Odchod mladých dospelých z rodičovského domu v EÚ: zhluková analýza krajín EÚ

Leaving the parental home in the EU: a cluster analysis of EU countries

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Abstrakt
Príspevok sa zameriava na analýzu rozdielov v procese osamostatňovania mladých dospelých v krajinách Európskej únie. Analýza vychádza z údajov Eurostatu pre 27 krajín EÚ za rok 2024 a využíva vybrané ukazovatele súvisiace s bývaním, situáciou na trhu práce a životnými podmienkami mladých ľudí. Na identifikáciu podobností medzi krajinami bola použitá hierarchická zhluková analýza (Wardova metóda). Výsledky poukazujú na existenciu troch skupín krajín, ktoré sa líšia v charakteristikách prechodu mladých dospelých k samostatnému bývaniu. Zistenia naznačujú, že tento proces je ovplyvnený kombináciou ekonomických faktorov, najmä podmienok na trhu práce, ako aj štrukturálnych faktorov, vrátane dostupnosti bývania a rodinného prostredia. Rozdiely medzi krajinami preto nemožno vysvetliť jediným faktorom, ale ich vzájomnou kombináciou.

Kľúčové slová
mladí dospelí, bývanie, nezávislosť, zhluková analýza

Abstract
This paper examines differences in the transition of young adults to independent living across European Union countries. The analysis is based on Eurostat data for 27 countries in 2024 and focuses on selected indicators related to housing conditions, labour market situation and living arrangements. Using hierarchical cluster analysis (Ward's method), countries were grouped according to similarities in these indicators. The results identified three distinct clusters, reflecting different patterns of young adults' transition to independence. The findings show that both economic factors, such as labour market conditions, and structural factors, including housing affordability and family context, play an important role. At the same time, the results suggest that differences across countries cannot be explained by a single factor, but rather by their combined effects.

Key words
young adults, housing, independency, cluster analysis

JEL classification
R21, C38

1 Introduction

The transition from the parental home to independent living represents an important step in the life course of young adults. This process is influenced by a range of factors, including housing conditions, labour market opportunities and broader socio-economic context.

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In recent years, increasing housing costs and changing labour market conditions have made this transition more challenging in many European countries. As a result, young people tend to remain in the parental home longer, although significant differences can be observed across the European Union.

Previous research suggests that both economic factors, such as employment opportunities, and structural factors, including housing affordability and institutional arrangements, play an important role in shaping the timing of leaving the parental home. However, these factors do not affect all countries in the same way.

The aim of this paper is to analyse differences between EU countries in the transition of young adults to independent living. Using cluster analysis, countries are grouped based on selected indicators reflecting housing conditions, labour market situation and living arrangements. The analysis focuses on identifying patterns, differences and similarities across countries.

2 Literature review

Previous research shows that the transition of young adults to independent living is shaped by a combination of economic, housing, institutional and family-related factors. Labour market conditions play an important role, as weaker employment prospects, unemployment and job insecurity reduce the ability of young people to establish an independent household or enter homeownership (Arundel & Doling, 2017, Lersch & Dewilde, 2015, Gousia et al., 2021). At the same time, these effects are not uniform across Europe, because they are filtered by national housing systems, welfare institutions and labour market structures (Lersch & Dewilde, 2015, Filandri & Bertolini, 2016).

Housing conditions represent another key determinant of delayed independence. Several studies emphasise that worsening affordability, limited access to mortgages and declining opportunities for homeownership have made independent housing transitions more difficult for younger generations (Lennartz et al., 2016, Dewilde, 2020, Arundel & Doling, 2017). After the Global Financial Crisis, many countries experienced a decline in young adults' access to homeownership, but the consequences were not identical everywhere. In some countries, renting became a temporary alternative, while in others co-residence with parents increased, especially where rental markets were weak (Lennartz et al., 2016, Matel, 2024, Arundel & Ronald, 2016).

The literature also points to the importance of family background and intergenerational support. Parental homeownership, parental social class and direct family transfers can substantially improve young adults' housing chances, especially with regard to homeownership (Tucci, 2025, Coulter, 2018, Bonnet et al., 2018). In this sense, housing transitions are increasingly stratified, as young adults from more advantaged families are better able to achieve residential independence, while others face delayed or more insecure pathways (Tucci, 2025, Bonnet et al., 2018).

In addition to economic and housing-related factors, cultural and institutional contexts also matter. Research suggests that stronger family orientation, religiosity and norms of parental responsibility are associated with later home-leaving, while more individualistic societies show earlier transitions to independence (Van Den Berg et al., 2021). Similarly, welfare regimes and housing systems shape the form of semi-dependent living (parental co-residence or shared living), with Southern Europe showing higher parental co-residence and social-democratic countries generally characterised by earlier home-leaving (Arundel & Ronald, 2016, Mandic, 2008). Overall, the literature suggests that differences between countries cannot be explained by a single factor, but rather by the interaction of labour market conditions, housing affordability, family resources and broader cultural-institutional settings.

The selection of variables used in the cluster analysis is based on existing research on young adults' transition to independent living, which highlights the importance of economic conditions, housing affordability and living arrangements.

The NEET rate, defined as the share of young people aged 18–34 and not in employment, education or training, was included as an indicator of economic vulnerability. Previous studies show that weak labour market attachment, unemployment and job insecurity significantly reduce young people's ability to achieve residential independence (Lersch & Dewilde, 2015, Gousia et al., 2021).

Housing affordability was captured by the housing cost overburden rate (HCO), which represents the share of individuals whose housing costs exceed 40% of disposable income. This indicator is used to assess financial pressure related to housing, and previous research suggests that high housing costs can delay transitions to independent living (Arundel & Doling, 2017, Dewilde, 2020).

The share of young people living with their parents (PARENTS) was included as a direct measure of co-residence and living arrangements, as used in previous research (Lennartz et al., 2016). This indicator is closely related to the timing of leaving the parental home, as a higher share of co-residence is typically associated with later transition to independent living. The average age of leaving the parental home (AGE) complements this measure by capturing the timing dimension of residential independence and allows for a more comprehensive comparison across countries.

Together, these indicators provide a comprehensive framework for analysing cross-country differences in young adults' transition to independent living, as they capture complementary dimensions of economic vulnerability, housing constraints and living arrangements.

3 Methodology

3.1 Data

The analysis is based on data obtained from Eurostat (2026) and covers all 27 European Union countries for the year 2024.

The average age of leaving the parental home (AGE) is measured as the average age at which young people leave the parental household. Housing conditions are captured by the housing cost overburden rate (HCO) for individuals aged 25–29, defined as the percentage of people living in households where housing costs exceed 40% of disposable income. The share of young people living with their parents (PARENTS) refers to individuals aged 18–34 and is measured as the percentage of young adults residing in the parental household. Economic vulnerability is represented by the NEET rate, defined as the share of young people aged 15–34 who are not in employment, education or training. The values of all variables used in the analysis are presented in Table 1.

Table 2 presents descriptive statistics of the variables used in the cluster analysis. Across the 27 EU countries, the average NEET rate reached 11.3%, ranging from 5.9% to 20.3%. The average housing cost overburden rate was 10.2%, with substantial variation between countries (from 2.3% to 30.4%). The share of young adults living with their parents averaged 39.1%, while the average age of leaving the parental home was 26.5 years, ranging from 21.4 to 31.3 years. The observed variability across indicators supports the use of cluster analysis to identify groups of countries with similar profiles.

Table 1 Dataset used in the cluster analysis

COUNTRY	NEET (%)	HCO (%)	PARENTS (%)	AGE (years)
Belgium	11.0	9.9	23.6	26.2
Bulgaria	13.6	8.0	45.6	28.2
Czechia	11.7	14.0	39.2	25.8
Denmark	8.8	30.4	25.7	21.7
Germany	10.0	14.2	42.9	23.9
Estonia	10.5	12.2	26.0	22.4
Ireland	8.9	6.9	44.3	26.8
Greece	16.4	29.2	39.0	30.7
Spain	13.1	9.5	31.9	30.0
France	13.2	6.6	29.4	23.5
Croatia	10.9	2.3	57.1	31.3
Italy	17.3	5.5	29.6	30.1
Cyprus	12.5	4.2	47.8	27.2
Latvia	12.5	8.6	38.4	26.6
Lithuania	13.8	5.6	36.8	23.6
Luxembourg	9.9	10.6	25.8	26.9
Hungary	11.1	9.3	45.0	27.1
Malta	7.3	4.7	70.1	28.1
Netherlands	5.9	16.2	30.9	23.2
Austria	9.8	9.9	44.7	25.3
Poland	10.3	5.0	51.6	26.7
Portugal	9.0	8.9	45.9	28.9
Romania	20.3	6.8	44.6	27.3
Slovenia	7.9	4.1	42.8	28.9
Slovakia	12.3	8.5	52.3	30.9
Finland	10.7	10.3	24.2	21.4
Sweden	6.6	14.3	19.5	21.9

Source: EUROSTAT

Table 2 Descriptive statistics of selected indicators

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	N	MEDIAN
NEET (%)	11.31	3.16	5.90	20.30	27	10.90
HCO (%)	10.21	6.50	2.30	30.40	27	8.90
PARENTS (%)	39.06	11.57	19.50	70.10	27	39.20
AGE (years)	26.47	2.91	21.40	31.30	27	26.80

Source: EUROSTAT. Own processing in SAS EG.

3.2 Cluster analysis

Cluster analysis refers to a group of mathematical and statistical techniques aimed at dividing a set of objects $X_i(\mathrm{i} = 1,2, \dots, n)$ into several groups (clusters) $C_1, C_2, \dots, C_q (2 \leq q \leq n)$. The main idea is that objects within the same cluster should be as similar as possible, while objects belonging to different clusters should be as distinct as possible. A variety of clustering procedures can be applied for this purpose (Vojtková & Stankovičová, 2020).

To assess the similarity between objects, distance measures are commonly used. These measures satisfy basic properties such as positivity, symmetry and the triangle inequality. Among the most frequently applied distance measures are Euclidean distance, Manhattan (city

block) distance, Minkowski distance and Canberra distance, each defined by specific formulas as presented by Everitt et al. (2011).

For the purpose of our analysis, we employed the Euclidean distance, which assumes that the input variables are uncorrelated. It is calculated as follows:

$$d_{ij} = \sqrt{\sum_{k=1}^{n} \left(X_{ik} - X_{jk}\right)^2} \tag{1}$$

where
X_{ik} is the value of the k-th variable for the i-th object,
X_{jk} is the value of the k-th variable for the j-th object.

Clustering is a method used to group similar objects into clusters. It can be performed using hierarchical or non-hierarchical approaches. In hierarchical clustering, agglomerative methods begin with each object forming its own cluster and progressively merge them into larger groups. In contrast, divisive methods start with all objects in a single cluster and gradually split them into smaller clusters. One of the main advantages of hierarchical clustering is that the number of clusters does not need to be specified in advance. The results are typically visualised using a dendrogram, which illustrates the process of cluster formation. Common hierarchical clustering methods include nearest neighbour, farthest neighbour, average linkage, centroid, median and Ward's method (Everitt et al., 2011). Non-hierarchical methods, on the other hand, require the number of clusters to be specified at the beginning of the analysis. Examples of non-hierarchical methods include the method of typical points and the k-means method (Vojtková & Stankovičová, 2020).

In our application of cluster analysis, we used Ward's method:

$$ESS = \sum_{i=1}^{n_h} \sum_{h=1}^{q} \left(X_{hi} - \bar{X}_{C_h}\right)^2 \tag{2}$$

where
n_h - number of objects in cluster C_h',
$\bar{X}_{C_h}$ - vector of mean values of the variable in cluster C_h',
X_{hi} – vector of variable values for the i-th object in cluster C_h.

Determining the optimal number of clusters is a crucial step in cluster analysis. According to Everitt et al. (2011), no single correct solution exists; they suggest combining several statistical measures with visual tools, such as dendrograms. To reduce subjectivity, formal methods like GAP statistics can be applied. Vojtková & Stankovičová (2020) discuss objective criteria for selecting the number of clusters, including the coefficient of determination, the semi-partial coefficient of determination, and the cubic clustering criterion.

4 Results and Discussion

This section presents the results of the cluster analysis focusing on differences between European Union countries in terms of young adults' transition to independence.

The analysis is based on four indicators capturing key dimensions of this transition: the average age of leaving the parental home (AGE), the share of young people not in employment, education or training (NEET), housing cost overburden (HCO), and the share of young people living with their parents (PARENTS).

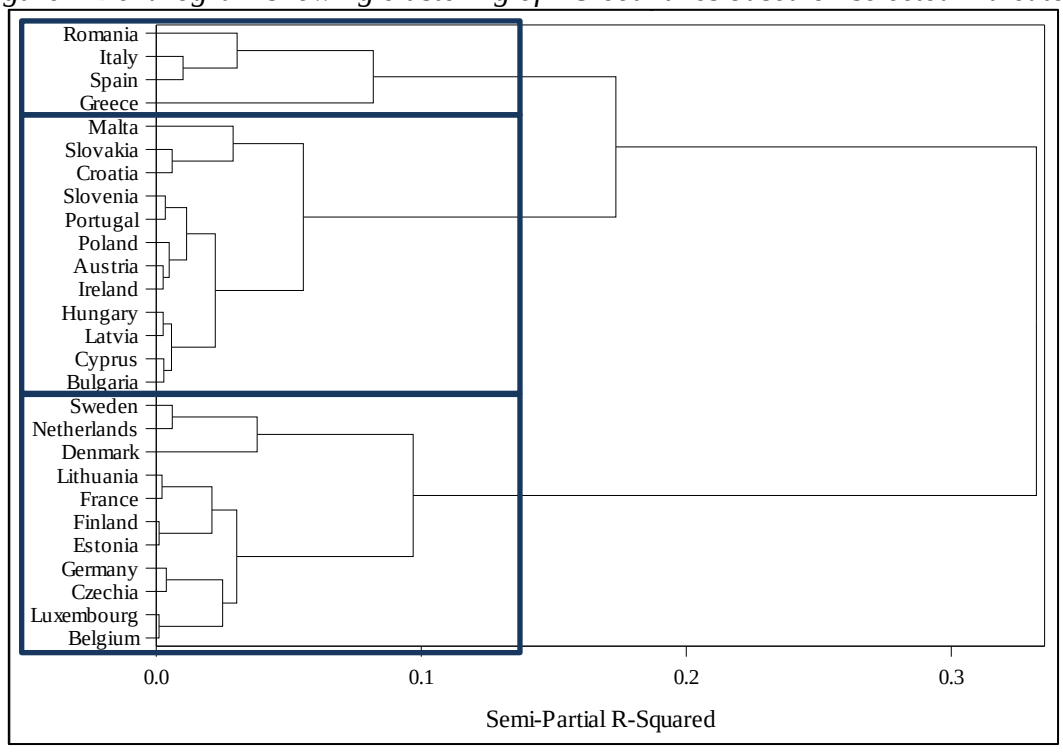
Since the selected indicators are measured in different units (percentages and years), all variables were standardised prior to the cluster analysis to ensure comparability and to prevent variables with larger scales from dominating the clustering results. Prior to the cluster analysis,

correlations among the selected variables were examined to assess potential redundancy. Moderate correlations were identified between some indicators, with the strongest relationship observed between the average age of leaving the parental home and the share of young people living with their parents (r=0.57). This relationship is conceptually expected, as both variables capture related dimensions of the transition to independent living. Since the observed correlations did not indicate excessive multicollinearity and the variables reflect complementary aspects of the analysed phenomenon, all indicators were retained in the analysis.

The hierarchical cluster analysis (Ward's method) identified three distinct groups of countries with similar characteristics. The dendrogram in Figure 1 illustrates the clustering of EU countries based on the selected indicators.

Table 3 shows that Cluster 1 (Early independence countries) is characterised by the lowest average age of leaving the parental home (23.7 years) and the lowest share of young people living with their parents (29.5%). These countries also exhibit relatively moderate levels of economic vulnerability, with an average NEET rate of 10.2%, and higher housing cost overburden (13.1%) compared to some other clusters. This cluster includes mainly Northern and Western European countries, such as Sweden, the Netherlands, Denmark, Lithuania, France, Finland, Estonia, Germany, Czechia, Luxembourg and Belgium. The results suggest that young people in these countries tend to achieve residential independence earlier, despite relatively higher housing costs, indicating more favourable labour market conditions and institutional support.

Figure 1 Dendrogram showing clustering of EU countries based on selected indicators



Source: EUROSTAT. Own processing in SAS EG.

Cluster 2 (Prolonged co-residence countries) is characterised by a relatively high share of young people living with their parents (48.8%) and a higher average age of leaving the parental home (28.0 years). In contrast to Cluster 1, these countries exhibit lower housing cost overburden (6.7%), while the NEET rate remains at a moderate level (10.5%). This cluster includes mainly Central and Eastern European countries, Slovakia, Croatia, Slovenia, Portugal,

Poland, Austria, Ireland, Hungary, Latvia, Cyprus, Bulgaria and Malta. The results indicate that young people in these countries tend to remain in the parental home longer, despite relatively lower housing costs. This suggests that factors other than housing affordability, such as cultural norms or family structures, may play an important role in shaping living arrangements.

Cluster 3 (Economically constrained late independence countries) is characterised by the highest average age of leaving the parental home (29.5 years) and the highest level of economic vulnerability, as reflected by the NEET rate (16.8%). The share of young people living with parents (36.3%) remains relatively high, while housing cost overburden (12.8%) is also elevated compared to Cluster 2. This cluster includes Southern European countries Italy, Spain, Greece, and Romania. The results suggest that delayed transition to independent living in these countries is closely linked to weaker labour market conditions. In contrast to Cluster 2, where cultural or structural factors may dominate, this cluster highlights the role of economic constraints in shaping young adults' living arrangements.

The results of the cluster analysis are broadly consistent with existing literature, which emphasises the importance of both labour market conditions and housing affordability in shaping young adults' transition to independent living. In particular, Cluster 3, characterised by high NEET rates and delayed home-leaving, supports findings that weaker labour market conditions are associated with prolonged dependence on the parental home (Arundel & Doling, 2017, Lersch & Dewilde, 2015).

Table 3 Average values of selected indicators by clusters

INDICATOR	CLUSTER		
	1	2	3
Number of observations	11	12	4
NEET	10.19	10.51	16.76
HCO	13.12	6.70	12.75
PARENTS	29.45	48.80	36.28
AGE	23.68	28.00	29.53

Source: EUROSTAT. Own processing in SAS EG.

At the same time, the results also indicate that housing affordability alone does not fully explain differences across countries. Cluster 2 shows relatively low housing cost overburden but a high share of young people living with parents. This finding is in line with previous studies suggesting that factors such as housing market structure, institutional context and family orientation play an important role (Lennartz et al., 2016, Arundel & Ronald, 2016).

The importance of family background and cultural factors is also supported by the results. The persistence of co-residence in some countries, despite moderate economic conditions, may reflect stronger family ties and intergenerational support, as highlighted in the literature (Van Den Berg et al., 2021, Mandic, 2008).

Delayed transition to independent living may also have broader demographic implications. Previous research suggests that increasing housing costs and limited access to independent housing can contribute to the postponement of family formation and childbearing. In this context, difficulties in accessing housing may not only delay leaving the parental home but also affect fertility outcomes (Van Wijk & Feijten, 2025). This relationship highlights that housing conditions are closely linked to demographic trends, as barriers to residential independence may lead to delayed partnership formation and lower fertility rates.

A closer comparison of the identified clusters suggests that similar outcomes in terms of delayed home-leaving may be driven by different underlying mechanisms. While both Cluster 2 and Cluster 3 are characterised by later transition to independent living, the factors behind this pattern appear to differ substantially. In Cluster 3, delayed independence is strongly associated with economic constraints, particularly weaker labour market conditions and higher

levels of vulnerability. In contrast, Cluster 2 demonstrates that even in the absence of significant economic pressure, young people may remain in the parental home longer due to structural and cultural factors.

Overall, the findings confirm that the transition to independent living is a multidimensional process that cannot be explained by a single factor, but rather by the interaction of economic, housing and socio-cultural conditions.

5 Conclusion

This paper analysed differences between EU countries in the transition of young adults to independent living using cluster analysis. Based on selected indicators related to housing conditions, labour market situation and living arrangements, three distinct groups of countries were identified.

The results showed that the transition to independence varies considerably across countries. In some cases, earlier home-leaving is associated with more favourable housing and labour market conditions, while in others delayed independence is linked either to economic constraints or to structural and cultural factors.

The findings confirm that no single factor can explain differences across countries. Instead, the transition to independent living is shaped by a combination of economic, housing and socio-cultural conditions.

Despite its simplicity, the analysis provides useful insights into patterns of young adults' living arrangements across the EU. Future research could extend the analysis by including additional variables or examining changes over time.

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