Hegedüs, József and Székely, Judit: Housing prices, incomes and territorial inequalities

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Introduction[1]

The worldwide increase in social inequalities posed an important challenge for social scientists after the 1980s (Dóra et al., 2018; Tóth & Szelényi, 2018; Hegedüs 2021). The increased social inequalities that emerged over the past three decades also show a spatial pattern. People living in different settlements and neighborhoods have different life opportunities (in terms of access to adequate housing, education, health care, and cultural amenities). This study focuses on the development of spatial inequality patterns between 2001 and 2020, but this focus is narrowed down in two aspects. First, we only analyzed differences and diverging trends among settlements based on settlement level indicators. Second, we narrowed our research on incomes, housing prices, and housing investments. These are important restrictions in comparison to the very rich literature on Hungary's spatial development directions, usually in the discipline of economic geography (Harcsa, 2015).

Still, the analysis of territorial house price and income discrepancies across settlements can in itself be indicative of a crucial issue: the affordability of housing, and its spatial aspects. The house price to income ratio within a settlement is an important indicator of affordability, which strongly correlates to other related indicators (not discussed in this paper), such as the rent-to-income ratio, or indexes which also take into account access to credit. Thus, the relationship between local house prices and incomes also affects the position of people outside the owner occupied housing sector. There are, of course, certain other local conditions which incur significant differences in affordability (e.g. redlining), but notwithstanding the indicators analyzed here are sufficient for formulating generally valid conclusions.

Territorial inequalities within Hungary stem in part from global processes, but are also shaped by local economic and political mechanisms. Our key research focus is the pattern of territorial discrepancies nationwide, in a longer time period. In the long run, local house prices and incomes are defined by the level of economic development and demographic processes (Kovács et al., 2005; Horváth, 2008; Székely, 2014). Yet in the short run, different trends can also emerge due to policy or market failures (price bubbles).

Local dwelling prices are affected on the one hand by demand, the ambition of people to locate to areas with well-paying jobs and access to diverse services, into homes that are in line with their preferences. We therefore expect a connection between local income levels and house prices, buttressed by migration patterns. The typical pattern of in-country migration is usually from remote or economically lagging areas towards more dynamic employment and service hubs, which drives up housing demand in the latter. However, due to the inflexibility of housing

[1] The study was supported by the European Union's H2020 UPLIFT research programme (contract number 870898.)

supply, this leads to rapid price increase in migration target areas and the growing the supply of housing in the lagging regions, eventually resulting in a growing gap between house prices. Consequently, this reinforces social discrepancies across regions: lower income households can only afford housing solutions in areas where incomes are also generally lower. This effect is also present in the private rental housing sector, as there is a strong correlation between house prices and market rent levels.[2]

The local average market value of housing is strongly related to the development level of a locality; in a way it can be understood as a compound indicator of the settlement's level of development. The increase of this indicator is not necessarily beneficial to the local population, since the house price to income ratio (and the rent to income ratio moving in parallel with it) causes a serious affordability challenge for new market entrants; the same time, it technically increases the net wealth of persons residing in their own property. At any rate, the growth of territorial discrepancies affects household strategies depending on the households' income and wealth position, and on their individual assessment of a more attractive spatial position.

Sub-disciplines within economic geography have different assessments of the impacts of economic development. The neoclassical theory posits that the factors of production induce territorial equalization in the long run; neo-Marxist economic geographers on the other hand argue that the growing discrepancies are caused by the spatial concentration of capital (due to the different power position of ores and peripheries). New Economic Geography claims that both effects can potential be at play, depending on the agglomeration effect at hand, that is, whether the benefits stemming from the concentration of production factors do or do not neutralize the price differences between their costs.

A key question of the study is whether different settlement types converge or diverge in terms of average local house prices and income indicators. We do not attempt to shed light on causal relationships explaining the positions of localities (or rather regions); instead, our goal ith this writing is to showcase the patterns of spatial inequalities through income and house price differences.

The ***first part*** of our study takes macro level income and house price trends between 1997 and 2020 as a starting point. Settlement level data is only available from 2001, hence we had to narrow our analysis to the 2001-2020 period. The change in data between these two end points leads us to recognize three distinct housing market periods in the past two decades. The housing market's growth peaked in 2008; 2015 indicates the lowest point of the post-crisis recession, as well as the starting point of the latest boom. In summary, the housing market grew intensely between 2001 and 2008; followed by a deep slump, and then a new boom from 2015. This periodization allows us to track the changes in territorial data across different market cycles. We must not forget, nonetheless, that the first housing market boom began as early as 1997: by 2001 the rise of house prices was already significant, hence our more detailed analysis starts in an already upwards moving market cycle.

In the ***second part*** we analyze settlement level data across various settlement categories. *First,* we present house price, income, housing investment (sales and constructions), and migration patterns, and through these housing affordability trends, by the administrative subdivision (level of government) of settlements. The *second* categorization aims to help identifying the position of settlements within the economic space. This will be presented through the example of towns

[2] Annual rent levels are typically around 5-7 percent of the price of a dwelling, although they may briefly diverge depending on the economic cycle.

with country rights and their respective regions. Agglomerations around cities with county rights have very diverse economic potential, and their divergent development dynamics play a key role in the changes of territorial discrepancies. Towns with county rights (and their agglomerations) are analyzed in three groups based on their level of economic development. The *third* approach intends to showcase the diverging dynamics towns and cities and their agglomerations with regards to the suburbanization processes, which took impetus during and after the 1990s, including their consequences in terms of house prices and income levels. Our *fourth*, final categorization includes two „outlier" types, which we could not fit into our previous broader categories. These are the Balaton Resort Area, a functional urban area without a single urban core; and the extremely economically underdeveloped settlements (300 small settlements[3]).

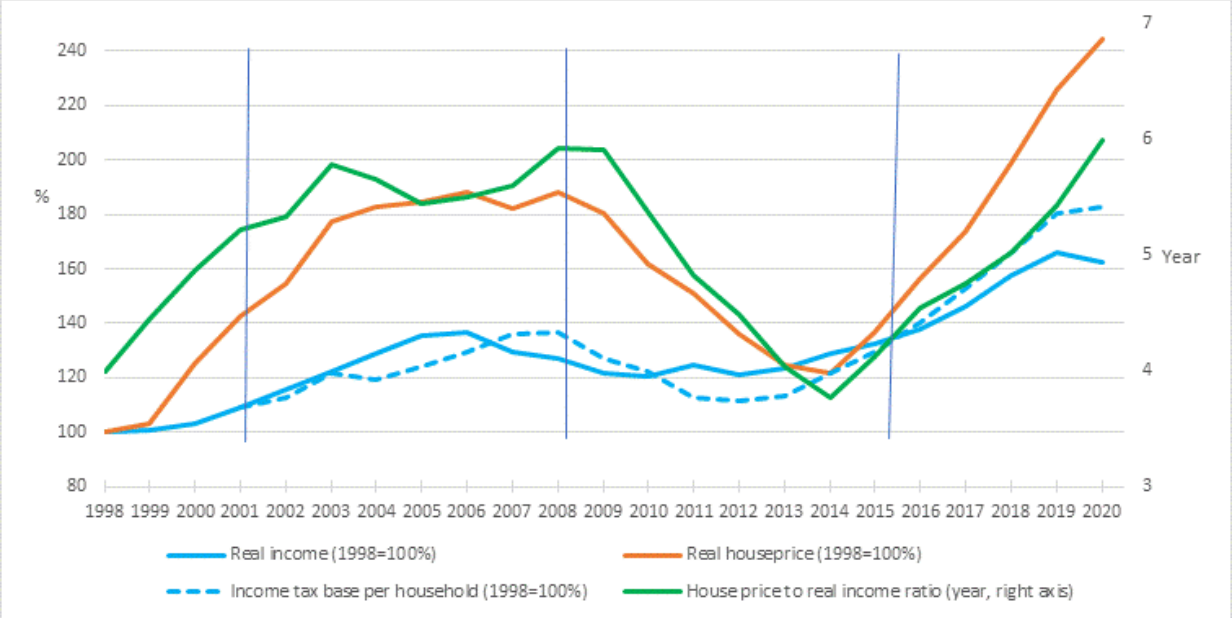
In the third part of the study we define settlement classes on the combined basis of their administrative and economic position, and examine the changes in these settlement classes between 2001 and 2020.

1 House prices and real incomes between 1997 and 2020

The changes in macro level (national) data on real per capita incomes, and settlement level income indicator in subsequent analyses, closely coincide with the development of income tax base per household; which justifies our practical decision to use household level income tax base data for tracking local average incomes. The two income indicators both suggest that incomes grow rapidly during economic boom periods, but they still cannot keep up with the increase of house prices. As a result, housing affordability essentially moves together with the inflation of house prices. We can also generalize the consequent conclusion that housing affordability becomes worse during economic booms, and improves during downturns.

[3] The Convergence Settlements program („Felzárkózó Települések program", FETE) launched in 2019 identified the 300 most disadvantaged settlements based on the complex socio-economic analysis, with the objective of supporting their economic convergence.

Figure 1. Main housing market changes 1998–2020



The average nominal house prices between 1998 and 2001 rose by 60% (40% in real terms), showing an almost textbook example of the connection between economic cycles and house prices.

In our main focus, the period between 2001 and 2020, the change in house prices and income tax base per household was almost the same: house prices increased by 380%, and tax bases by 340%. We must emphasize nonetheless that the property market position of the individual settlements and regions was fundamentally rearranged during this period, and the new arrangement remained dominant going forward. While in 1998 the average Budapest home's price was twice that of small settlement housing, after 2001 this difference more than doubled, to 4.3-5 times the price.

2 House price and income changes by settlement type

1.a Administrative status

The administrative status of settlements was a predominant factor in the economic and income position before the political transition. The National Settlement Development Plan prepared in the 1970s categorized settlements by the same logic we employ in this study, although it was more detailed; and it regulated their development opportunities accordingly.[4] Whether we examine house prices or incomes, we see that the past two decades brought about no significant shifts. At the very beginning – in the early 2000s – there already is a significant difference between settlement types: both house prices and incomes are 3.6 times higher in Budapest than in small settlements; and even though the growth dynamic in (non-county right) towns and

[4] This logic was questioned by Vági (1989).

small settlements is higher, the absolute distance between settlement types continues to grow. We therefore conclude that the distance between Budapest and towns with county rights is greater than between all other adjacent categories, and it continues to widen up until 2020. In 2001, dwelling prices in Budapest are higher than those in towns with county rights by 65% (about 4 million HUF); by 2020 this difference is 80% (17 million HUF). The distance between towns with county rights, other towns, and small settlements remains stable during this period.

We also concluded that the differences became less pronounced in the first part of the first time period, which is probably explained by the dynamic development of foreign currency denominated mortgage products, making home ownership accessible for the lower middle class. Between 2015 and 2020, on the other hand, the distances clearly increase (see Figs. 2 and 3). A greater share of housing investments were made in Budapest and larger towns, while the share of population did not change significantly across this period.

Figure 2. Nominal house price difference between settlement types: Budapest and small settlements, 2001-2020

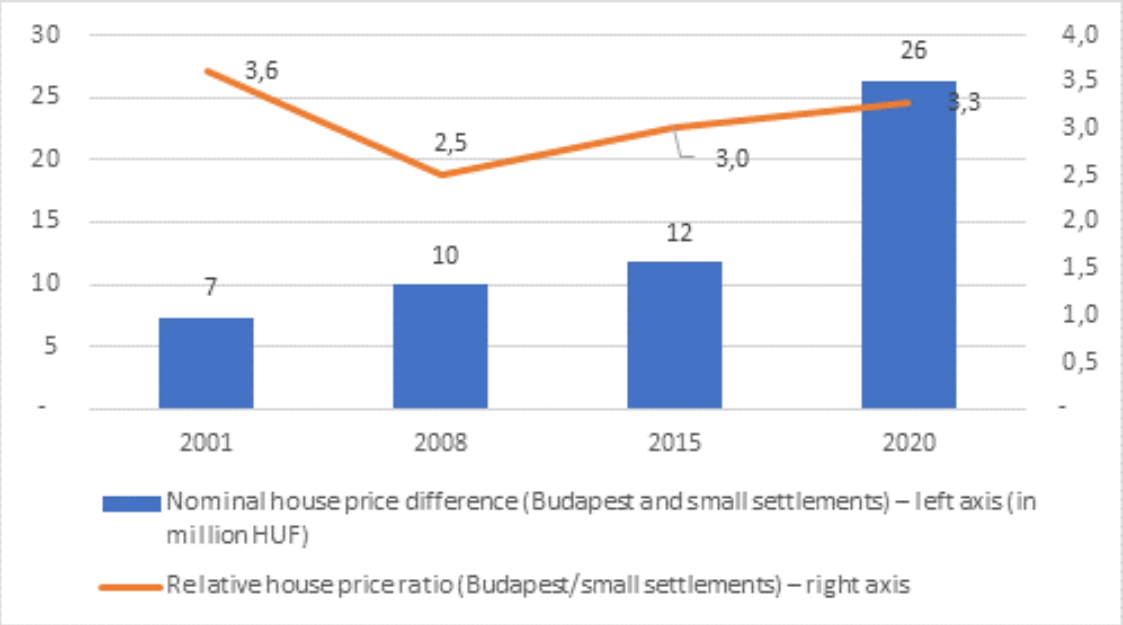
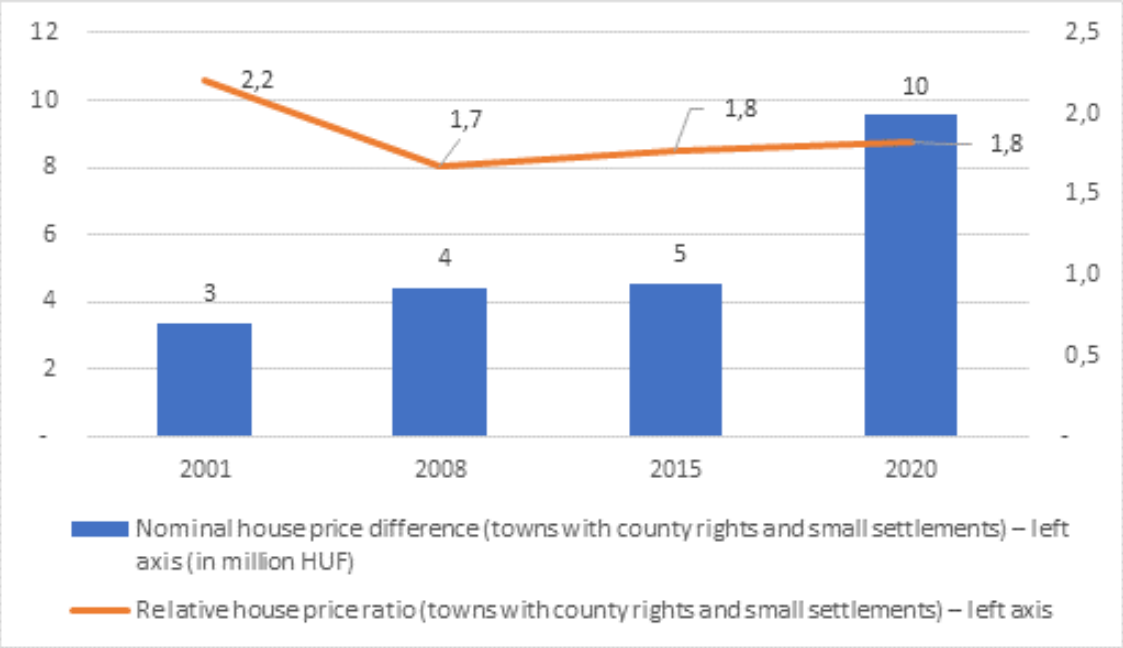


Figure 3. House price differences across settlement types: towns with county rights compared to small settlements, 2001 and 2020



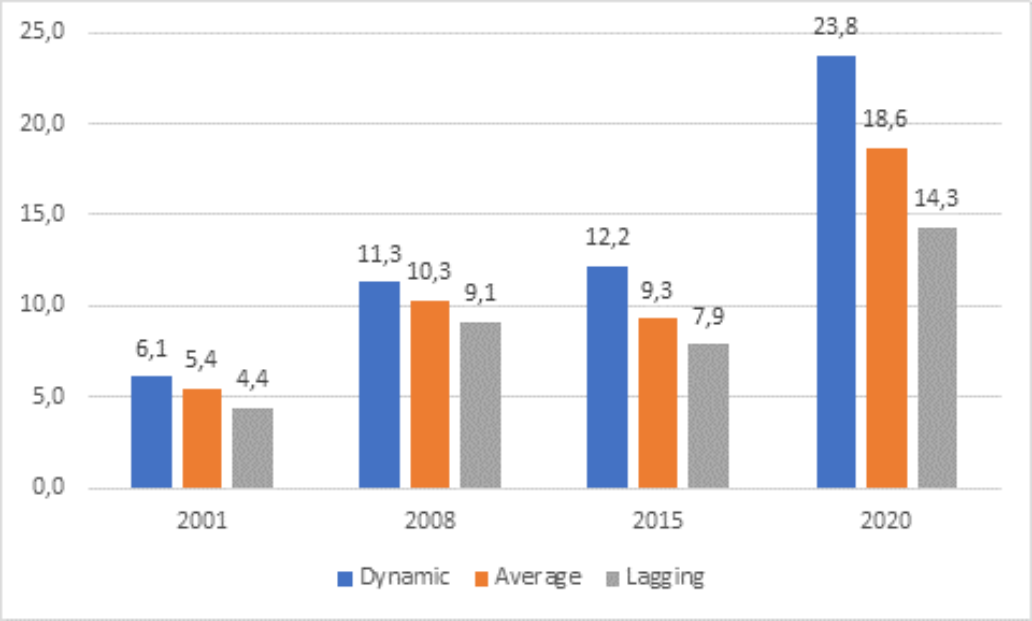
In summary, the distance measured in house prices and incomes have lightly shrunk in relative terms, while the absolute distances continued to grow. It s important that the distance between Budapest and the next settlement category is the largest: in the capital, the house price to income ratio is 8.6, as opposed to other towns (5.5-5.9) and small settlements (4.0).

1.b The agglomeration of towns with county rights

Regional spatial inequalities related to the level of economic development began to grow as a consequence of the regime change. One can track this trend in terms of house prices and incomes through grouping settlements on the same administrative level, but in different economic development positions. Accordingly, we grouped towns with county rights into three categories, and studied the differing dynamics of the groups (for detailed description see the section “Data and methods”). We also presumed that the effect of these towns also spread over their agglomerations, therefore we included those in the analysis as well.

Figure 4. House prices in the region (core and agglomeration) of towns with county rights (lagging,

dynamic, and average economic positions)



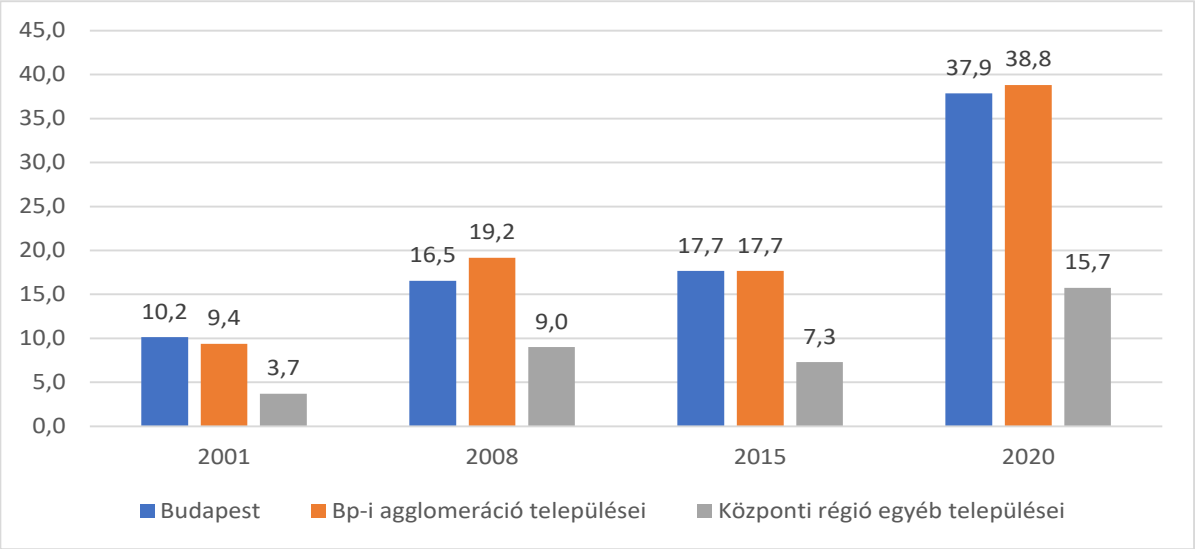
This shows that differences stemming from varying levels of economic development are greater than those by administrative status. The position of the settlement groups in economically dynamic regions diverged sharply during the crisis and recession years between 2008 and 2015: house prices here grew by 10%, and decreased by 10-15% in the less advantaged regions.

The same shift unfolded in terms of incomes. Housing investments and population change indicates the growth of discrepancies between towns with county rights. While income levels in economically stagnating cities had been lagging behind the other two categories since the start of the studied period, dynamic regions began to outpace average performer regions after 2008. And yet the housing markets of dynamic towns still lag behind that of the capital, the single most dynamic economic hub of the country.

1.c Towns and their agglomerations

Settlements close to major employment, education and recreational hubs tend to form integrated agglomeration areas, where the position of the individual settlements is defined by their belonging to the agglomeration. In the Functional Urban Areas defined by the Central Statistical Office of Hungary, we examined the house price, income, and housing investment dynamics of core cities and their agglomerations. In the case of Budapest, we included in our analysis the entire territory of the Central Hungary NUTS region besides the direct commuting zone, assuming that its impact may be traceable beyond the formally defined agglomeration. Regrading the other agglomerations, we delineated core towns and their agglomerations, and compared these to other (non-agglomeration) settlements.

Figure 5. Average dwelling price in the Budapest agglomeration and in the Central Hungary NUTS region, 2001-2020 (million HUF)



Throughout the examined period, house prices in the capital's agglomeration reached the level of Budapest itself. We need to keep in mind that apartments in multi-unit buildings are over-represented in the capital; still, we can conclude with confidence that housing in the agglomeration is becoming increasingly less affordable. Families without major savings have to cover greater commuting distances to Budapest, having to move further away to areas 50% cheaper than the urban core and its direct agglomeration. House price levels in the non-agglomeration settlements of the Central Hungary region are comparable to other towns and their agglomerations; and both house prices and incomes are slowly catching up with the core settlements. This also suggests that the agglomeration effects in the Central Hungary region extend beyond the statistically defined commuting zone.

New housing construction is clearly concentrated in the capital and is region, and population growth has also been the highest here. Between 2001 and 2020, the population of the capital dropped by 3%, while that of the agglomeration increased by 25%; and non-agglomeration settlements in the broader region also grew somewhat (by 2%).

In other agglomerations, the cores and their surroundings showed different dynamics: the price premium of the cores remained stable in both relative and absolute terms compared to their agglomeration zone. By 2020, average house prices in core towns was 20.6 million HUF, which is 40% higher than in their agglomerations (see Fig. 6). Still, agglomeration settlements are better-off than those outside commuting zones, in terms of both house prices and income levels.

The increase of incomes has been faster in agglomeration settlements than in core towns and cities, in part because higher income households moved to suburbs. As a result, affordability worsened the most in dynamic urban cores, rather than their agglomerations, despite the steep house price increase.

Figure 6. Price change in towns other than the capital and their agglomerations (million HUF)

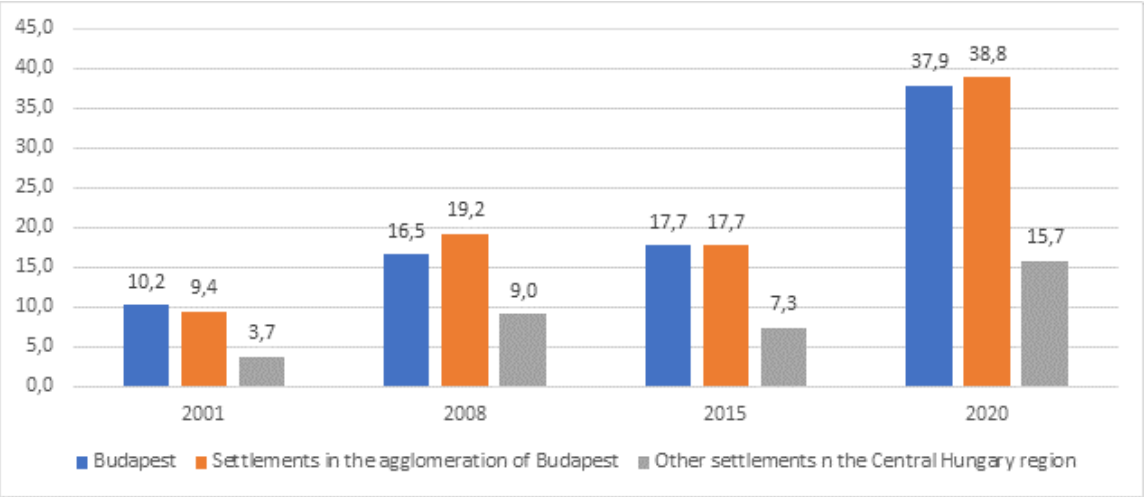
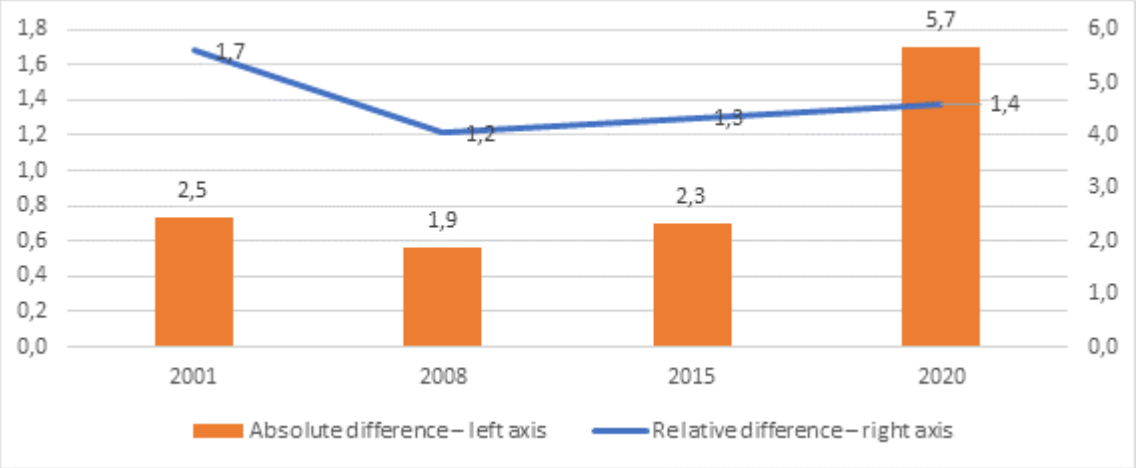


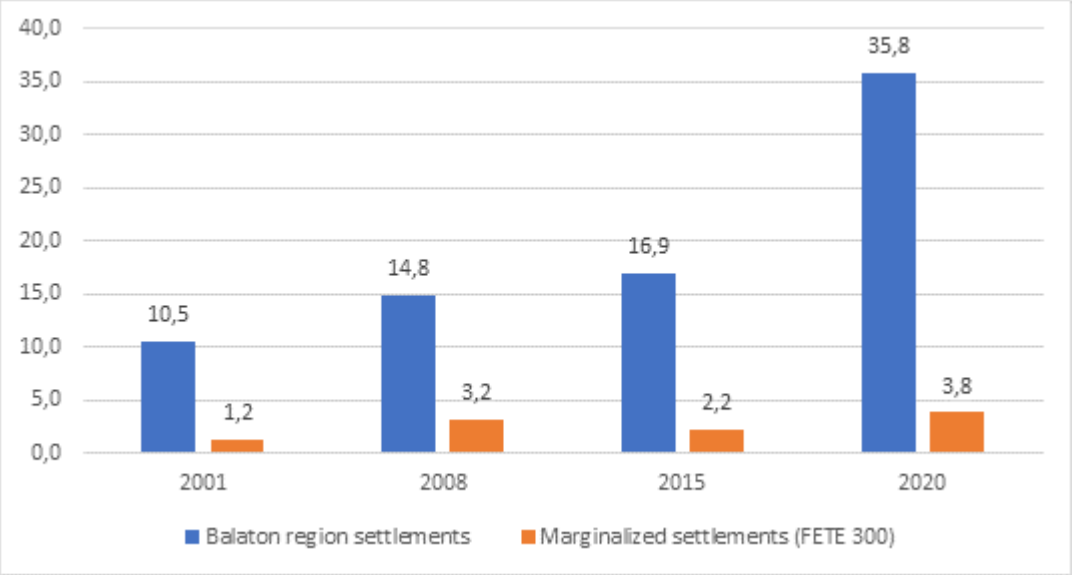
Figure 7. Price difference beteen core towns and their agglomerations outside the capital (million HUF)



1.d Outliers: Balaton lake resort agglomeration and the 300 least developed settlements

Under ths heading we discuss two sharply contrasting outliers from the main trends: one is a special resort area, and the other is the least developed small settlements.

Figure 8. Price changes in the Balaton resort region and the FETE 300 settlements (million HUF)



Resort and recreational functions create a special position for the economic structure of settlements. The value of real estate is less closely tied to the income level of local residents, and is more likely to reflect that of second (holiday) home owners. It is also influenced by income derived from the (typically tourism related) use of the properties, which again is independent of the income level of local residents. It is expected that in resort areas house prices and income levels will differ from other settlement types. For the purpose of this study, selecting the Balaton lake region was plausible, although more detailed research on recreational settlements would have to take into account a broader range of popular resort areas.

House prices in the Balaton region were on the same level as homes in Budapest throughout the studied periods, while incomes were 10-20% below national average. At the same time, income levels in the Budapest agglomeration settlements were 30-50% above national average. Another important feature of the Balaton region is the outstanding dynamism of housing investments. The number of dwellings increased by 32% in the region, coming in second only after the Budapest agglomeration (42%). There is little sense in applying the house price to income ratio: its value range of 9-13 makes it obvious that prices are impacted by external, not local, demand.

In the case of lagging (marginalized) settlements, we also expect to find outlier income, housing investment, and house price mechanisms. The 300 small settlements identified in the FETE program is a good sample to analyze very marginalized areas.

The least developed settlement represent a different extreme: house prices account for about 18-31% of the national average, and incomes at around 50-60%, so the house price to income ratio is around 1.6-3.3. This implies that thanks to the low price-to-income ratio, the poorest households will migrate to these areas, while higher income families will move elsewhere. Housing investments in these settlements are minimal, and population decrease is the fastest.

3 The role of settlement positions in the development or territorial price discrepancies

In order to trace the relative positions of the examined settlement types, and to filter out the impact of the general increase in house prices and incomes over the past decades, we prepared two regression models. The first tracks the effect of the settlement's position on house prices, and the second takes a look at how the position of settlement influences house prices independently of local income levels.

The general price increase of the past years was filtered out through embedding year-dummies in the model. Consumer price increase in itself pushed up average house prices by 4.2 million HUF in 2008; by 2.9 million HUF in 2015, and by 10.1 million HUF in 2020 (see Annex for the outcomes of model 1.1). The examined spatial units were combined with the respective year's dummy to produce an interaction variable for the model. The reference year was 2001, so the results show how the typical house price in each settlement category differed from the average house price in 2001.

Our results show that the housing market boom before 2008 did not increase territorial discrepancies as strongly as the subsequent one after 2015. Urban areas were at a better position by 2008, even in less economically dynamic agglomerations. Budapest and the Balaton resort region were already ahead of the market, but after 2015 the price difference doubled, and since then the two premium regions are at a completely distinct market position compared to the rest of the country. Other larger towns and their agglomerations also saw their house prices increase at a slower rate, with the exception of urban areas in lagging regions, whose relative market position weakened by 2020. The market position of urban areas outside the main economic agglomerations worsened somewhat, while that of small settlements worsened significantly. House prices in lagging settlements (FETE) show the same pattern as small peripheral settlements. The Balaton region did not become a market outlier during the pre-2008 housing market boom, but made a huge leap after 2015.

In summary, the housing boom before 2008 reached less advantaged urban areas, and only sightly weakened the position of smaller, peripheral settlements; while the market upturn after 2015 only strengthened the highest priced urban regions and strongly polarized submarkets. As for the crisis and recession years between 2008 and 2015, house prices in the dynamic economic hubs and the Balaton region remained stable or continued to rise, while our model shows stagnation in other settlement categories. Based on our results, the market position of small peripheral settlements did not further weaken after the 2008 crisis.

In the next round of quantitative analysis we completed the model with an additional indicator: the estimated housing income in each year. Our goal was to identify the effect that is distinct from house price increase over time as well as from the relative income position of the settlement. Once again two areas appear to be outliers, where these two variables are becoming independent from house price dynamics: Budapest and the Balaton region. At the same time, when comparing the two models, the price level in Budapest and its agglomeration has a greater unexplained component, therefore the outstanding house prices in the region are partially explained by the higher average income of the people living there. The Balaton lake region shows the opposite pattern: house prices are increasingly less affected by general market trends, but also by average local incomes.

Settlement categories with negative values mean that price ranges in small peripheral settlements are even lower than the local income level would explain; and that the spatial position of these settlements further weakened in the studied period.

While our first model showed no significant difference between FETE settlements and other non-agglomeration small settlements. The second model controlled for the impact of local income levels, and its results showed that local low house prices are better explained by the low income level of the locals than in other small settlements outside urban agglomerations, since in the latter controlling for income did not produce different results.

Figure 9. Results of regression models: estimated house price by settlement category after controlling for price increase over time and local income levels

4 Conclusions: a new approach to settlement classes?

Local house prices and incomes express the relative position of an economic area (an urban area and its agglomeration) in the global economic space. In theory, this is defined by two dimensions: the economic power of the region (volume and structure of employment, purchasing power, development of trade, education etc.) and its position in tax redistribution within the national (or other relevant[5]) system. We suspect that urban regions (typically larger cities and their spatially contiguous economic agglomerations) occupy a sort of "class position"[6], similar to the settlement class positions defined by Iván Szelényi in the 1970s (Szelényi 1973, 1990). He argued that settlements occupied typical positions within the structure of state redistribution (which under communism meant not only tax revenues but also capital accumulation). This was reflected in house prices, even though 40-50% of housing allocation was controlled by the state. Accordingly, house prices were a quasi indicator of this "class position": homes in the urban center of Somogy county were 50% more expensive than in other localities in the county[7] (Hegedüs–Tosics, 1993).

After the regime change, redistribution through taxation (municipal financing) was separated from economic decision making (capital accumulation), and the latter became controlled by market mechanisms. As a result, the position of an area (and through it, the opportunities of locals) is now defined by the level and performance of the region's integration into the global economy. State programs (particularly the EU's development programs) are able to influence the relative economic positions of settlements, but experience so far suggests that this influence is quite limited. In Hungary, the relationship and the relative weight of the two „spheres" (state and market) evolved over time. After 2010, a strong recentralization process was launched, and drastic state intervention into economic affairs modified the positions of settlements once again (Hegedüs–Péteri, 2013).

The processes that played out between 2001 and 2020, the period we studied, have shown that economic and related housing market cycles increased housing market and income inequalities on the long run. The comparison of cycles also showed that in the two subsequent growth periods the factors driving territorial inequalities have become stronger. We called attention in this article to the background of these factors, namely that in the first economic boom period before 2008, financing opportunities were more widely accessible through foreign currency denominated mortgages. Yet we believe that the stronger polarizing effects after 2015 were also reinforced by the market distorting effects of the changes in state redistribution (tax policy) and housing allowances. The improved financial position of the upper middle class and the growing role of real estate investments within their portfolio boosted price increase in the already outstanding markets (the Budapest and Balaton agglomerations). The settlement typology ("settlement classes") produced in our model through the relationship of house prices and

[5] Like the European Union; although the redistribution policies of larger donors can also be significant.

[6] This position was encoded into formal law in the 1997 National Settlement Development Strategy („Országos Településfejlesztési Koncepció").

[7] Out of curiosity we compared the Somogy county market research results with the data included in the study. We learned that the part of the county within the Balaton region (Siófok) has seen a higher increase in house prices than the county seat (Kaposvár) – we defined Kaposvár as 100, which gave the relative value 133 to Siófok. The indicator of the larger town (Nagyatád) outside the county seat worsened from 98 to 67; while smaller agglomeration settlements (Kaposmérő, Juta) also improved, from 63 to 91.

average income levels clearly shows that price increase in the highest performing markets are largely independent from local income levels.

Housing supply could not keep up with demand, even though the majority of new constructions is by now concentrated in the most developed areas. Housing investments were incentivized by already higher values, so newcomers in these areas are also higher income; families moved towards better job opportunities, which further raised the local average incomes levels, and so forth. In the Central Hungary region (Budapest and its agglomeration) housing affordability is strongly affected by the rising house prices and the consequent higher rent levels even for middle class families (in terms of income and education), if they are not eligible for family related housing subsidies. The growing territorial price inequalities produce an odd situation in terms of households' wealth and housing discrepancies. Households with own real estate in high end markets see their gross wealth increase, while moving in from the outside is becoming harder. The types of advantages that families may be able to accumulate depend on their own family background, but also on whether or not they are able to utilize child related housing subsidies; and on whether these are able to keep up with the continuously growing housing market prices in attractive locations. The "hand that is dealt" to a household is the most important factor in a household's long term living standards and opportunities. The growing difference in the economic position of various settlement groups (in terms of house prices and incomes) lead to deepening social inequalities, as families who live in weaker market areas will see their wealth decrease, and they will have then poorer opportunities to access the stronger job markets of the more dynamic areas.

Annex:

1. Data and methods

In our analysis we used settlement level data from 2001, 2008, 2015, and 2020, allowing for the broad examination of housing market inequalities. The districts of the capital Budapest were analyzed individually, so we analyzed indicators for 3,177 settlements (including districts). The selected years typically indicate the beginning of a market cycle; except 2001, which is the earliest year for which settlement level income data is available. By 2001, the first major post-transition house price increase largely fizzled out. State backed mortgage lending from 2001 gave new impetus for market growth, so house prices continued to rise until 2008. This was the end of the first major housing market boom, which justified the selection of 2008 to be involved in our analysis. The subsequent crisis and recession ended by 2015, which indicates the start of a new boom period. 2020 was the last year for which all data needed for our models were available. (It must be taken into account that the Covid-19 pandemic caused a break in the existing trends, but based on 2019 final and 2021 preliminary data we believe this effect is not significant with regards to our key points.)

The size of settlements was considered based on the permanent population and the number of dwellings. Permanent population as an indicator was selected (instead of number of residents) because members population active on the housing market are typically owner occupiers, therefore permanent residents; and also because local income data (measured in income tax base) are also usually gathered for the permanent population.

Towns with county rights and their agglomerations were grouped by economic dynamism, by comparing their per capita GDP to the national average in 2020. Areas above 90% of national average were considered dynamic (Győr, Sopron, Tatabánya, Székesfehérvár); under 60% we

labels them as stagnant or lagging (Salgótarján, Békéscsaba, Nyíregyháza). The functional urban areas in Hungary form agglomerations at varying levels; official statistics have differentiated terminology for these. We took a closer look at two agglomerations, namely Budapest and is functional urban zone, and the Balaton lake resort agglomeration; as for towns with county rights and their commuting areas, we did not distinguish them by their level of agglomeration.

The income position of settlements was defined by the volume of the locally produced tax base, the number of households, and their ratio, which equals tax base per household (in this case, per dwelling). We are aware of the limitations of the indicators produced this way, but we believe nonetheless that this is a viable solution in the context of the housing market, where employment incomes (and in association with this, access to credit) are the most important factor in the affordability of housing.

Average house prices are the measured by the average price of new and existing dwellings sold in the settlement in question in each analyzed year. When grouping settlements, we weighed values by the number of dwellings in each settlement, so aggregated values show the gross housing wealth in each settlement, regardless of the number of transaction for that year. Housing transactions do not necessarily occur every year in smaller settlements, so we used the averages of the local districts (LAU1 level). The number of small settlements where this proxy was used was between 60-270 in the examined years.

The housing affordability indicator was produced from the available data for the share of the average dwelling price and the income tax base per household. This indicator shows the number of years a household needs to save up in order to buy and average priced dwelling in the locality.

2. Tables

Indicator	2001	2008	2015	2020	*2020 data in %age of 2001. data*	Proportion of populaton, 2020 (%)
			Average house price (million HUF)			
Total	5.5	10.5	10.2	21.0	*381*	100.0
Settlement type						
Budapest	10.2	16.5	17.7	37.9	*373*	16.8
Cities with county rights	6.2	11.0	10.5	21.1	*341*	19.5
Towns	4.5	9.8	8.9	18.0	*396*	33.0
Settlements	2.8	6.6	5.9	11.5	*411*	30.7
Selected cases						
Budapest and its FUA	10.0	17.2	17.7	38.1	*382*	22.4
Dynamic urban areas	6.1	11.3	12.2	23.8	*389*	5.7
Average urban areas	5.4	10.3	9.3	18.6	*343*	18.0
Stagnating urban areas	4.4	9.1	7.9	14.3	*324*	3.3
Balaton resort region	10.5	14.8	16.9	35.8	*341*	1.6
Marginalized settlements	1.2	3.2	2.2	3.8	*307*	3.3
			Income tax base per household (million HUF)			
Total	1.0	1.9	2.2	3.7	*350*	100.0
Settlement type						
Budapest	1.4	2.2	2.4	3.9	*287*	16.8
Cities with county rights	1.2	2.1	2.3	3.6	*297*	19.5
Towns	1.0	1.9	2.3	3.8	*377*	33.0
Settlements	0.8	1.5	2.0	3.4	*450*	30.7
Selected cases						
Budapest and its FUA	1.36	2.36	2.57	4.31	*318*	22.4
Dynamic urban areas	1.32	2.36	2.70	4.27	*323*	5.7
Average urban areas	1.14	2.06	2.28	3.63	*319*	18.0
Stagnating urban areas	0.96	1.81	2.08	3.34	*347*	3.3
Balatoni resort region	0.94	1.72	1.79	2.82	*301*	1.6
Marginalized settlements	0.49	0.96	1.39	2.29	*465*	3.3
		Change in number of dwellings since previous year (%)				
Total		105.3	102.7	101.8	110.2	100.0
Settlement type						
Budapest		107.0	103.5	102.1	113.0	16.8
Cities with county rights		106.2	104.4	102.4	113.6	19.5
Towns		105.2	103.1	101.7	110.3	33.0
Settlements		103.7	100.5	101.3	105.6	30.7
Selected cases						
Budapest and its FUA		108.9	105.5	103.0	118.3	22.4
Dynamic urban areas		107.3	105.7	104.6	118.6	5.7
Average urban areas		106.1	104.1	101.9	112.5	18.0
Stagnating urban areas		105.5	101.4	101.2	108.3	3.3
Balaton resort region		112.4	108.5	106.1	132.2	1.6
Marginalized settlements		102.1	96.8	100.0	98.9	3.3

Variables included in the regression models and coefficients of the model calculations

	Model 1: dependent variable: house price, million HUF		Model 2: dependent variable: house price, million HUF	
	B	Sig.	B	Sig.
Constant	3927	0,00	,158	0,01
ref: year 2001				
2008	4,250	0,00	1,309	0,00
2015	2,893	0,00	-,932	0,00
2020	10,084	0,00	1,464	0,00
Tax base per household (1,000 HUF)			,004	0,00
Budapest and its agglomeration 2001	6,048	0,00	4,468	0,00
Budapest and its agglomeration 2008	8,987	0,00	6,399	0,00
Budapest and its agglomeration 2015	10,842	0,00	8,303	0,00
Budapest and its agglomeration 2020	24,093	0,00	19,493	0,00
Dynamic hubs and their agglomerations 2001	2,176	0,00	,742	0,00
Dynamic hubs and their agglomerations 2008	3,124	0,00	,536	0,00
Dynamic hubs and their agglomerations 2015	5,385	0,00	2,340	0,00
Dynamic hubs and their agglomerations 2020	9,751	0,00	5,311	0,00
Average towns and their agglomerations 2001	1,551	0,00	,817	0,00
Average towns and their agglomerations 2008	2,138	0,00	,690	0,00
Average towns and their agglomerations 2015	2,548	0,00	1,133	0,00
Average towns and their agglomerations 2020	4,757	0,00	2,802	0,00
Stagnant towns and their agglomerations 2001	,498	0,00	,473	0,00
Stagnant towns and their agglomerations 2008	,966	0,00	,547	0,00
Stagnant towns and their agglomerations 2015	1,079	0,00	,485	0,00
Stagnant towns and their agglomerations 2020	,332	0,00	-,434	0,00
Towns outside agglomerations 2001	-,424	0,00	-,353	0,00
Towns outside agglomerations 2008	-,361	0,00	-,668	0,00
Towns outside agglomerations 2015	-,089	0,18	-,814	0,00
Towns outside agglomerations 2020	-1,295	0,00	-2,469	0,00
Settlements outside agglomerations 2001	-1,678	0,00	-,679	0,00
Settlements outside agglomerations 2008	-2,884	0,00	-1,722	0,00
Settlements outside agglomerations 2015	-2,436	0,00	-1,979	0,00
Settlements outside agglomerations 2020	-5,835	0,00	-5,625	0,00
Marginalized settlements (FETE) 2001	-1,034	0,00	-,168	0,00
Marginalized settlements (FETE) 2008	-2,162	0,00	-,338	0,00
Marginalized settlements (FETE) 2015	-2,276	0,00	-,542	0,00
Marginalized settlements (FETE) 2020	-4,520	0,00	-1,269	0,00
Balaton 2001	5,016	0,00	5,822	0,00
Balaton 2008	4,524	0,00	5,909	0,00
Balaton 2015	7,550	0,00	9,491	0,00
Balaton 2020	17,012	0,00	20,227	0,00

Irodalom

Dóra–Hegedüs–Horváth–Sápi–Somogyi–Székely (2018) Miben élünk? A 2015. évi lakásfelmérés részletes eredményei KSH, 2018. [*„What we live in: Detailed results of the 2015 housing survey”*] https://www.ksh.hu/docs/hun/xftp/idoszaki/pdf/miben_elunk15_2.pdf

Harcsa István (2015) A területi fejlettség és egyenlőtlenségek lehetséges értelmezései — kritikai értékelés és kutatási eredmények I. [*„A possble understanding of spatial development and inequalities – critical analysis and research results”*] Statisztikai Szemle, 93. évfolyam 5. szám 460-486

Hegedüs József (2021) „Lakásrendszer és társadalmi egyenlőtlenségek” [*„Housing system and social inequalities”*] Kertesi Gábor 70 éves – Írások neki és róla KRTK KTI 2021.

Hegedüs József és Péteri Gábor (2015) „Közszolgáltatási reformok és a helyi önkormányzatiság.” [*„Public service reforms and local governance”*] *Szociológiai Szemle*, 25(2): 90-119

Hegedüs József és Tosics Iván (1993) A lakásrendszer szociológiai és közgazdasági elemzése. [*„Sociological analysis of the housing system”*] Kandidátusi értekezés, Budapest, 1993

Horváth Áron Botond (2008) „Az 1995 óta tartó lakóingatlan-áremelkedés mérése és okai” [*„The measurement and drivers of the house price increase since 2015”*]
PhD értekezés http://phd.lib.uni-corvinus.hu/362/1/horvath_aron.pdf

Kovács Zoltán - Szabó Balázs - Székely Gáborné (2005) „A lakáspiaci dinamizmus néhány jellemzője Magyarországon” [*„Some characteristics of the housing market'sdynamism in Hungary”*] Statisztikai Szemle 2005/5. pp.:461-479

Szelényi Iván (1973) Regionális fejlődés, gazdálkodás, igazgatás (Szociológiai szempontok a téma kutatásához) [*„Regional development, finance, management (Sociological considerations for research)”*] MTA ÁJI

Szelényi Iván (1990): Városi társadalmi egyenlőtlenségek. [*„Urban social inequalities”*] Akadémiai Kiadó, Budapest, 1990. 184 p.

Székely Gáborné „A lakásárak társadalomstatisztikai összefüggései” [*„The social statistcal context of house prices”*] Statisztikai Szemle, 2000/9. pp.:703-723

Székely Gáborné (2014) „Migráció és lakáspiac a budapesti agglomerációban” [*„Migration and housing marketn the agglomeration of Budapest”*] KSH, 2014
https://www.ksh.hu/apps/shop.kiadvany?p_kiadvany_id=36192&p_temakor_kod=KSH&p_lang=HU

Tóth István György–Szelényi Iván (2018): Bezáródás és fluiditás a magyar társadalom szerkezetében Adatolt esszé a felső középosztály bezáródásáról [*„The upper middle class: a new aristocracy? Posing the question for post-communist Hungary”*], Tárki Riport

Vági Gábor (1989) Megye-reform megyei tanács nélkül. Körzeti szolgáltatások a helyi–területi közigazgatásban. [*„Country reform wthout county governance. Local public services in territorial administration”*] Tér és Társadalom 3. évf. 1989/4. 81-92. p.