OLS model¹. The results of the models for both countries are presented in Table 2.

In models, where we examine the effect of HUA on SWB, the results are similar for both countries. In the case of the model with objective HUA as the independent variable for Slovakia (column 1), a negative and significant effect of OHUA on SWB is observed, but at the same time a positive and significant effect of city on SWB is observed. In the same specification of the model for Czechia (column 5), the effect of the OHUA on SWB is also negative, but stronger than in Slovakia.

The results are somewhat similar for the models with SHUA as the independent variable for the both countries (columns 3 and 7). SHUA has a stronger negative effect on SWB compared to OHUA, so it can be assumed that the subjective feeling of financial burden is more pronounced compared to the real ratio of housing costs to income, and at the same time, even households whose housing costs do not exceed the threshold of 40% of income feel housing costs as a financial burden.

¹ We also conducted an ordered probit model. The results were qualitatively similar to those of the presented model.

Tab. 2: Regression output including control variables

	Dependent variable: SWB							
	Slovakia				Czechia			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Objective HUA</i>	-0.163* (0.066)	-0.170 (0.097)			-0.138*** (0.039)	-0.113 (0.063)		
<i>OHUAxCity</i>		0.012 (0.129)				-0.041 (0.077)		
<i>Subjective HUA</i>			- 0.346*** (0.045)	- 0.372*** (0.062)			- 0.457*** (0.039)	- 0.487*** (0.059)
<i>SHUAxCity</i>				0.052 (0.556)				0.053 (0.078)
<i>Degree of urbanization (City)</i>	0.116*** (0.033)	0.116** * (0.035)	0.101** (0.002)	0.056 (0.083)	0.024 (0.026)	0.029 (0.027)	-0.012 (0.025)	-0.059 (0.074)

Notes: Level of significance: $p < 0.1^*$, $p < 0.05^{**}$, $p < 0.01^{***}$

In Table 2, we present the results of a linear regression in which the dependent variable was the ordinal variable SWB, whose question was as follows: "Overall, how satisfied are you with your life these days?". This variable was transformed using the POLS transformation. The independent variables were subjective and objective housing unaffordability, with subjective HUA representing the individual's sense of financial burden and objective HUA representing the ratio of total housing costs to total household income. Control variables included deprivation, education, tenure status, age, sex, economic activity, marital status, and chronic illness. In addition, to investigate whether HUA is worse in urban or non-urban areas, we included an interaction effect of HUAxCity in the model.

Source: authors' calculations based on data from EU-SILC

Among the important key variables, the degree of urbanization has a positive and significant impact on SWB only in the case of Slovakia. At the same time, in the case of Slovakia, home ownership is associated with a decrease in SWB, suggesting that households that own a home are more likely to have a higher cost of living and therefore more likely to report being less satisfied with their lives.

The results show that there is a difference in perceptions of HA. In the case of objective HUA, it is more a question of the total housing-related expenditure of individuals. When residents consider all their housing-related costs (such as rent, mortgage payments, insurance, etc.), these costs are clearly a burden to them and ultimately reduce their subjective sense of well-being. However, financial strain can also be felt by a household whose income is higher than the total housing costs. This is probably why subjective HUA has a stronger and more

significant impact on SWB. It is likely that the rising cost of living may cause further economic hardship for residents in the future.

We further estimate models with an interaction term to test whether living in urban/non-urban areas is associated with a higher degree of HUA (columns 2, 4, 6, 8). We do not find a significant effect, so we do not expect significant differences in the impact of HUA on SWB between urban/non-urban areas.

Conclusion

To conclude our research, we examined the relationship between HA and SWB in the Czechia and Slovakia. We found that there are differences in the current understanding of objective and subjective HA, as well as differences between urban and non-urban areas within the two countries.

In both urban and non-urban areas, housing costs represent a significant financial burden. Both subjective and objective HUA show a negative impact on SWB in both countries, albeit with different strengths. Interestingly, and as expected, looking at objective HUA, it is clear that urban areas in both the Czech and Slovakia face more significant housing cost problems than non-urban areas. But when we look at the interaction effect of city and SHUA (OHUA), we cannot confirm that it is the city where people are worse off in terms of life. This may be because it is the cities that offer many positive things, such as better jobs and higher incomes. Moreover, housing in urban areas has a positive and significant effect on SWB only in Slovakia.

Our results point to the differentiated nature of HA. Subjective HA essentially reflects the sense of financial burden that individuals feel when they consider their total housing-related costs. However, it is noteworthy that financial strain can also affect households whose income exceeds their total housing costs. This finding may explain the somewhat stronger effect of subjective HUA on SWB. It is likely that as housing costs continue to rise, additional economic hardships may emerge for residents, underscoring the complexity of studying housing affordability and motivating further and deeper research.

Overall, our research highlights the evolving nature of HA, which requires a holistic approach to its impact on SWB. Policy makers, researchers and stakeholders should take these findings into account when developing strategies aimed at improving the overall quality of life and well-being of individuals and households in urban and non-urban areas in the Czech Republic and Slovakia.

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References

- André, S. et al. (2017). Do Housing Wealth and Tenure (change) Moderate the Relationship Between Divorce and Subjective Wellbeing. (HOWCOME Working Paper Series).
- Burger, M. et al. (2022). Happy but Unequal: Differences in Subjective Well-Being across Individuals and Space in Colombia. *Applied Research in Quality of Life* 17, 1343-1387. <https://doi.org/10.1007/s11482-021-09954-2>
- Diaz-Serrano, L. (2009). Disentangling the housing satisfaction puzzle: Does homeownership really matter? *Journal of Economic Psychology*, 30(5): 745-755. <https://doi.org/10.1016/j.joep.2009.06.006>
- Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social Indicators Research* 31, 103-157. <https://doi.org/10.1007/BF01207052>
- Diener, E. et al. (1997). Recent Findings on Subjective Well-Being. *Indian Journal of Clinical Psychology*, 24(1): 25-41.
- Hancock, K. E. (1993). 'Can Pay? Won't Pay?' or Economic Principles of 'Affordability'. *Urban Studies*, 30(1): 127-145. <https://doi.org/10.1080/00420989320080081>
- Heylen, K. (2021). Measuring housing affordability. A case study of Flanders on the link between objective and subjective indicators. *Housing Studies*, 38(4) 552-568. <https://doi.org/10.1080/02673037.2021.1893280>
- Hu, F. (2013). Homeownership and Subjective Wellbeing in Urban China: Does Owning a House Make You Happier? *Social Indicators Research*, 110, 951-971. <https://doi.org/10.1007/s11205-011-9967-6>
- Kristoffersen, I. (2018). Great expectations: Education and subjective wellbeing. *Journal of Economic Psychology*, 66: 64-78. <https://doi.org/10.1016/j.joep.2018.04.005>
- Ng, J. W. (2023). Measuring subjective housing affordability using a data-driven discrete information approach: A case study of Selangor, Malaysia. *Applied Economics Letters*, <https://doi.org/10.1080/13504851.2023.2208833>
- Park, GR. and Seo, B. K. (2020). Revisiting the relationship among housing tenure, affordability and mental health: Do dwelling conditions matter? *Health and Social Care in the Community*, 28(6): 2225-2232. <https://doi.org/10.1111/hsc.13035>
- Step toe, A., et al. (2015). Subjective wellbeing, health, and ageing. *Lancet*, 385(9968): 640-648. [https://doi.org/10.1016/S0140-6736\(13\)61489-0](https://doi.org/10.1016/S0140-6736(13)61489-0)

Van Praag, B. (2007). 2 The Analysis of Income Satisfaction with an Application to Family Equivalence Scales. *Happiness Quantified: A Satisfaction Calculus Approach*, 15-45. <https://doi.org/10.1093/acprof:oso/9780199226146.003.0002>

Will, S. and Renz, T. (2023). My Home is My Burden? Homeownership, Financial Burden and Subjective Well-Being in a Unitary Rental Market. *Applied Research in Quality of Life* (2023). <https://doi.org/10.1007/s11482-023-10184-x>

Zhang, Ch. and Zhang, F. Effects of housing wealth on subjective well-being in urban China. *Journal of Housing and the Built Environment*, 34: 965-985. <https://doi.org/10.1007/s10901-019-09651-5>

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