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Trapped in One's Own Housing

The Limitations of Housing Choices in Segregated Neighborhoods

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1 Introduction: the research rationale

In Hungary, like elsewhere, the multifaceted character of segregated neighborhoods is – among other aspects – linked to historical development (see, for example, Havas, 2008 and Ladányi and Virág, 2009). Phases of Hungarian urbanization and regional development, especially the policies that dominated processes from the early 1970s, the programs of Roma resettling launched in the 1960s and the 1970s, and the economic processes that go hand in hand with migration have equally affected the emergence of the present situation (Dupcsik, 2009). Newer processes and policy interventions have also contributed to the emergence of declining and worse off neighborhoods. Similarly to the situation in Hungary, many of the targeted urban programs aimed at deconcentrating segregation throughout Europe can hardly be considered success stories (Bolt et al., 2010). Recent Hungarian attempts to tackle segregation can be seen as marginal steps, as they primarily target social and housing integration at the village level in backward rural areas, with more or less success (Virág, 2008). Other analyses of urban interventions have generated a set of lessons about the complexity of the institutional preconditions for sustainable interventions (EC/WB, 2014; Jelinek and Virág, 2019).

More recent research suggests that the housing and financial strategies of marginalized households are strongly interconnected, thus they are the outcome of employment, housing, and social provision programs (for example, Gerőházi et al., 2010 and Stephens et al., 2010 for the European housing context), a finding that suggests following the path of the urban change discourse that takes into account both individual-level decisions as well as contextual and macro-level processes.

All the above issues have recurred in the course of the last 18 years, since which time I have had the opportunity to participate in several Central East European-, cross-country-, and Hungarian field-based pieces of research about various phenomena related to housing and social exclusion. During research at the local level, I learned that it is essential to collect information about individual housing situations, and whether families plan to change them; but without understanding the behavior of

highly experienced professionals and politicians in town halls, the impacts of demographic change and general social and economic developments, as well as the housing subsidy system and the job market, the household level represents only a fraction of the picture.

Later on, I learned about potential of national-level policy, when MRI, my host institute, was involved in designing national-level housing policy in the early 2000s. We then followed up the changes and developments, including the impact of a large pool of policy interventions. In those turbulent years I was able to witness how sensitively families reacted to measures, and how they reorganized broader household budgets and savings to make use of "windfall" gains from short-lived housing subsidy schemes which were so typical of the first half of the 2000s. In the same period, based on an international comparative study, we concluded that the role of housing as an asset in household portfolios, the risks attached to the latter, and the very heterogeneous opportunities of families from different social backgrounds in Hungary constituted a special model within the welfare context of European countries.

In the post-2008 crisis years we reported about families falling into deep financial distress and decline in relation to the housing market. Household-level adaptation was hard, and national policy interventions and institutional changes came late for many; housing exclusion levels and insecurity rose again, with some recovery. More recent research into eviction regulations and the effectiveness of preventative measures showed that household decisions and ineffective policies were intertwined, marginalizing large population groups for generations.

In parallel with examining general housing policy topics, starting from 2005 I also followed some more specific local housing and social housing projects, among them some aimed at the integration of poor Roma families. The Roma settlement integration pilot program between 2005 and 2007 covered a rich variety of spatial arrangements and historical developments in segregated neighborhoods and a complexity of local community structures. Monitoring the program throughout those years created an opportunity to watch local institutions' coping strategies and interests from close up. I learned that some incentives were barely enough to provide long-term benefits for excluded Roma. I learned the stories of families who had never had a chance to

improve their situation, and spent time with social workers who rode bikes in both winter and the dog days of summer to remote places to visit and help those who were not considered important enough to be visible to local and national policy makers. I saw that the intention to help people move from shacks to normal housing can easily be hampered by a desire for short-term political gains. The level of NIMBYism was very high, even in those small communities where Roma and non-Roma people went to school together and whose kin had worked in the same places for generations. During these field visits I felt how social ties could be transformed into subtle but very strong fences, with no gates in them. This made me curious about how these rigid structures could be changed, and how actors could be incentivized to work towards long-term integration.

In later years I had the opportunity to participate in various evaluations of the spending of EU funds on Roma integration and social inclusion, and also worked with a range of brilliant NGOs on the (shadow) monitoring of various national social inclusion strategies. It was overwhelming to see the array of theoretically brilliant interventions which were practically doomed to fail due to the reversal of policy frameworks, a lack of political interest and commitment, lack of vision at the local level, a lack of time, and, importantly, the ever growing social inequality of the post-crisis years, which was not foreseen at all.

Field visits showed the reluctance and incapability of the state to offer a vision to families whose perspective only involved surviving the next day. Local heroes, such as teachers wishing to help children break out from local segregated schools, and NGOs that actually replaced state functions, worked miracles, which I watched with fascination. Also, some key local politicians and charismatic leaders were able to maneuver within the actual governance structure and think strategically about tackling segregation, decline, and further pauperization. It was essentially these undertakings which made me further explore the housing pathways into and out of segregated Roma neighborhoods, and to relate them to the theoretical framings which proved relevant within other countries' welfare perspectives.

Since the early twentieth century, the literature has broadly dealt with drivers of housing segregation, both at the community level and in broader policy contexts. The

role of discrimination and regional inequalities in housing markets played out as key factors in such analyses. In the Hungarian context, the recent three decades are more interesting as inequality has increased among the growing stratum of poor and the middle-class, which means that the gap to be bridged by households seeking to access quality services and the job market has widened, while the number of those in poverty started to decline; and the tools available for bridging these gaps are increasingly diverging among various social groups. Moreover, there have been great shifts in policy design both in terms of social inclusion and the urban planning and regional development sector.

Additionally, individual- (or household-) level housing strategies – framed by housing mobility research – have formed a distinct strand of study. Nevertheless, understanding what makes a household decision "sub-optimal" (i.e. a decision which pushes an increasing number of people to the margins, among them many Roma), has not yet received enough attention in the Hungarian context. Whereas there is a vast descriptive literature about various social-exclusion-related issues concerning the Roma (see a summary in the next chapters), additional research seems to be necessary to deliver a more nuanced and systemic understanding that is specifically focused on the constrained housing mobility and housing strategies of excluded Roma households. Such research can essentially contextualize the micro-level adjustment patterns within the emergence of spatial inequality and segregation processes, and development and housing policies. Some new quantitative data analysis was also needed to underpin the robustness of findings obtained from qualitative data. In order to narrow down the research area, my primary interest had to be limited to the after-transition years, with a focus on the more recent past.

Thus, this thesis is designed to describe an exploration of the shifts in spatial inequalities and housing segregation from the 1990s onwards, and to analyze the constraints to escaping segregated Roma neighborhoods at the household level, and triggers for moving to the latter. I seek to understand how the housing system (and more specifically, housing policy interventions) impact housing pathways, and the bottlenecks local- and national-level policy measures confront in relation to better promoting social integration. I wish to contribute to the discussion about the

combination of effects and transmission mechanisms which have remained largely unexplored, especially in the Hungarian research context.

Based on my field experience, I believe that exploring some major recent housing adjustment patterns that are dominant for Roma living in segregated environments in light of the changes in the prevailing economic and social settings can add not only to the academic discussion, but also to the development of more adequate policy responses for housing and social integration. Thus, this thesis explores whether and how housing mobility patterns diverge, and what the main contextual settings and drivers for such patterns are in the Hungarian context, and most importantly, what combination and interaction of inequalities and policies and household-level decisions result in the prevailing marginalization of Roma.[1]

The structure of the thesis is as follows: in Chapter 2 I outline the social problems I wish to investigate in the thesis. The following section, Chapter 3, describes the analytical framework applied in the thesis, and contains a description of the chosen research methods that best accommodate the research questions.

The thesis is arranged into three large thematic blocks for facilitating a discussion of the issues related to constrained pathways from three different perspectives. Chapter 4 involves the first perspective: *Reconceptualizing the links between spatial segregation and social inequality*, and thus reviews the theoretical work on segregation and discusses an extended segregation model. It then describes the Hungarian evidence about spatial segregation and the inequalities that feed segregation.

Chapter 5 is about the second perspective: *Housing choice and adjustment*. It puts housing mobility theories under the microscope and discusses Hungarian data with a special focus on survey results about the constrained housing pathways of Roma to show the major differences between housing pathways into and out of segregated neighborhoods, versus up and down the housing ladder for the general population.

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[1] In the course of the past years I have discussed components of the above issues in a few publications. These articles and books chapters – in some cases involving challenging the related content – are to a large extent incorporated into this thesis.

The third perspective: *Interventions and policy implications*, is discussed in Chapter 6 and deals with lessons from the field and summarizes an empirically calibrated micro-model to show what processes fuel local-level segregation, then concludes with some policy implications.

In the summarizing chapter I revisit the research questions and outline new findings that put the constrained housing pathways of Roma in Hungary into the after-transition context.

2 Research themes

Some housing options are cheaper due to a marginal housing market position, declining urban neighborhood, and the presence of shrinking and Roma settlements – more generally: the segregated neighborhoods[2] of marginalized ethnic minorities (Musterd and Ostendorf, 2013; Skifter Andersen, 2019). Thus, they can serve as positions or episodes within housing pathways that can be considered adjustment options in the case that housing consumption levels have to be, and can be, reduced (Wong, 2002). The "choice" to live in to such low-cost housing may be especially relevant for those households that have lost sources of regular income, or have been faced with a serious decrease in monthly revenue due to illness, retirement, changes in household composition, or just because of the cessation of social / family benefit schemes.

In such cases, the move to such neighborhoods represents a corrective form of action which at the same time may limit later adjustment options. This limitation derives from the fact that upward mobility from segregated neighborhoods is difficult. If the scaling up of housing depends on the market value of housing stock, which can be extremely low in such neighborhoods – especially in countries with significant home ownership –, upward mobility will be constrained, and can only be achieved through other mobility channels (Teller, 2018).

Changing homes by entering the mainstream home-ownership market is virtually impossible for many families who have lived in Roma segregated settlements due to the housing-related value gap and the discrimination they face. Moreover, severe quantity-related constraints related to social housing provision, and the institutional interest (minimal public finances) of keeping "problematic" families away from the

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[2] The word "segregation" is broadly used to describe the spatial distance between any groups; hence the finding that the level of segregation of the most affluent groups is often higher than that of "non-affluents" – see e.g. Fischer et al. (2004). In my thesis, the term "segregation" is used to denominate the spatial concentration of socially disadvantaged groups.

latter (that is, concentrating less risky citizens), can make access to the social housing sub-sector an equally big challenge (Huttmann, 1991). Affordability issues and discrimination in the private rental market may hit low-resource households from stigmatized ethnic groups or low-prestige areas hard.

However, segregated neighborhoods may represent forms of replacement and compensation for social service arrangements if kinship ties are strong enough and accessible either within or across the boundaries of such neighborhoods. In such cases, living in a segregated neighborhood may serve as an informal everyday survival strategy for many families on a low income. This arrangement conforms to the post-Soviet adjustment patterns seen elsewhere, as reciprocal family and kinship ties seem to be a more crucial ordering principle in such neighborhoods than in (slightly) more formalized environments (Round and Williams, 2010).

In Hungary, housing mobility pathways for Roma, once they include having lived in a Roma neighborhood (accounting for, according to most recent estimations, approximately 30% of Roma in 2011),[3] are significantly constrained in terms of movement out of these lower-value market segments. Thus, moves that may be made due to the need for a short-term benefit or the urgent liberation of capital from housing in order to pay off debts that can be obtained by moving down will have a more detrimental effect on such households. Moreover, the survival strategies that are in place might not be feasible in other sub-segments of the low-value housing market, so local arrangements – social ties – may compensate for the lack of some welfare services (Granovetter, 1973; Boschman et al., 2017). Local public policy decisions and the allocation of investments, however, may contribute to the further decline of such areas, which at some point can no longer be balanced, leading to the emergence of ghettos and dead-end roads in housing careers (Váradi and Virág, 2014). Thus, the general economic development context and social inequalities, in combination with sectoral policies, create a dynamic context for spatial processes and individual-level decisions.

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[3] The figure is based on a representative Roma survey carried out in 2011 by Corvinus University (BCE), unweighted database.

To sum up, the combination and interlinkage of individual decisions and contextual-level conditions (including policies) related to Roma housing segregation processes, especially the intersectional nature of its components such as discrimination, regional inequalities, and sub-optimal personal or household decisions / adjustment strategies are at the heart of the research presented in the thesis. I claim that household decisions/adjustment strategies, (housing) market patterns, and (discriminatory) institutional policies *by themselves* may lead to spatial segregation, but also, in given combinations, they may *change* the speed of spatial segregation. Of course, the three phenomena are interlinked in that institutional policies constrain individual decisions, and (informed) individual housing decisions are always linked to short and long-term household strategies, which are also framed by market mechanisms (Skifter Andersen, 2003).

Based on the above, it is clear that there is a range and combination of causalities that contribute to the housing marginalization of Roma. For example, due to their historical development, urban and rural segregated neighborhoods in Hungary play a special role in the housing pathways of Roma; however, the social inequalities associated with the Roma go hand in hand with spatial distance and segmentation of the housing market. There are drivers at both the policy and contextual level which foster the growth and preservation of segregated neighborhoods, reinforcing the growing inequality between segregated neighborhoods and other housing market segments which manifest at the institutional level in the current Hungarian context.

A core question is whether the pathways available in the constrained housing market segments are distinguishable from mainstream housing careers. It is important to understand whether the difference is linked to adjustment patterns that diverge from those of the general population. In order to do this, we must distinguish two layers of household adjustment patterns: individual life-cycle-related housing decisions, and adjustment to contextual-level conditions. Moreover, individual housing decisions and household strategies are impacted by social networks and kinship, by local housing allocation policies, the labor market, accessibility, welfare, and other service delivery design, discrimination, and general housing-policy-related factors.

A further question under investigation is whether the pace of further segregation can be altered if selected dimensions of inequality are tackled, and individual adjustment strategies are counter-incentivized. This has policy implications, too: if escaping from segregated environments becomes possible only if routes other than housing mobility channels are also open; policy design which does not take into account both layers of adjustment may fail.

In order to systematically analyze the above research themes, a few topical questions are discussed in the following chapters, such as:

- What are the main drivers and directions of the spatial development of neighborhoods that become segregated?
- Which policies have impacted marginalized housing situations and segregated neighborhoods?
- What are the main housing pathway patterns, and which groups demonstrate different paths from mainstream ones?
- What are the main causes of housing decisions and moves at the household level, and how do they relate to inequality and exclusion?
- Which incentives prove to be effective at counterbalancing or halting housing segregation?

An analytical framework and methods for comprehensively addressing this set of research questions are outlined in Chapter 3.

3   Analytical framework and research methods

3.1   The framing concept: analytical sociology

My main research interest is examining the mechanisms that impact the housing situation within the spatial fabric, and how these forces and processes interact. The starting point is that:

> […][h]ousing conditions are basically the result of the interrelation between resources of households, preferences of households and the availability and accessibility of dwellings. This interaction does not take place in a vacuum. It occurs in a context of economic, demographic and political structures (including the changes in the welfare state). […] Moreover, these elements may change through time. […] Therefore, a study of (individual) housing conditions and housing-market positions should start with an analysis of (aggregate) contextual developments. (van Kempen and sule Özüekren, 1998:1645)

Thus, the approach applied in this thesis combines individual, institutional, and structural explanatory factors. Structural issues are discussed that relate to the changes of several housing sub-markets in the post-transitional context, and institutional aspects are highlighted concerning the mechanisms of discrimination that affect the housing market. Such mechanisms of discrimination include both community actions that keep Roma away from neighborhoods, and local housing policy actions which systematically place Roma at a disadvantage. I seek to locate the analysis at the level where micro-decisions are linked with changes within and beyond the local and neighborhood level, thus my argumentation is grounded in features of analytical sociology (Hedström, 2005).

Analytical sociology also seems to be appropriate because I wish to elaborate on the linkage between the micro- and macro-levels. According to Merton, such a middle-range theoretical framework fits:

> […]theories that lie between the minor but necessary working hypotheses that evolve in abundance during day-to-day research and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behavior, social organisation and social change. (Merton, 1968:39)

Analytical sociology adds that a theory of the middle range is:

> […]a simple type of theory which can be used for partially explaining a range of different phenomena, but which makes no pretense of being able to explain all social phenomena, and which is not founded upon any form of extreme reductionism in terms of explanans. It is a vision of sociological theory as a toolbox for semigeneral theories each if which is adequate for explaining a limited range or type of phenomena. (Hedström and Udehn, 2011: 31)

Merton's inspiration for analytical sociology becomes even more obvious when we take a closer look at how analytical sociology connects the individual and the macro-level. Hedström and Udehn (2011:32) emphasize that social structures:

> […]constrain[…] individuals' action and cultural environments shape[…] their desires and beliefs […], individuals choos[e] their preferred courses of action among the feasible alternatives […], and [there are] various intended and unintended outcomes of these actions.

Understanding exactly these differential opportunities for action and intended and unintended results is central to analytical sociology. Moreover, the extension of the static model to a dynamic one makes it possible to explore how social processes develop, "particularly when individuals' actions in part depend upon what others do" (ibid: 37). This can be done by ensuring that the micro-action–macro-level-change–micro-action chain of interactions, including understanding the causal mechanisms in different social settings, is taken as the focus of the analysis.

In the analysis pursued in this thesis, such an analytical framework seems to be especially useful. Housing decisions and pathways are necessarily context-bound, and are typical examples of actions characterized by an *interplay* of micro- and macro (or

in other words, contextual) factors (Wong, 2002), notwithstanding the role of individual consumption choices, interactions with institutions, social practices and housing policy, and the constrained rationality of households (Clapham, 2002).

Segregation processes are closely linked with individual decisions, too. As Schelling (1969) showed, the process that leads to segregation can be decomposed into individual decisions, and these constrained individual decisions lead to collective results that are "independent" of individual intentions in the sense that their scale and speed are unintentional.

I discuss those mechanisms that connect the individual level and the collective outcome in a dynamic manner based on a review of the literature about segregation, housing adjustment, and (selective) mobility.

3.2 Roma – construction of a target research group

One of the basic issues that has to be reflected upon is the definition of the term "Roma," and with this, defining "who the Roma are." This is inevitable, because beyond describing general spatial inequality and (ethnic) segregation mechanisms, I focus on housing mobility patterns on the margins and connect this with Roma segregated neighborhoods in the Hungarian context. Moreover, for the sake of analysis, I make use of data which specifically deal with the housing situation of Roma.

The discussion of this ethnic category has been going on for many decades in Hungary (and elsewhere). In the Hungarian context, two main strands of ideas have crystallized.

The main proponents of one position are Havas/Kemény/Kertesi, while the other position is represented mainly be Ladányi/Szelényi. The dividing line between the two involves the question how to deal with the different outcomes of assessing the situation of Roma using self-identification versus hetero-identification. Whereas the first school claims that Roma (identity) is more or less necessarily a social fact, is based on social construction, and, for the sake of any research – depending on the relevant research question – can be operationalized, the latter approach claims that the difference between the results of the hetero- and self-identification-based identification of Roma

is a crucial and meaningful issue in itself. This so-called "classification dispute" strengthened around the time of the 1993 Roma survey (conducted by the first above-mentioned group), and focused on whether there were any "objective" criteria for defining who the Roma are, and, for example, how to conduct sampling among them (Havas et al., 1998; Ladányi and Szelényi, 1997; Ladányi and Szelényi, 2001a; Csepeli and Simon, 2007; Szuhay, 1999). The dispute has not yet been closed, and several data collection policies that emerged in the post-WWII context related to sensitive data, such as ethnic affiliation or belonging to nationalities or religious groups, have reflected on this issue (Bárány, 2002).

Approximately 15 years later, based on a review of international data collection exercises, Messing (2014) found that the core of the problem is that:

> […][v]arious measurements and Roma surveys produce significantly different outcomes regarding the most essential data and indicators such as the size of the Roma population, educational levels, employment rates, household size and composition, and living circumstances. (ibid:812)

The former author connects the diversity of outcomes with the variation of methodologies applied by Roma surveys, which are based on challenges caused by identifying Roma respondents, the sample design, and the creation of informative and comparable indicators. While the second and the third topics are equally relevant for my thesis (hence I come back to them in the methodological chapter later on), here I stick to addressing the issue of identification. Based on a review of methodological debates, Messing (2014) argues that the different standpoints are closely linked with the different conceptualizations of the group "Roma." In conclusion, she cites Brubaker (2004) when stating that:

> […][e]thnicity, therefore, may include different meanings in various contexts and may change over time or according to the actual socio-economic or political situation and thus may result in categories with substantially different compositions. (Messing, 2014:813)

The fluidity of the conceptualization of Roma is one component of the classification challenge. Another one is linked with tackling data collection bias; that is, under-

reporting (Messing, 2014). More recently, the freedom to select multiple national or ethnic identities (other than e.g. Hungarian) in questionnaire-based data collection, seemed to have successfully tackled one of the most severe shortcomings of surveys that make use of self-identification questions, thereby making data analysis more reliable. Nevertheless, beyond the overall "other than the national majority" category in the Hungarian context at the local level, further dividing lines may exist, as already shown by early ethnographic research (Erdős, 1958). For example, some mobility patterns seem to be more prevalent among select sub-groups among Roma (MTA, 2004).

Thus, generalizing findings for "Roma" can only be done at the expense of masking the power gap and intersections of poverty and ethnicity (Vajda, 2017; Csepeli and Simon, 2007), as well as the heterogeneity that exists within stratified and diverse ethnic Roma groups. And, more importantly, one has to be cautious, as Messing (2014) puts it, because:

> Roma is not a binary concept: Roma identity in most cases is multiple, fluid and situational. Research first needs to make a decision on [sic] whom it intends to survey, for what reason and to define the target of its investigation accordingly. These decisions will, however, have significant consequences for the very outcomes of the research. (ibid:824)

The hypotheses in my analysis presume that inter-ethnic relations are components of segregation mechanisms and should be better understood. Further, households' adjustment patterns (attitudes and actions) should be understood within a research target population that has self-identified as Roma. This implies that for the sake of the research, the segregation patterns of hetero-identified localities (Roma settlements) should be investigated in combination with individual, self-identified Roma households' housing adjustment patterns.

3.3 Methods

In order to take account of theories that have been developed and research done so far in the broad field of housing segregation, and to enrich the findings with new empirical evidence from the recent past in Hungary, methodological and data triangulation has been applied.

According to Olsen (2004):

> […][i]n social science triangulation is defined as the mixing of data or methods so that diverse viewpoints or standpoints cast light upon a topic. The mixing of data types, known as data triangulation, is often thought to help in validating the claims that might arise from an initial pilot study. The mixing of methodologies, e.g. mixing the survey data with interviews, is a more profound form of triangulation. (ibid:103)

In addition to ensuring room for contrasting and diverse viewpoints, the combination of several methods (i.e. qualitative and quantitative research) applied to the same topic allows for further important development; that is, exploring interrelations and causality more profoundly. As Denzin (2015:1) puts it:

> […][t]he combination of multiple methodological practices, empirical materials, perspectives, and observers in a single study is best understood as a strategy that adds authenticity, trustworthiness, credibility, rigor, breadth, complexity, richness, and depth to any inquiry.

Nevertheless, all types of triangulation have their limitations. Denzin (2015) recalls, for example, that data triangulation (which I also apply in this thesis) may not lead to a single and consistent picture. Methodological triangulation seems to have a similar weakness: different research methods will necessarily yield different results, which should then be allowed to be merged into a fuller picture.

Triangulation has been challenged more radically by the incompatibility thesis, which claims that as different philosophies underlie distinct methods, they should be kept distinct and separate (Denzin, 2015). However, Heesen et al. (2019) encourages researchers to refrain from "methodological purism" but make use of triangulation

based on a formal model of methodological triangulation based on "Du Boisian diffidence" (Heesen et al., 2019: 3070).

Mahoney and Goertz (2006) appear to offer a further helpful argument for a mixed methods approach by contrasting qualitative and quantitative research methods through the loop of ten dimensions, and demonstrating their complementarity.

In their view, (1) qualitative research takes individual cases and explores the causes of effects, while quantitative research takes a large population to see what causes have an impact on the average case. Linked with (1), the conceptualization of causation (2) is also different: qualitative research focuses on necessary and sufficient causes, while quantitative research considers correlations and probabilities. (3) Third, qualitative research allows for multiple causalities leading to the same effect, while quantitative research seeks to control for interactions and works with additive sources of causation. (4) The approach of qualitative and quantitative research differs with regard to equifinality: qualitative research looks for specific causes with the same effects, whereas quantitative research generally does not delve into potential variation in types of causality. (5) Regarding scope and generalization, qualitative research keeps its theoretical framing narrow, whereas quantitative research aims to generalize findings to large populations. (6) This is also reflected in the case-selection practices of the two methods: while qualitative methods look for the "positive" cases, quantitative tradition aims to avoid such selection bias and looks to observe a general population. (7) There is also a difference between how observations are weighed: for the qualitative method, some variables are more important than others (like core evidence for a detective) – those mainly linked with the theoretical framework that is chosen – while quantitative research establishes null-hypotheses and tests observations with equal weight. (8) A further major difference is constituted by how the disciplines consider "substantively important cases": quantitative research does not pick any of these (except for handling outliers), whereas "substantively important cases" are those prominent ones that should be observed in qualitative research. (9) Dealing with a lack of fit is a further dimension for differentiation: for qualitative research non-fitting issues are the ones to be explored, whereas they are the residuals for quantitative research. (10) Last, there is variation in relation to concepts and measurement: qualitative research has to scrutinize and narrow down analytical concepts and definitions due to the limited

empirical evidence it is based on, in contrast to quantitative research which has to be specific about the indicators it develops to ensure the validity and generalization potential of the research outcomes (Mahoney and Goertz, 2006).

Accordingly, starting from a thorough literature review about segregation and inequality-, housing choice- and adjustment-strategy-related research findings, I will use both qualitative and quantitative data to ensure that the above complementarity issues are resolved.

I rely on secondary analysis of qualitative data collected throughout the past few years to exemplify distinct spatial processes of housing segregation and "positive cases" of household adjustment strategies and policy interventions. Some of the evidence quoted here was collected in a less systemic way in the course of field-based inquiries connected with my fellowship with LGI/OSI approximately 13 years ago, and projects that I have carried out in the course of diverse consultancy and research activities ongoing since 2001. These include interviews with stakeholders like municipalities, social workers, other professionals working with marginalized families, and policy makers (including Roma minority representatives). Household interviews have been conducted in relation to adjustment and housing conditions in a few waves in a set of locations since 2003. I also conducted participatory observations in the course of a settlement integration program launched in 2005, and some focus groups were used for collecting evidence about social rehabilitation projects and micro-regional integration efforts between 2010 and 2013.

Many of the data are derived from commissioned monitoring and consultancy projects which did not have an explicit conceptual framing; nevertheless, the evidence gathered during field visits in select neighborhoods and settlements sometimes proved useful for enriching the empirical material of the thesis. A detailed list of relevant resource projects is displayed in Annex 1.

Quantitative data analysis about social conditions, housing mobility patterns and moves is based on primary and secondary data. The core primary dataset used in the thesis is a Roma (self-identified) 2000-respondent sub-sample of a 2011 survey carried out by the National Family and Social Policy Institute and Budapest Corvinus University (further referred to as the "BCE survey"). The survey was designed to

correspond to previous Roma survey methods, while its "twin," a hetero-identification-based sample, was also intended to facilitate comparison of the empirical outcomes of the two sampling methods. Both Messing (2011 and 2014) and Teller (2011) critically report caveats about the survey design. Nonetheless, there have not been any other recent collections of data which included housing mobility questions in specific segregated environments in the Hungarian context, thus data relating to the triggers and constraints of Roma families are drawn from this survey. The response rates to some key questions were rather low, thus only limited statistical analysis was possible.

A further constraint of the survey is that it is a cross-sectional dataset. The housing-mobility-related questions within hence capture different age groups who made distinct decisions at the respective ages. This represents a limitation on the interpretation of differences across age groups. Despite this, as will be shown in Chapter 5.3, the results seem to be congruent with housing mobility research findings. Moreover, I focus on the potential role of kinship and networks, which may have been different at the time of the survey from those that existed at the time of the actual housing choice. Thus, some quantitative results regarding housing mobility patterns may only be interpreted within these limits. It is especially with these research questions that methodological triangulation proved essential for ruling out reverse causalities in my analysis.

A further primary data resource is the 2015 housing survey conducted by the Hungarian Central Statistical Office (further referred to as the "HCSO database"), which is a 10000-household representative survey for the total Hungarian population. No ethnicity-related data is available; only the evaluators' judgement about the housing environment (i.e. whether the building is in a "socially inadequate" environment). The sample included few responses from such neighborhoods, thus a proxy is used to illustrate the marginalized groups' housing choice options. This database is included to explore upward and downward mobility patterns for selected submarkets of the housing sector for the general population, and according to age group.

Besides the above-mentioned 2011 BCE survey, and the representative Hungarian housing conditions survey carried out by the HCSO in 2015, data from a further (non-representative) survey was used in secondary data analysis. The UNDP / World Bank /EC survey[4] is a comparably small survey that focuses on hetero-identified Roma households living in segregated neighborhoods and their non-Roma neighbors in close proximity to such neighborhoods. The added value of this survey is that it contains data about living conditions and about aspirations related to changing housing and living in integrated or mixed neighborhoods.

Secondary data analysis also draws on census data and data from previous Roma surveys as they are reported in diverse publications and accessible via HCSO TEIR, the territorial information system managed by the Hungarian Central Statistical Office. Maps are used broadly to illustrate the spatial distribution of population groups with specific social characteristics in order to observe spatial inequalities, where relevant.

Given the varying conceptualizations of segregated neighborhoods, Roma, and marginalized groups across the datasets that are used, and their cross-sectional nature, I employ these empirical sources despite the bias related to data-triangulation (see further above). For example, whereas the HCSO Census dataset defines segregated neighborhoods based on the share of population with a comparably low level of education and absence from the labor market (thus, no nationality- or ethnicity-related data are included), the list of neighborhoods that emerges largely coincides with those settlements with a relatively large share of Roma population. The spatial position of these neighborhoods will be used in Chapter 4.3.1 to depict the concentration of various social disadvantages and their territorial overlap with segregated areas.

Conversely, the BCE survey created a sample based on ethnicity and reported on self-identified Roma – whose education and labor market participation data may or may not correspond to the HCSO segregated-neighborhood population characteristics. I use this dataset to investigate the role of and motives for moves into and out of segregated

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[4]   See   also   https://www.eurasia.undp.org/content/rbec/en/home/ourwork/sustainable-development/development-planning-and-inclusive-sustainable-growth/roma-in-central-and-southeast-europe/roma-data.html

neighborhoods, thus, I extract evidence only for this very specific population group from this survey.

Notwithstanding this, the 2015 Housing Survey did not conceptualize any ethnic groups, and in connection with the relatively small sample size, the segregated neighborhood data also appear to be unreliable. Therefore, I had to develop two corresponding concepts to be able to address the questions I sought to answer based on the BCE survey: one for upward and downward moves, and one for marginalized households whose motivation for housing choice was contrasted with that of the mainstream population (see further above for further issues with the cross-sectional datasets used for housing mobility research). These proxies are used to deliver insight into the potentially divergent housing mobility patterns of Roma and non-Roma marginalized/non-marginalized groups.

The last section of the thesis contains an empirically calibrated micro-model of segregation. Wilensky's (1997) agent-based segregation micro-model (basically, Schelling's segregation model coded in Netlogo) was extended to simulate a combination of the dimensions which were determined based on the empirical "explanations" of how housing segregation mechanisms may work. The model includes inequality parameters such as the income and housing value levels of a neighborhood, a variable to represent policy choices (that is, what gap or distance can be bridged by a move), and, most importantly, calibrations of individual decisions. The limitation of the model is obvious: "real-life" situations are transformed into simplistic preferences/probabilities, and it is not easy to track dynamic preferences (e.g. growth in a segregated area will impact the speed of further segregation and increase the income gap) (Bruch and Mare, 2009).

To sum up, the research questions will be investigated via document analysis (literature review), quantitative data collected at various points in time (all with constrained housing mobility data), and qualitative data (collected in field-based projects during the course of approximately the last 15 years). Thus, data and methodological triangulation can be sufficiently accomplished so as to ensure a comprehensive discussion of the research themes as outlined in Chapter 2. Moreover, the policy perspective is linked with an illustrative agent-based micro-model, and is

calibrated for select combinations of segregation-, discrimination-, and social inequalities that are characteristic of the lowest segment of the housing market of Hungary.

4 First perspective: reconceptualizing the links between spatial segregation and social inequality

Based on the systemic review of the theories of segregation and the inequalities of the Roma in the current Hungarian context, Chapter 4 attends to a discussion of the contextual level in the analytical framework.

Urban and rural segregated neighborhoods in Hungary play a special role in the housing pathways of Roma. The social inequalities of Roma go hand in hand with spatial distance and the segmentation of the housing market. There are drivers at both the policy and contextual-level which foster the growth and conservation of segregated neighborhoods, reinforcing increasing inequality between segregated neighborhoods and other housing market segments, and which are manifest at the institutional level in the current Hungarian context. The drivers are mainly connected with the labor market, welfare arrangements, and discrimination.

In order to take account of the above, in the first section of this chapter the theoretical literature on housing segregation will be reviewed with a special focus on how the segregated neighborhoods as contextual conditions may shape housing decisions and pathways in a given welfare context. The review draws on key texts about segregation, mainly connected with USA-based segregation research, which has been the basis for the more recent European discussions about urban change and segregation. A selection of Western- and north-European-related literature represents the second large component of the analytical work that is summarized in this section, which concludes with a review of work related to challenging segregation mechanisms in the Southern and Central European context.

The second section of this chapter is dedicated to providing a description of the inequality and segregation of Roma in Hungary. This serves to relate the theoretical description of segregation to the empirical evidence, and to contextualize the housing situation within the broader welfare, social, and spatial system. One must note, however, that besides emerging segregation patterns in urban areas, in Hungary, the

concentration of segregated neighborhoods is also prevalent in rural areas and is equally linked with contextual factors; hence, the analytical model described in this chapter includes a description of the mechanisms of housing segregation in general.

4.1 Background: Theories of segregation

A systematic review of the literature about segregation serves to increase the understanding of the overlaps between theories about urban and regional differentiation, polarization, and segregation. Given that segregation is a global phenomenon, macro-level processes in urban areas have been providing research material since the beginning of the twentieth century, starting with the Chicago School (van Kempen and sule Özüekren, 1998). Correspondingly, different classifications of the related theories have proliferated in the past close-to-100 years. The development of the theories may be described with the help of four distinct classifications created by van Kempen and sule Özüekren (1998), Saltman (2001), Skifter Andersen (2003), and Arbaci (2019). Table 1 summarizes the first three classifications, while Arbaci's work is detailed further below.

Table 1. Theoretical developments in segregation analysis

	Kempen and sule Özüekren (1998)	Saltman (2001)	Skifter Andersen (2003)
main groups	(a) traditional theories (b) behavioral theories (c) neo-Marxist theories (d) neo-Weberian theories	(a) ecological theories (b) economic theories (c) inter-group and minority theories (d) social-psychological theories (e) institutional theories	(a) human ecology (b) subcultural theory (c) political economy
rationale of classification	engine of paradigm change	empirical evidence and indicators	dynamics of change

Source: Cited sources, modified by the author.

First, van Kempen and sule Özüekren (1998) classify explanations of concentration and segregation into "traditional" approaches, all of which lack the individual

(behavioral) element, then behavioral approaches, then the neo-Marxist approach, and the neo-Weberian approach.

They state that (a) the human ecology approach was focused on the city itself, and on how it develops based on the competition of population groups within the city. Often being criticized for not incorporating the social and cultural aspects of society, this approach was most influential for many decades in the USA, and less relevant in the European context. The social area analysis and factorial ecology strand followed to challenge the previous paradigm with its empirical data-based intensity. Its added value, which is at the same time a weakness, is seen by authors as the mass of empirical data and descriptive analyses that have been produced. A further weakness is that the paradigm assumes the existence of human subjects with merely (economic) rational choice potential.

(b) The behavioral approach adds in the individual with their attitudes and preferences to the analysis, and focuses on the demand side of the housing market. The life-cycle approach, and issues of institutionally constrained choices and decision-making patterns are the outputs of research projects aligned with this paradigm. In addition, an ethnic-cultural approach has enriched this analytical framework.

(c) The neo-Marxist approach – which van Kempen and sule Özüekren did not find to have been extensively applied by the time they developed their classification – came – in my opinion – with the rise of critical urban theories (for a summary, see Gualini, 2015).

(d) The neo-Weberian discourse added the institutional perspective, housing class, and the resources of households as the main drivers of housing decisions that impact urban change. The capital theory of Bourdieu that was translated into the various kinds of impacts of resources fertilized analytical undertakings for a long time.

Second, Saltman's classification (1991) states that segregation theories are rooted in the Chicago School's analysis about how spatial separation, social status, and social distance emerges within the urban change context. The issue involves not only the clustering of population groups, but the costs paid by society for the impact of concurrent inequalities in economic performance, educational outcomes, lost

opportunities for development and growth, and not only for the current-, but also future generations (Durlauf, 1996; Friedrichs et al., 2003; Musterd, 2005, van Ham et al., 2018).

According to Saltman (1991), by the early 1990s, five major strands of conceptual frameworks were shaping the discussion. She claims that "ecological, economic, intergroup, social-psychological, and institutional theories" (ibid:4) represent the big schools, while "[n]one of them alone explains segregation fully" (ibid.).

Saltman finds (a) the core message of the ecological approach is that spatial distribution is the imprint of social stratification, and ecological processes describe changes of spatial arrangements (i.e. the Chicago School). This school claims that there is an inevitable change between white and black populations in the urban space. Later analyses conclude that there is a single direction of evolution in segregation and assimilation/integration. This latter finding has been challenged only in the past decade (Arapoglou and Maloutas, 2019; Peach, 1996).

(b) Saltman (1991) subsumes under economic explanatory frameworks those theories which consider income inequalities to be the primary cause of spatial segregation. She reflects that even in the USA the explanatory value of these theories remains weak, because only approximately a quarter of all segregation is explained by income differences alone.

(c) Intergroup- and minority-related theoretical work focuses on the power relations between ethnic groups (mostly related to migration). Later, a very similar theoretical frame was developed by Picker (2017) based on the roots of Roma segregation in Europe in colonialism-governed social relations.

(d) Social-psychological explanations locate the causes of segregation as human preferences and location-based choices. Saltman challenges this approach by showing that the voluntary segregation of the black population is not supported by data derived from the USA, whereas it may be relevant for understanding white segregation.

(e) In connection with the imbalance in white and black preferences in the USA, Saltman claims that the last explanatory framework seems to be especially crucial in

the US context, where the levels of spatial separation of white and black Americans is incomparably higher than the segregation levels among majority and minority groups in Europe (Musterd et al., 2017). She claims that systematic and historical institutional discrimination and racism can be deemed responsible for a large share of today's topological arrangements of neighborhoods, including the development of project housing and the suburbs across the USA (Saltman, 1991).

In a third classification of the most substantial strands of theoretical framings, Skifter Andersen (2003) delineates a (a) human ecology approach, a (b) subcultural approach and a (c) political economy approach.

Andersen believes that the most influential paradigm is undoubtedly the (a) human ecology approach. The main point of this paradigm is that there is economic competition for urban locations among social groups, and some additional push and pull factors drive household decisions to opt for particular living spaces (e.g. the models of Burgess concerning invasion and succession, the bid-rent theory of Alonso about the balance of the cost of commuting and renting, Hoyt's filtering theory, and some border or tipping models, meaning that out-migration involves panic-based moves following low-income people moving into certain areas).

(b) The subcultural approach adds to the human ecology framework the claim that, besides economic factors, there are social, psychological, and demographic aspects that define neighborhood processes. Residents can also improve their neighborhoods, and can induce processes that hinder the decrease in homogeneity in a given neighborhood that largely contributes to a breakdown of social relations and hence to the motivation of people to move away. This approach has broadly been criticized based on its supposed overemphasis on processes within neighborhoods and its neglect of the influence of external factors.

(c) A further paradigm is represented by the political economy approach. This framework basically incorporates elements of institutional theory, while it relies on a division between the local and the state level. In this framework, the state (through its welfare regime) plays a crucial role: a general withdrawal of housing subsidies can lead to the deterioration of neighborhoods, since the remaining resources have to be redistributed. Thus, those who are poorer may not have access to them. Either the

better-off move out, or lower-income households have to move to more affordable places. Local-level processes are also crucial in this theory: while investigating inequalities among neighborhoods, the emergence of some drivers of growth suggested that the urban elite has a particular role in neighborhood change.

The main difference between Saltman's (1991) and Skifter Andersen's classification (2003) is constituted by the focus on process and causality. While Saltman looks at schools based on which kind of indicators or evidence they used to define causality models, Skifter Andersen subsumes those explanatory frameworks which are connected by similar dynamics of urban (spatial) change. In contrast to these classifications, van Kempen and sule Özüekren's (1998) focus is the engine(s) of paradigm changes.

The fourth and most recent classification is contained in the work of Arbaci (2019). She groups the theoretical approaches to segregation into six different analytical frameworks, historically at least partly operating in parallel. She also positions emerging theories within select trends (i.e. hyper-ghetto theory is pinned to the macro-development analytical framework).

Arbaci lists as distinct groups (a) social theoretical models, (b) multi-factor and multiscalar analysis, (c) macro-developments analysis, (d) political economy analysis, (e) socio-economic and spatial-political analysis, and last, (f) positivistic empirical analysis. In a chronological investigation ranging from the 1920s until most recently, she investigates how today's analytical perspectives were impacted and formed by parallel schools and focal topics, and what significant dynamism has occurred in the reconceptualization of segregation, along with societal changes on both sides of the Atlantic. Her undertaking is thus important, as she questions whether current analytical work (be it dedicated to the divergence comparative perspective, the contextual perspective, the macro-development perspective, institutionalist perspective, or the choice and constraints perspective) can respond to the "paradoxes of segregation" (ibid: 22); that is, although inequalities change and the population becomes more diverse, especially in international hubs characterized by neo-liberal housing policies, the level of segregation does not follow this trend in a direct manner. She observes that:

> …correlations between the spatial and social dimensions of inequality are not as straightforward as often implied by mainstream metaphors of segregation. Simply put, these patterns do not reveal a paradox, but rather indicate that the relationship between segregation and inequality is far from linear. (ibid:4)

Based on new empirical investigations, she proposes applying a contextual structural model to help understand the differences among the housing systems based on their level of de-commodification. Hence, she suggests undertaking "the exploration of the multidimensional link between segregation and redistribution" (ibid:11).

Notwithstanding the relevance of the various classifications, an important finding of the above-cited authors is that, over time, paradigms have often been combined so as to deliver a more comprehensive picture of processes of neighborhood change (Grigsby, 1987; Temkin and Rohe; 1996, Malutas, 2012; Arapoglou and Malutas, 2019).

For example, the Chicago School concept and later theories of segregation share an important commonality, irrespective of how they interpret the mechanisms that cause segregation: spatial and physical distance is considered a core indicator of social distance, thus measures of clustering have been applied to describe segregation (Maloutas, 2012). The key mainstream measures developed formerly by Duncan (Duncan and Duncan, 1955; index of dissimilarity) and by Taeuber (Taeuber and Taeuber, 1965; index of isolation) have been refined and complemented by numerous measurement techniques and approaches. The inflation of measurement methods and analyses by the mid-1980s in the USA led to "a state of theoretical and methodological disarray" (Massey and Denton, 1988: 282). The multiplicity of analyses required a more systematic and critical discussion to delineate the added value of select approaches, and increase their correspondence with the increasing variation in spatial processes. To illustrate this inconsistency, Massey and Denton (1988) discussed and classified twenty different measures that they could identify in then-contemporary US research literature so that a wider set of conceptual indices could be developed for the research community. These indicators were designed to represent spatial segregation

in a more sophisticated manner compared to the previously fragmented practice. As the authors put it:

> Minority members may be distributed so that they are overrepresented in some areas and underrepresented in others, varying on the characteristic of *evenness*. They may be distributed so that their *exposure* to majority members is limited by virtue of rarely sharing a neighborhood with them. They may be spatially *concentrated* within a very small area, occupying less physical space than majority members. They may be spatially *centralized*, congregating around the urban core, and occupying a more central location than the majority. Finally, areas of minority settlement may be tightly *clustered* to form one large contiguous enclave, or be scattered widely around the urban area. (Massey and Denton, 1988:283; italics in original)

The importance of their insight is that they show how the spatial arrangement of a group cannot be described by one single index; and that these five dimensions fully cover distinct features of groups within the (urban) fabric. We shall see that these nuances will also prove important for later analysis.

More recent research in the USA suggests that although most theoretical frameworks have been further developed and are employed in combination with one another to reflect on the complexity of causation, findings from a few decades ago can be challenged based on newer and more sophisticated data collection- and analytical methods. For example, Reardon and Bischoff (2011) demonstrate that income and racial segregation patterns have changed with the rise of income inequalities, and that segregation based on income can blur the emergence of racial segregation patterns. The relevance of such a finding is that there may be shifts in select dimensions of segregation which can affect other clustering dimensions after a lapse of time, or unevenly, or, as the authors report, "neighborhood sorting of families or households by income may produce the segregation of affluence and/or the segregation of poverty" (Reardon and Bischoff, 2011:1097) depending on the different income level clusters of neighbors. Owens (2019) concludes the same for housing-type segregation (which type of housing is located where in the urban fabric) vs. housing-cost- (such as rental

costs and home value in diverse neighborhoods) differentiation, which is largely explained by changes in income segregation patterns.

On the other side of the Atlantic, European literature about segregation is exemplary for its comparative aspirations. Huttman's (1991) early essential comparative analysis contrasts not only the urban change patterns of the USA with those of Western-European processes, but also explores the highly differentiated historical context in which workforce-migration-related segregation set in in West-European countries between the 1950s and 1980s. Around the turn of the century, a systematic review by Musterd and Ostendorf (1998) pointed to a decrease in the validity of established explanatory factors such as economic and social status and household formation in the differentiation of the urban residential population, and to the large variation in contextual determinants and historical factors of spatial changes that lead to cultural divide, which is "further deepened by macro-economic inequality" (van der Westen and Musterd, 1998: 243).

Some years later, Musterd (2005) discussed the enormous richness of newer comparative work. He also illustrated that comparative analysis faces some conceptual and methodological issues given the variety of data resources (including the scales of the units applied in observation, data about nationality/ethnicity, etc.) and research traditions and interests across the European countries. Musterd's (2005) comparative analysis discusses the segregation levels of ethnic groups and social groups. He emphasizes the large variation in segregation patterns, stating that "the differences between cities within Europe seem to be associated with the type of state, city, and group" (Musterd, 2005: 338), pointing to different levels within countries and across ethnic groups. In parallel with ethnic segregation patterns, in the case of the segregation of social-economic groups, he finds comparably low spatial distance, stating that:

> […]the poor are not severely segregated from the rest of the population. Segregation levels are low, which implies the existence of many socially mixed neighborhoods. […] [T]hese findings indicate that in Europe the poor are not detached from the middle classes. In fact, we can conclude that those who have

been able to gain more affluence are much more separated from the rest of the population compared to those who are not affluent. (Musterd, 2005:338-9)

Social housing, transport connections, a lower level of discrimination, assimilation efforts, and, more generally, welfare arrangements seem to be key elements of the emergence of segregation patterns. Musterd is quite explicit in stating the major differences in the explanatory mechanisms between US and European segregation patterns. He identifies:

> […]at least three additional dimensions: (1) the deeply rooted cultural factors, which are associated with language, religion and associated institutions and support systems and discriminatory factors; (2) the historically grown social, ethnic, and economic structures that provide certain paths for development seem to be relevant; and (3) the way the welfare state has been shaped. (Musterd, 2005: 342)

As for the latter, Arbaci's (2007) insights into how welfare systems are interrelated with segregation – especially that of migrants – in Western Europe contributed greatly to advancing the discussions. She challenged the discussion about convergence which at that time had been ongoing for a decade (Kemeny and Lowe, 1998; Pichler-Milanovic, 2001) and the polarization-globalization paradigm (Sassen, 1991) in order to reposition her study of segregation in the realm of the state-market nexus; that is, the welfare regime discourse. She finds that there is a clear clustering of urban segregation patterns of low-income ethnic groups according to welfare regime types:

> Cities characterized by liberal welfare regime score the highest levels of segregation, especially in the city center areas. At the other extreme, cities characterized by a corporatist welfare regime, followed by cities with a Latin-rim regime, score the lowest levels of segregation, and the areas of ethnic overrepresentation are located either in the inner city or in the inner suburbs. Cities within the social-democratic cluster are an intermediate case, with the highest concentrations outside the city center. (Arbaci, 2007:410)

This is a core result as it reframes the role of housing systems of distinct welfare regimes (especially with regard to housing production and promotion, and tenure in

the system) in emerging segregation patterns. Based on an in-depth review of research findings and additional quantitative data analysis of socio-spatial indicators for the 1980s and 1990s, Arbaci (2007) demonstrates that spatial segregation in Europe emerges along two dimensions; namely, housing tenure arrangements, and the institutional variation of production outputs and land supply (including redistributive settings). She considers these components key features for distinguishing housing systems across select welfare regimes. Obviously, land supply and housing construction quantities impact the spatial scale of urban or neighborhood change, along with tenure allocation, which *per se* stratifies population groups in the spatial fabric. Exemplary cases of segregation processes along these dimensions include city centers with gentrification outcomes, along with residualization processes in the social housing sector, and fostering of the private home-ownership sector. The latter is also clearly present in Hungary (Hegedüs et al., 2018). Arbaci (2007) concludes that, in a comparative perspective, spatial arrangements are not representative of social (dis)integration levels, nor vice versa. Moreover,

> […][o]verall, scale of production, land supply and profit regime—structural conditions of housing provision—widely affect and shape the scale of the socio-tenure hierarchy of the city and, consequently, the patterns of ethnic and socio-spatial segregation. (ibid:428)

Subsequent European comparative analysis has broadly incorporated these findings. The works of Maloutas and contributors who looked at the European context and beyond (in a volume edited by the former and Kajita [2012]) show that the contextual diversity of segregation involves welfare and redistribution structures. Segregation seems to be less driven by global structures than local and national frameworks, especially historical developments. The authors also find that ethno-racial diversification is less likely than socioeconomic stratification to drive segregation. The rich are more segregated than the poor, while there is more diversity within cities. State policies remain the main engines of segregation, and their effect is contextual. Last, Maloutas states (2012) that the extreme commodification of housing does not necessarily lead to segregation, and decreasing segregation does not necessarily go hand in hand with decreasing inequality. Both findings broadly conform to those identified by Arbaci (2007 and 2019).

Comparative research in Europe explores also changing segregation patterns by extending the research geographies and combinations of data to North, South, and Central Europe (for example, Skifter Andersen et al., 2016; Musterd et al., 2017, Steinführer et al., 2016). Such research seeks to identify the factors underlying urban change and the differences in emerging spatial patterns. Whereas West European comparative work is interested primarily in "underlying, partially overlapping, structural factors: social inequalities, globalization and economic restructuring, welfare regimes, and housing systems" (ibid:1062), some North-European analytical studies have focused on the recent waves of migration within a Nordic welfare state context with countries that have diverging housing markets to understand the "tenure effect on spatial distribution" of Non-Western immigrants (Skifter Andersen et al., 2016). A recent Central-European analysis of cities in the Czech Republic and Poland finds drivers of segregation in the explored second-tier post-socialist cities such as demographic change and the emergence of specific functions of towns in the network of cities, which have brought about changes in both residents and residences through a set of intermediaries (Haase et al., 2016). Picker (2017) takes a closer look at the segregation of Roma in selected Central, East, and West European cities, concluding that the spatial patterns correspond to ones developed by colonialist urbanism, and that historical resemblances are manifest not only in spatial terms, but also through power relations.

There are ongoing discussions about where segregation processes are leading to in the European context. In opposition to Wacquant (2008) and Arbaci (2007 and 2019), Musterd et al. (2017) hypothesize convergence with developments in the segregation of US cities:

> [...]the more liberal societies become, the higher the levels of segregation will be (perhaps with a time lag). Local contexts may also have an impact, but the examples we referred to have not always been sufficiently strong to neutralize the effects of increasing social inequality and globalization, the move toward more liberal welfare regimes, and the further commodification of housing systems. If these trends continue across Europe, there may be convergence between European and North American cities —which are often used as the

frame of reference—in terms of larger gaps between rich and poor. (Musterd et al., 2017: 1078)

To conclude, in the past century numerous pieces of research have been undertaken in various disciplines to develop a more nuanced understanding of spatial and social stratification, changes to the spatial fabric, and the social impact and determinants of segregation. A historical overview demonstrates that while the research tradition is rooted in the USA, in the 1980s the first comparative analyses brought both methods and research questions to the attention of the European research community. The numerous comparative studies that emerged show not only that some dimensions of the phenomenon are different on different sides of the Atlantic, but also that the driving forces, and hence the development of the analytical frameworks, could and should be based on a more European path (Arbaci, 2019). Moreover, the distinct interventions that are emerging to tackle the impact of segregation require alternative analytical frameworks (Arapoglou and Maloutas, 2019). A reconceptualization of analytical frameworks should thus serve to describe processes within one space and reflect on the "missing link" between causes and results.

4.2   Segregation mechanisms at work

The overview of the theoretical and analytical richness of literature on segregation in the previous section (Section 4.1) served not only to take into account the different trends and developments in theories, but also paved the way for designing an analytical framework which may accommodate all aspects of the first research perspective.

I have stated that there are a range of segregation mechanisms at work at the contextual-level; i.e. the diversity of the historical development of neighborhoods, ethnic marginality and discrimination, segmentation of the housing market, spatial clustering, growing differences, institutions that reinforce inequalities, links with the labor market, and welfare arrangements. Hence, a suitable analytical framework of the processes beyond the household level should integrate these aspects within one structural model.

As a starting point, Skifter Andersen's (2003) analytical framework that was developed for the interpretation of spatial decay processes is employed. This model seems to incorporate most components, while one additional dimension is explicitly added to his analytical framework to address the potential space for the combination of the three layers (household, policy interventions, and welfare regime context).

Skifter Andersen (2003) sees neighborhood decline as a "self-perpetuating process" which is based on "given circumstances" (i.e. local housing market conditions, rent level, physical appearance, and amenities), "observed problems" (i.e. passivity and low engagement among residents, social and behavioral problems, problems connected with immigrants and bad reputation), and "residential changes" (i.e. the difference between the initial composition and that of new residents). He distinguishes two processes of deprivation: 'interior' (all processes in the neighborhood), and 'exterior' (negative influences on the inflow and outflow of people and capital).

More specifically, he explores the interaction within and outside the neighborhood. In terms of the interior process, he lists six distinct conditions which are in interaction, namely:

1 norms for using the area and physical decay;

2 social fragmentation and conflict spirals;

3 increasing insecurity and withdrawal as consequences of crime and conflicts resulting in reduced social cohesion and participation;

4 reduced or deteriorated private and public services;

5 internal stigmatization and reduced self-esteem among residents;

6 external stigmatization leading to difficulties in getting jobs, insurance and bank credits, and social isolation. (ibid:8).

These are the interacting conditions which lead to deterioration, physical decay, and social problems, and which ultimately reinforce the production of a neighborhood's reputation (Permentier et al., 2008) in its interactions within the spatial fabric. Skifter Andersen (2003) states that the relationship of a neighborhood with its environment is signaled through people's movement into and out of it, which is not always a synchronous phenomenon but is also impacted by people's expectations about the future of the neighborhood.

This analytical framework sufficiently explains the changes connected with the composition of residents. In the Hungarian context, the role of out-migration from stigmatized, dilapidating, and insufficiently serviced areas, and downward housing mobility to such areas, are essential factors that also have contributed to the spatial concentration of Roma (see Hegedüs, 2001). Nevertheless, Skifter Andersen's model should be explicitly complemented by the services' institutional (or, to put it more generally, welfare) impact (in Arbaci's [2007] terms). Thus, Skifter Andersen's fourth dimension has to be shifted to the systemic level, and the discrimination component of change should be regrouped into external processes (Boschman et al., 2017). The extension of the model is more pertinent, because in the Hungarian context special weight has to be given to (local) government interventions, as most of the service delivery and policies of spatial relevance for areas with a concentration of vulnerable groups are also driven by these factors (Hegedüs and Teller, 2005), often coupled with institutional discrimination (Dupcsik, 2009; Majtényi and Majtényi, 2012; Ciaian and Kancs, 2018).

Thus, in addition to exploring structural-physical problems, problems with the internal design of housing, the competition-related issues of an area, urban design or spatial problems (poor location, pollution), internal social problems (crime, anti-social behavior), financial problems (arrears, vacancies), management and organizational problems (inadequate maintenance and insufficient resources), and legislative problems, the contextual impacts of wider socio-economic problems on an area can be investigated. Such an analytical model that is developed to explore the contextual level fits well with current European research trends (Decker et al., 2006).

Visual 1. Contextual-level analytical model: components in interaction
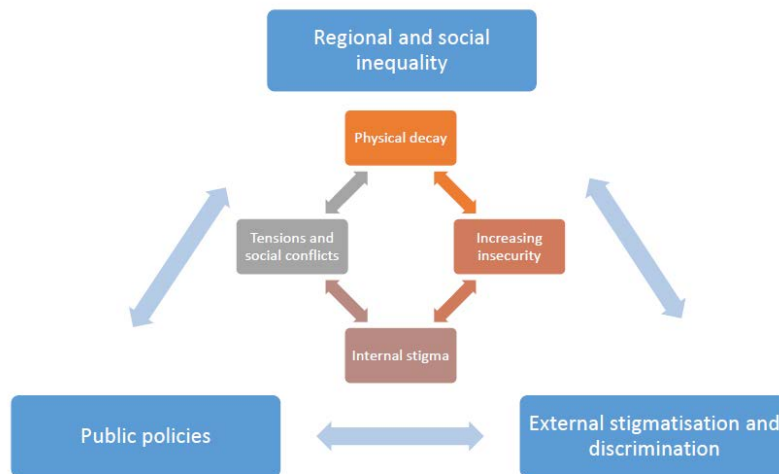
The refined and extended analytical model (Skifter Andersen's [2003] model modified, see Visual 1) contains the following conditions and processes at the *contextual level*:

A – External features:

1 - regional and social inequality (e.g. access to lower-positioned segments of the labor market and other services);

> *The actual social and economic features and conditions of the country/region affect the neighborhood's situation. The regional and sub-regional labor market, institutions and service availability, transportation connections, etc. impact the linkages of people living in the neighborhood with the world beyond.*

2 - public (housing) policies (e.g. those that put the neighborhood at a systemic disadvantage);

> *The neighborhoods are not loose in institutional space, either; local- and national-level policies (for example, urban governance and regional development) have an impact on them, and the power (and financial) relations of the local and central level also affect their*

development. Rolling out of state from these neighborhoods can also have a detrimental effect on internal processes.

3 - external stigmatization and discrimination (in terms of the labor market, education, insurance services and bank credit, etc.).

People living in the neighborhood may be stigmatized and discriminated against, independent of the space where they live; the neighborhood itself is often the locus of the production of stigma, which is reinforced by various institutions. Finding jobs, getting credit, acquiring a place in a good school, or accessing subsidies can be partially hampered by the reputation of the neighborhood where people come from.

B – Internal features:

1 - physical decay;

Neighborhoods' physical features may be worse than those of the surroundings due to under-investment in housing, roads and other facilities, and more frequent damage to equipment in the public space. Often there is a gap between neighborhoods and their surroundings in terms of utility supply and general housing quality.

2 - tensions and social conflict;

The social fragmentation of declining neighborhoods is often linked to conflict among families. Sometimes use of public space, institutions etc. is dominated or controlled by the informal power of one or another group within a neighborhood, causing vulnerabilities, exploitation, and dependence.

3 - increasing insecurity;

Poverty and marginalization often increase criminality. Neighborhoods may also attract illegal activities, due to the lower presence of "state structures" (see "external features"), which at the same time make them more dangerous.

4 - internal stigmatization and reduced self-esteem among residents.

Being attached to an externally stigmatized neighborhood and kinship limits the perceived opportunities of the local population through the

repeated experience of discrimination. The interiorization of this external stigma may reduce the self-esteem and aspirations of local inhabitants and contribute to a reduction in social and cultural capital.

Internal and external processes are interlinked, and reinforcing. For example, public policies may neglect places with lower social capital because their representation of interests is weaker. Therefore, fewer public investments are completed in these neighborhoods, leading to the speeding up of physical decay. Poorer environmental and housing conditions attract more marginalized groups, who may in part rely on informal and illegal activities to sustain their living, hence security declines. With decreasing security, institutions may "red-line" neighborhoods (i.e. they fear they will get no return on loans or services). The withdrawal of institutions creates room for alternative power structures and hierarchies, leading to internal tensions and social conflict. Thus, this downward movement has numerous forms of causation which intersect and combine in a synchronous or consecutive manner, strengthening and reinforcing each other.

4.3 Inequality and housing segregation of Roma in Hungary

In order to explore the first research theme about the contextual mechanisms of segregation, Hungarian empirical evidence about the above-mentioned contextual structural factors are reviewed. Some dimensions can be analyzed based on qualitative data, while for others, rich statistical evidence is available. The empirical evidence about the contextual-level mechanisms is organized within an analytical framework developed based on the review of segregation concepts.

4.3.1 External features

In the Hungarian context, at the contextual level, regional inequalities among the Roma and non-Roma are linked with socio-economic features such as higher and growing levels of unemployment, inactivity, lower education levels, and being enrolled in worse performing schools, inferior housing quality, and worse health conditions and life expectancy. A lot of statistical data and analyses[5] have demonstrated these inequalities (Dupcsik, 2009; Kemény, 2010; Kertesi, 2005a and 2005b; Köllő, 2009; Ladányi-Szelényi, 2004; Virág, 2010).

Based on HCSO Census data,[6] moderate regional dynamics characterize the regional distribution and concentration of Roma between 2001 and 2011 in a period of economic destabilization.

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[5] The quality and consistency of the data, however, is often challenged, as Messing (2014) has shown for a series of representative and non-representative surveys in Hungary and elsewhere.

[6] The Census contains data about self-identified Roma only, which means that there is definitive underreporting compared with expert estimates (see also Messing, 2014).

Map 1. Change in share of Roma population between 2001 and 2011 (%)
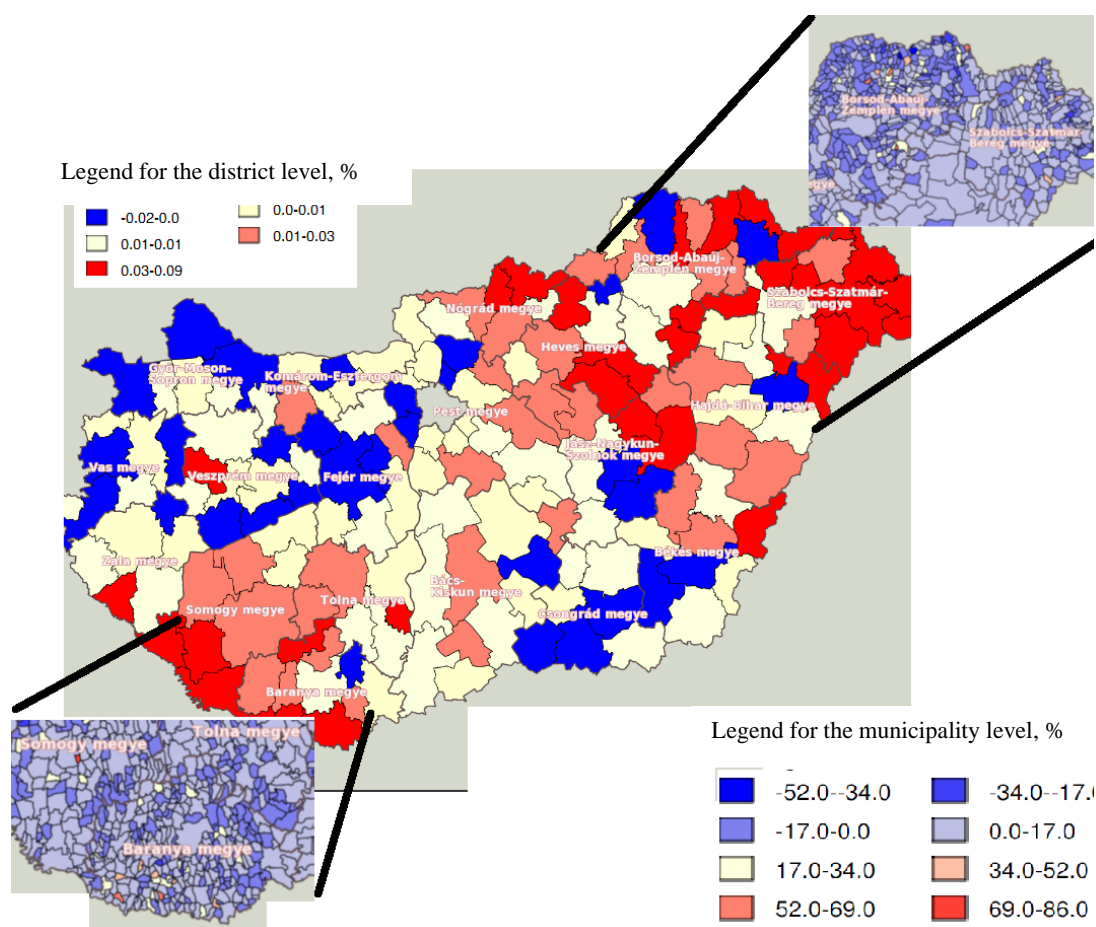
Source: TEIR, Census data 2001 and 2011. Calculated as difference between the proportion of Roma within the total population in 2001 and 2011 at the micro-regional and municipality level. Data retrieved in August 2019.

The map shows that, in most micro-regions in the south-west and the north-east of Hungary, there has been a considerable (up to 9%) nominal increase in the share of Roma population in total, whereas in the north-west and south-east regions statistical data record a decrease. A municipality-level investigation of the census data shows that this growth (or relative concentration) is constrained to a few villages/municipalities, with the rest demonstrating stagnation or a decrease in the Roma population; nonetheless, there is regional concentration[7] in the demographic

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[7] The number of villages and municipalities that witnessed an increase of over 30% between 2001 and 2011 is 24 (from a total of 2247 with any self-identified Roma population in 2011). These 24 villages only partially overlap with those 23 which are fully segregated according to the Hungarian official

changes. To qualify the scale of the social problem, one should note that the south-western counties of Somogy and Baranya account for only a total 10% of all segregated neighborhoods, whereas the three counties of the north-east regions concentrate approximately 40% of all segregated neighborhoods, as illustrated in Map 2. Pásztor et al. (2018) report, based on a systemic review of regional data collection events, that there is increasing white flight and 'succession' of Roma households that is leading to growing ghettoization in the north east of Hungary. Selective migration, connected with economic inequalities, proves to be an important driver of change in the composition of the population (Virág and Váradi, 2014; Kovács, 2015; Virág, 2017).

Map 2. Location of socially segregated neighborhoods in Hungary
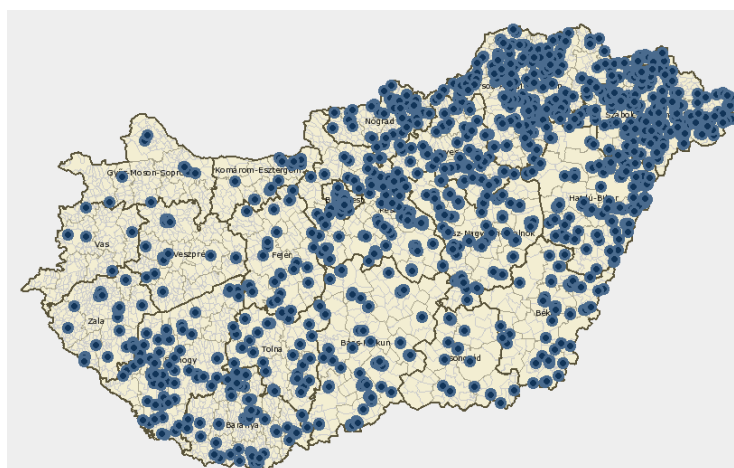
Source: Lechnerközpont, Census data 2011. The segregation index is calculated based on the share of low work intensity households and adults with a low level of finished education as defined by the Govt. Decree 314/2012. Data retrieved in June 2018.

Bernát (2018), in her review about the Roma inclusion progress of the second decade of the 2000s, profoundly sums up the dynamics of social inclusion and exclusion. Relying on EU SILC survey data and the monitoring indicators of the Hungarian National Social Inclusion Strategy (further on, MNTFS II), she shows that despite

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definition of segregated neighborhoods, while in half of them the share of Roma population is more than 75%. In four of the above-mentioned 24 villages (all four located in Baranya county), the census data do not indicate any segregated neighborhoods at all, but in all cases there are high levels of segregation and a decrease in the Roma population occurred between 2001 and 2011 in the closest vicinity to the area, which may be an indication that Roma may have migrated between these villages in the last period.

decreasing poverty and social exclusion, approximately three-quarters of Roma live at risk of poverty and social exclusion, as opposed to only 25% of the non-Roma population. While over two-thirds of Roma were living in income poverty in 2014, this proportion considerably decreased in just three years to below 50%, which situation is connected with improving labor market participation, as shown in the right-hand columns concerning the share of households with low work intensity in Figure 1. Improvements in moderating severe material deprivation are also significant, but the rate of progress is lower than average, with a reduction of approximately 30% for Roma vs. 40% for non-Roma (Bernát, 2018:200).

Figure 1. Social exclusion indicators for Roma and non-Roma (%), (2014-7)
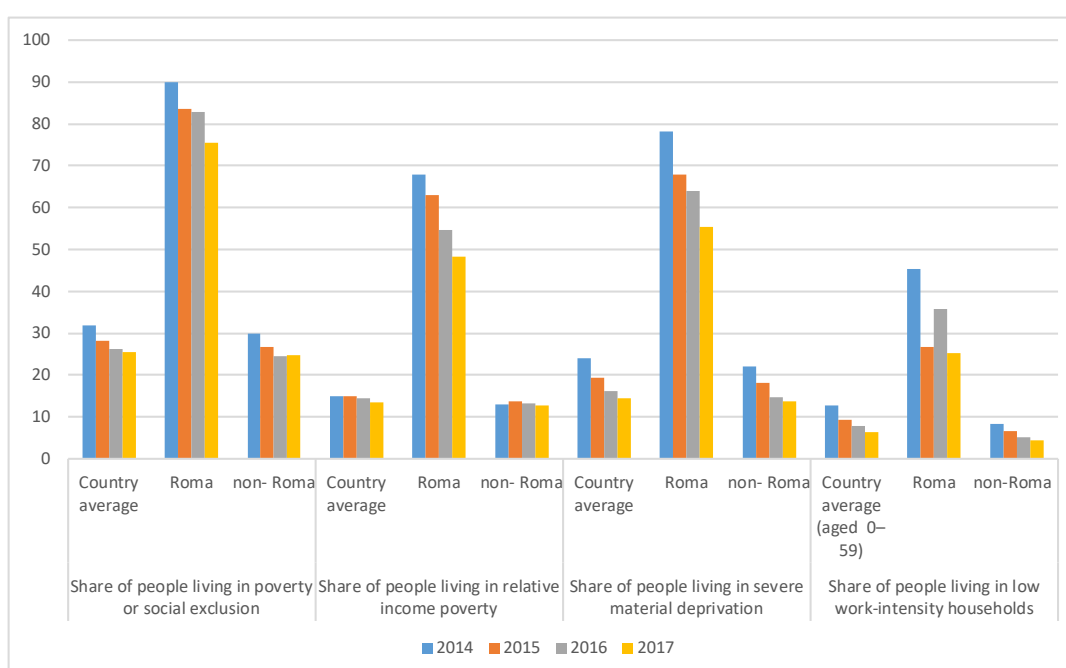
Source: Bernát (2018:200). MNTFSII monitoring data. The indicators were developed according to European Commission methodology.

Figure 2 illuminates the development of the Roma vs. non-Roma gap according to social exclusion indicators. Despite some improvement, the largest gap between Roma and non-Roma still occurs in the job market. Recent in-depth analysis about the components of labor market exclusion show that the distance from the primary labor market is longer, and attachment to formal employment opportunities is scarcer for Roma (Mód, 2011), whereas the barriers they face to improving their positions are often related to regional job markets, a lack of previous job experience, inadequate

education, and care-related responsibilities (Karácsony et al., 2019). Discrimination on the labor market exacerbates the exclusion of the most marginalized (Kertesi, 2005a), whereas in sub-markets with high demand this effect may be slighter. Based on 2016 municipal-level employment data, Koltai et al. (2018) showed that in municipalities with a low share of public employment (which implies that they may be closer to formal job markets), the share of Roma within public employment schemes is less. In places where the composition of the jobs performed by the local population is characterized by a higher share of public employment jobs, the proportion of the local Roma population is as high as 10% [8] (Koltai et al., 2018:164). This figure confirms that entering the public employment scheme has been one of the pathways for improving the share of earnings from work, as approximately 37% of all Roma on the labor market were engaged in public employment schemes in 2017, as opposed to 3.7% of the non-Roma population (HCSO, 2018:9).

To conclude, as Figure 2 shows, the gap regarding labor market participation is around five hundred percent, meaning that the share of Roma households affected by labor market exclusion (measured by the low work intensity of households) is five times that of non-Roma households (i.e. 4.5 vs. 24.2 %).

Figure 2. Gap between Roma and non-Roma according to social inclusion indicators (%) (2014-7)
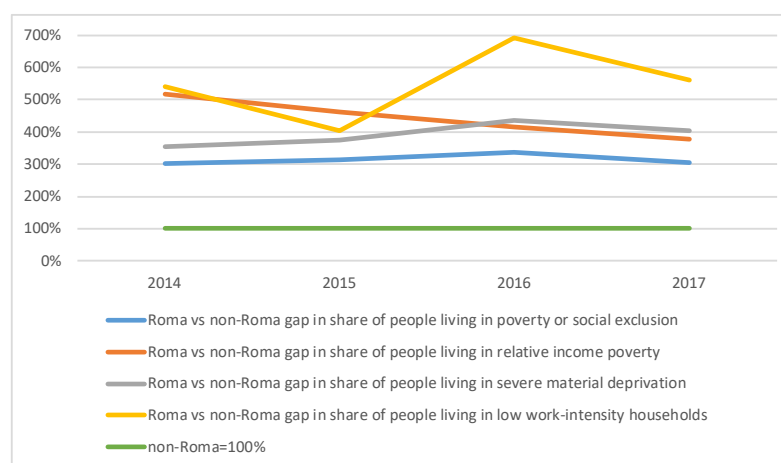
Source: Author's calculation based on Bernát (2018:200). MNTFSII monitoring data.

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[8] Note that the total share of Roma within the population is 3.15% (Census 2011).

Relative income poverty affects proportionately four times as many Roma households. The trend indicates a slowly closing gap, which is linked to the fact that the income level of the general population (and hence, non-Roma) has remained practically unchanged, whereas Roma households' incomes have improved, lifting approximately one third of the affected households out of poverty (Bernát, 2018).

The severe material deprivation gap has not improved in the last few years. Despite some shift in this sub-component of social exclusion, the general gap between Roma and non-Roma has not changed considerably, and there are still proportionately three times more families affected by poverty and social exclusion among Roma compared to non-Roma (Bernát, 2008). The link to the labor market position is strong.

The reasons for the low employment levels of the Roma can be in part be ascribed to a low level of education (or less marketable education) (Kertesi, 2005b). Roma kids are much more likely to fall out of the education system than non-Roma children of the same age. Although Roma children have been constantly catching up in terms of finishing primary school (and thus entering secondary education) compared to the figures of the 1970s, the drop-out rate is higher (Hajdu et al., 2014). Based on a large sample cohort survey that compared the educational outcomes of Roma and non-Roma children born between 1974 and 1991 undertaken in 2012 Hajdu et al. (2014) found "two important trends: in completion of primary education and transferring […] to secondary education considerable *advancement* has been achieved; regarding the chances to graduate [sic] from secondary school and participat[ing] in tertiary education, serious *gaps* [have] emerged compared with the average population" (ibid:271, translation by Teller, italics in original).

The share of early school leavers in the age group 18-24 among Roma even increased between 2014 and 2017 from 57% to 65.3%, whereas among non-Roma it decreased by close to 1% (from 10.3% to 9.4%). The share of NEET (youth not in employment and not in education or training) among Roma is four times the figure for non-Roma (38.2% vs. 9.4%, respectively). (HCSO, 2018:8).

Accordingly, this means that they are in no way better off in terms of the value of completed education than their parents' generation. The reasons for the lower education level include inherited social disadvantages (social, psychological, cultural, and physical conditions at home), and school segregation (Kertesi, 2005b; Kertesi and Kézdi 2009 and 2012). Moreover, the channel that is taken by most of the Roma children in secondary education is vocational school, an option which performs poorly in terms of educational output, meaning that, even if completed, these schools will not serve to facilitate access to stable employment for youngsters (Liskó, 2008). There are few options for re-starting education, especially for children with low educated parents (Kertesi and Kézdi, 2010, Széll and Nagy, 2018). Moreover, a decline in the quality of education is associated with school segregation (Kertesi 2005a; Hörich and Bacskai, 2018). The latter fact is mostly connected with school choice options and systemic changes in the education system, which exacerbate the polarization of school and educational quality (see also Radó, 2011 and Zolnay, 2006 and 2010).

Social inequalities translate into housing inequalities, too. Despite considerable improvements in housing quality[9] in general, the housing situation of the Roma is still significantly worse than that of the average population. In Hungary, 1384 segregated neighborhoods (some inhabited in the majority by Roma) exist, spread over 709 settlements, of which 482 are villages that account for approximately 2.8% of the total population.[10] Table 2 summarizes the evolution of core housing indicators.

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[9] This section is based on a summary prepared for the Ministry of Human Resources in the framework of my housing-desegregation-related consultancy activities between 2016 and 2017.

[10] Data produced based on low work intensity and education attainment using Census 2011 data by HCSO. This figure is extracted from government documents (e.g. https://www.palyazat.gov.hu/efop-241-szegreglt-lethelyzetek-felszmolsa-komplex-programokkal-erfa). HCSO has not published these figures.

Table 2. Selected housing indicators of living conditions in Hungary for the general population and for Roma

	1971 Census	1971 Kemény Roma survey	1991 Census	1993 Kemény Roma survey	2001 Census	2003 Kemény Roma survey	2011 Census	2011 BCE Roma survey[a]
Share of households living in Roma settlements	-	65%	-	13,7%	3%[b]	6%	3%[c] 2.8%[e]	21.8%
Share of households living in segregated neighborhoods	-	65%	-	56%	n.a.	72%		
Share of households living in housing supplied with electricity	n.a.	56%	n.a.	98%	n.a.	98%	n.a.	95%
Share of households living in housing supplied with running water[d]	44%	8%	83%	65%	91%	72%	98%	79%
Share of housing with indoor toilet[d]	27%	3%	74%	49%	85%	51%	94%	68%
Share of households living in adobe housing[d]	n.a.	67%	n.a.	20%	n.a.	19%	6%	n.a.
Share of 1-room apartments[d]	46%	n.a.	16%	33%	11%	28%	9%	18%
Persons per room[d]	1.99	n.a.	1.15	2.27	1.04	2.4	0.81	1.94

n.a= not available [a] BCE survey, 2000 household self-identified Roma sample [b] for cities with population over 20,000, covering approximately 158,000 people, based on a definition of segregated neighborhood (NFGM, 2009) which sums up the total population in areas with over 20-50% (depending on settlement size) of adults not having completed more than eight grades of education and no employment. [c] 2010 survey on segregated neighborhoods (Domokos, 2010) [d] based on figures for occupied dwellings. All Census data rounded, based on nepszamlalas.hu. Kemény and BCE data are cited from Teller (2011).[e] Census data, covering the population of areas in which the number of adults not having completed more than eight grades of education and no employment exceeds 20-50%, depending on the size of the administrative unit.

Data for 2011 (BCE survey) collected among self-identified Roma demonstrate that only four-fifths of Roma households have access to running water, and fewer than 70% have indoor toilets in their homes. Overcrowding is much more prevalent in Roma households, which is in part due to their being housed in dramatically smaller dwellings (18% of all dwellings inhabited by Roma are one-room apartments, as opposed to less than 10% for the general population), and to larger household sizes (for the general population, the figure for persons per room is 0.81, whereas for Roma, it is more than double this [1.94], which resembles the situation of the general population 45 years ago).

Another 2011 dataset (UNDP/EC/WB, 2011) which focused on segregated Roma neighborhoods and (poor) non-Roma living in the vicinity of such neighborhoods concluded that one-third of Roma households in such neighborhoods in Hungary have no access to a public wastewater system, whereas these circumstances apply to only 12% of the poor non-Roma population. Also, more than half of Roma households have

accumulated arrears, mainly with water and electricity utilities. The survey also identified that 3.5 times as many Roma live in run-down homes or in ghettos (29% as opposed to 8%). It was also revealed that 84% of Roma would prefer to live in a mixed neighborhood as opposed to a segregated settlement.

According to data from a 2010 Survey (Domokos, 2010), which was based on data collection by regional professionals, 1633 segregated neighborhoods were inhabited by poor or Roma people in Hungary. Every fourth Hungarian municipality had at least one segregated neighborhood. Accordingly, approximately 280-315 thousand people (3% of the total population of the country) were living in those ghettoes. In 16% of the latter ghettos there was no piped water, while 10% of such neighborhoods could not be accessed via a paved road. Relatively poorer infrastructure supply and housing conditions (two times the density of homes, and weaker infrastructure supply, along with increased segregation) have an impact on the well-being and health[11] of Roma households.

The territorial inequality and the spatial concentration of low-value neighborhoods in the housing sector is also demonstrated in the distribution of housing prices. HCSO 2016 data for second-hand homes indicates a strong regional divide in prices (see Map 3).

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[11] There is a general lack of health-related data disaggregated for ethnic groups. Lower life expectancy (HCSO, 2015) and generally worse physical and health conditions are reported (for an overview see Kovai, 2017a). Data were collected within the BCE 2011 survey, but the analysis of health conditions was limited to questions related to labor market participation (Mód, 2011).

Map 3. Average purchase price of second-hand dwellings (m. HUF) (2016)

Legend:
- 0,4 – 1,8 (278)
- 1,9 – 2,8 (482)
- 2,9 – 3,8 (426)
- 3,9 – 4,8 (283)
- 4,9 – 5,8 (220)
- 5,9 – 9,8 (518)
- 9,9 – 53,5 (380)

Segregated neighbourhoods

The trend in the differentiation of housing prices sped up after 2016 as the housing market recovered (Hegedüs et al., 2018). Times series about second-hand purchase prices show that after stagnation between 2008 and 2013, the average house price increased steadily, from 7.82 million HUF to 12.15 million HUF in 2018. Whereas Budapest prices grew by 215%, average growth was 155%. Given that the gap was already high before the GFC years of 2008, the gap between counties where most segregated neighborhoods are located and the richest regions kept growing – basically in accordance with the economic recovery of these regions.

Figure 3 illustrates the average price of used homes in Borsod-Abaúj, Szabolcs-Szatmár-Bereg, Hajdú-Bihar, Somogy, and Baranya. Two out of the three north-eastern counties face a tremendous and growing gap compared to both the average gap (of approximately 30-40%) and Budapest price levels (around 70%). Hajdú-Bihar county prices are slightly higher compared to the other counties, with levels moderately higher than the national average. Data for the two south-western counties show a slightly smaller difference but a growing gap of around 60% in both cases compared to Budapest prices, and 10-15% in comparison to average prices. These

price differences and their evolution can have a detrimental effect on housing mobility potential in and away from these regions.[12]

Figure 3. Average purchase price of a second-hand home in two SW and three NE counties as a proportion of Budapest and average prices (2003-18) (%)
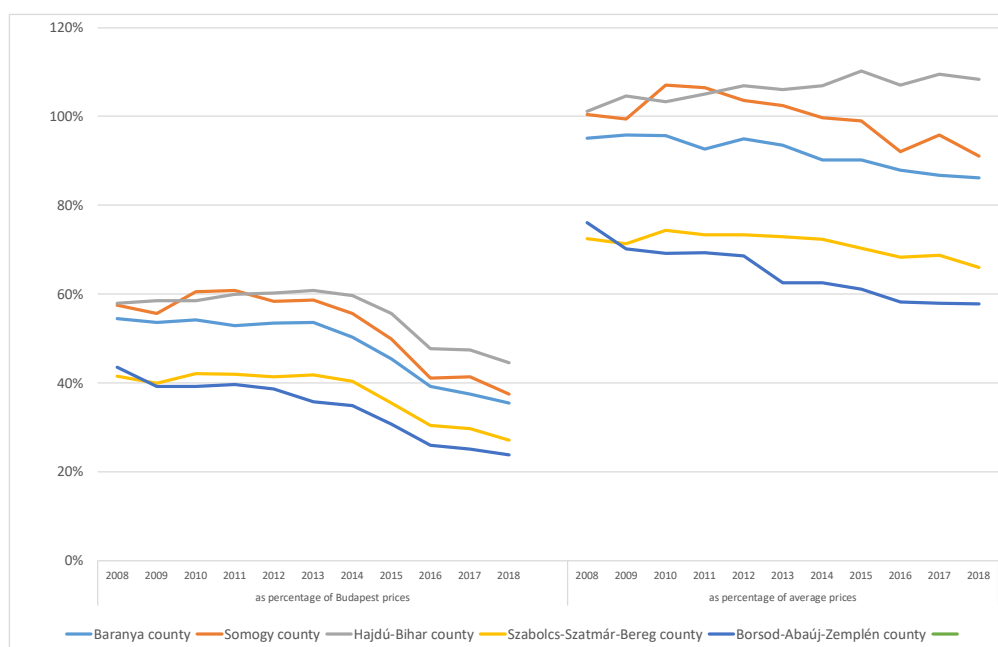
Source: HCSO data, retrieved in August 2019

Whereas these surveys and data collection efforts used different conceptualizations of Roma ethnicity and segregated neighborhoods (see the discussion in Chapter 3.3), they indicate the similarly great gaps in housing conditions of the Roma and in regions populated by a relatively large share of Roma compared to non-Roma or the general population.

Regional inequalities are reinforced by the local governance[13] structure, too (Teller, 2004, Földi, 2006). Beyond the uneven economic opportunities that arose in the immediate after-transition years, social restructuring contributed to increasing territorial disparities as more backward regions that were hit by the effects of the

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[12] The price differences are of significant importance when the transaction costs of moves within the ownership sector are concerned. The difference in rental prices may be less depending on property quality and security.

[13] This section is an updated and slightly shortened excerpt from Teller (2015).

transition inevitably had less success with raising revenue (e.g. due to much lower personal income tax revenue, as they had many unemployed residents), as well as with running services and developing their localities. A couple of years later (by 1994), local "freedom" (both financial and in terms of defining local-level services and developments) had been curtailed significantly, and expenditure on social services and education was severely cut back. Szegváry (2002) has emphasized that this change – that is, under-financing of local governments – gave local governments the momentum to react to the cutbacks by developing revenue generation strategies such as imposing local business taxes and other fees, and spurred them to look for alternative ways of delivering compulsory tasks at a lower cost (for example, by outsourcing activities to for-profit or non-profit organizations). As municipalities' resources via the redistribution system were restructured considerably throughout the past three decades (Urbánné et al., 2013), local governments and their service-providing institutions became genuinely uninterested in attracting or maintaining population groups within their service areas that "cost more" – mostly those populations hit by poverty and exclusion, among them many Roma.

Despite the inefficiencies with tackling exclusion processes, the planning and design of local (spatial) development remained the task of local municipalities, whereas responsibility for service delivery which is crucial in terms of social inclusion has been recently transferred to districts.[14] The process of "rescaling of the state in space" (see Section 4.1) demonstrates how increases and decreases in the presence of the state can occur at the same time. This process is definitive in terms of the governance context of the still ongoing reshaping of spatial inequalities in Hungary.

Through the example of housing policy developments – both at the local and national level – it can be shown how spatial inequalities are reinforced by institutional arrangements: obviously, the availability and concentration of low-cost housing, either in private ownership or as social housing, are key elements of the decline of areas. In the Hungarian case – congruent with processes elsewhere – such decline is also often strongly connected with white flight. White flight has occurred as a reaction to the

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[14] All 175 districts have towns as their district centres. The remaining 153 towns are parts of the districts, irrespective of their size. Budapest, the capital city with 1.7 million inhabitants, is divided into 23 districts. The total number of Hungarian municipalities is 3154.

inflow of poor Roma families into declining neighborhoods (see Pénzes et al., 2018 for a description of the processes in north-east Hungary), often fueled by social housing allocation techniques, housing privatization arrangements, and the urban development policies of municipalities (Kocsis, 2015).

The history of the interplay of these three key elements (social housing allocation techniques, housing privatization arrangements, and the urban development policies of municipalities) goes back as far as before the transition years, but the urban development processes of the early twentieth century and post-World-War-II years often also defined the foundations of later development. The role of out-migration, downward housing mobility, and local rehabilitation policies are factors that have contributed to the spatial concentration of Roma (Hegedüs, 2001). The processes in rural areas have been even more rapid, and started as early as the 1970s (Beluszky and Síkos, 2007, and Virág, 2010). Around 1990, along with general privatization trends, a large share of state-owned housing stock was transferred to municipalities, and housing privatization on a mass scale commenced. From the social housing stock that existed in 1990 (21%), less than 5% was left in public hands by the end of the 1990s. Very little stock was protected from sale, and it was rather the social conditions of the tenants that defined whether the housing could be purchased by the sitting tenants (Hegedüs, 2012; Teller 2009). Public stock was therefore residualized: 44% of households in which the head of the family was an unskilled worker were living in municipal rentals, whereas this share was only 8.4% among white-collar workers (Székely, 2001). Where social housing was concentrated, better-off families moved away, the rest being unable to privatize their homes due to weak financial capacity involving an accumulation of arrears. Municipalities tended to allocate housing in such areas to poorer families, which exacerbated the decline of such neighborhoods (Hegedüs-Teller, 2006). In other cases, if the location of the stock was strategically important because of the rent gap (and thus could be capitalized on in later years; for example, through urban rehabilitation projects), municipalities did not sell the homes to the sitting tenants and waited until the time was ripe for launching the investments.

In the after-transition years, besides public housing allocation, private market mechanisms start to play an increasing role in the widening spatial divide – primarily through the land-allocation practices of municipalities. The first wave of so-called

"szocpol" – a lump-sum housing subsidy for families with children aimed at helping them construct or buy new housing – was used in many Roma segregated neighborhoods and applied to bad quality housing with a low market value. This severely impacted the capacity of families to change for the better in later times, and to maintain decent housing consumption levels (HCSO, 2010). The new "gypsy-streets" which were created through the land allocation policies of local governments (typical cases of the above-mentioned "containment" strategy) became segregated neighborhoods with very dilapidated housing after a short while. Increased lending in the first decade of the 2000s also reached Roma neighborhoods, in part replacing but certainly adding to informal lending practices (Durst, 2015). Field visits reveal that consumer loans and foreign currency loans became accessible in poverty-stricken neighborhoods, too, creating hardship in the aftermath of the great financial crisis. This affected the lowest value market segments too, such as segregated villages (e.g. Tiszabő and Tiszabura). As an indication of this, a National Asset Management Company map about the regional distribution of its clients – who became social tenants instead of being foreclosed on and evicted (Teller and Somogyi, 2018) – overwhelmingly shows cases located in backward regions in 2014 (Koltai, 2014).

With EU accession a new spatial dimension related to urban planning and development was strengthened: in order to foster the competitiveness of the new Member States, dedicated development funding was steered towards enhancing towns and cities based on economic and social development principles. The EU-level document behind this process was the 2007 Leipzig Charter which described the main features of sustainable and inclusive urban development. Consequently, the Hungarian Government (the line ministry responsible for urban development issues) changed the paradigm in urban development in Hungary too, and beyond infrastructure and housing development included a greater complexity of aspects into the planning process. Thus, a supra-local "rule of the game" was imposed which also incorporated a very a strong financial incentive for local governments to think about addressing spatial challenges effectively. Some so-called social rehabilitation initiatives in Hungary that include large-scale funding for investments in downward trending and segregated neighborhoods in towns and rural areas have been co-funded using EU investment funds.

More recently, Hungary has witnessed the repeated phenomenon of poverty suburbanization which first took place in the early 1990s when jobless households downgraded housing and moved to cheaper areas, giving them less chances on the job market and lower service quality. This time, especially in areas with a non-recovering post-transition economy (but also elsewhere after the 2008 great financial crisis), outflow into neighborhoods that serve and are classified as recreational areas and that lack even basic infrastructure supply appears to have involved the poorest of the poor, both from within and from outside the respective towns.[15] In the case that the better-off "occupied" such neighborhoods, they were able to achieve the regularization of their neighborhoods by having them reclassified as residential areas. However, when these areas rather became pockets of poverty, municipalities tended to neglect this process and left these areas as non-residential zones, because this involved no investment- or service delivery obligations on their part (Csanádi-Csizmady, 2002).

To sum up, local governments are key players (even after recentralization was launched in 2013) because most of the service delivery and policies of spatial relevance to areas with a high concentration of vulnerable groups are driven by the former. Nevertheless, different authors may conclude differently when it comes to exploring which element of the local governance system is the most powerful when it comes to fostering segregation. Whilst some deal with the constraints posed by intergovernmental governance settings (for example, Hegedüs and Teller, 2006), others focus on how public players, including the (local) social sector, reproduces vulnerability because of its own institutional interests (for example, Szalai, 2004). However, through rescaling which is the responsibility of the state (by dedicating funding from the large EU budget), local governments have been incentivized to address social exclusion within their administrative areas using a territorial approach, whilst making use of all planning and design competencies they have, and relying on their service delivery capacities. Beyond more promising projects, some initiatives have demonstrated that when service delivery is duplicated in segregated neighborhoods, when project financing ends local governments face difficulties

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[15] Ongoing research by Vígvári, and more by Hegedüs and an associated research team, is investigating the topic. See also https://index.hu/belfold/2018/10/24/zarkertek_agglomeracio_kozeposztaly_szegenyseg/.

maintaining the social-inclusion- and social-work-related activities in the given neighborhoods, thus "diseconomic" solutions may turn out to be problematic in the long term, hence the gap between neighborhoods and towns will prevail. In conclusion, the counter-incentive to serve marginalized groups under the current governance structure has remained strong. Thus, poor Roma neighborhoods are still more of an "outcome of the involuntary spatial segregation of a group that stands in a subordinate political and social relationship to its surrounding society" (Marcuse, 1997:228), as opposed to neighborhoods where ethnic concentration becomes established because of the voluntary spatial concentration of a group which supports the welfare of its members (Clark, 1965; Peach, 1996; Vincze, 2013). Public authorities, within their powers, often contribute to the increase in spatial segregation – for example, via land policies, housing policies, and investment policies in general (UN, 2014).

The detrimental effect of social inequalities and governance disincentives on Roma neighborhoods is further impacted by external stigmatization and discrimination. Such stigmatization and discrimination, drivers of involuntary separation, have been broadly researched and documented in social, political, legal, and institutional fields in Hungary (Ladányi, 2001; Ladányi and Szelényi, 2001a; Majtényi and Majtényi, 2012; Dupcsik, 2009; Neményi and Szalai, 2005; Kóczé et al., 2017; Csepeli and Simon, 2007, Bárány, 2002, Ram and Vermeersch, 2008; Szuhay, 2009; Vidra and Fox, 2014; Kende, 2000; Feischmidt and Szombati, 2014).

Discrimination and stigmatization impacts the concentration of poverty and marginalized ethnic groups through a variety of mechanisms. In housing, allocation policies, management policies, and what Arbaci calls "redistributive" policies (2019) interact. Local housing market features exacerbate the situation. "Selective allocation" (Huttmann, 1991) is the core mechanism leading to long-term impacts for both the contextual and the micro-level. Picker (2017), in his analysis about current Central East European countries' housing policies that affect the Roma, claims there is a (historically colonial) "racial" core of policy design which aims to distance and isolate Roma with the help of select spatial arrangements. These include displacement, omission (of recognition of the ethnic intersection and racialization of the exclusion problem), containment (fencing in select groups or neighborhoods), and cohesion

(labelling the separation of community the result of the desire of its members to be together "of their own will").

Based on a housing-vacancy-chain-based investigation, Hegedüs and Tosics (2003) make an analogy with that of the widely referenced discrimination of black Americans in the USA in the Hungarian context. They state that "authorities are influenced by their judgements and prejudices against Roma to allocate – within some limitations – the worst housing to them" (ibid:12, translation by Teller).

Fieldwork undertaken in the course of 2006-7, 2010, and 2013 that involved describing the locations of urban and rural investment in segregated neighborhoods (see Petrovácz et al., 2010; European Commission/World Bank, 2013, and the annex of field-based projects) revealed that the social housing allocation policies of low-cost housing for income-poor Roma families, both pre- and post-transition, but mainly in post-transition times, were indispensable components of an increase in segregation (e.g. in Budapest, Tatabánya, Miskolc, Kazincbarcika, Salgótarján, Pécs, Nyíregyháza, and Sátoraljaújhely), along with a trend for families to move out from declining areas to moderately priced housing. Discriminative practices at a local level becomes more obvious when, despite scattered social housing options, Roma families are homed in virtually compact neighborhoods only (see also Molnár and Messing [2010]). In the rural context, the topology of the construction of low quality housing (so-called "CS-housing") in the 1960s and construction using the "szocpol" subsidy was key to the emergence of segregation and imminent ghettoization in rural areas (Virág, 2010).

Beyond active policies of discrimination, non-action and a lack of management of neighborhoods can have also detrimental effects. In our comparative analysis of housing exclusion policies that affect the Roma in Hungary, Romania, and Serbia, Berescu et al.(2012) concluded that:

> […][i]ncreased social distance and widespread poverty among the majority population made the Roma stigmatized and perceived as undeserving poor—for whom social expenses are deemed to be a waste of resources, or projects are perceived as a privilege at the expense of the majority. Institutional discrimination becomes evident in prolonging, postponing, or rejecting programs and activities that could improve Roma lives and in the weakness of

the national strategies not accompanied by plans and budgets. […] Moreover, marginalization is (co)produced by municipalities that tolerate illegal construction on public land but are reluctant to deal with it officially, that is, to legalize settlements and integrate them within the broader city framework. (ibid:109)

Controversially, institutional interests may fuel such policies. The existence of welfare services is linked to serving clients, thus, the (re)creation and maintenance of social disadvantages or inequalities may be "part of the game" (Szalai, 2004). Punishing poverty (Szikra, 2018) and criminalizing ethnicity are more recent developments (Virág, 2016). The transmission mechanisms of discrimination and stigmatization, often substantiated through local housing and development policies, prove significant for our analytical model.

4.3.2   Internal features

Skifter Andersen's (2003) analytical model emphasized the role of physical decay in the self-perpetuating process of decline. The worsening of housing quality and the physical conditions of streets and public buildings are symptoms of such decline.

Research in Hungary has found plentiful evidence for physical decay in segregated neighborhoods, which tends to speed up once the resources of the local population for maintaining their environment are exhausted. The best illustrations of "before" and "after" are usually the starting points in interviews conducted during field visits (for a list, see annex). A major body of literature that includes descriptive studies of segregated areas and neighborhoods involving both anthropological and sociological research documents physical decline (e.g. works of Kemény, Ladányi, Virág, and Messing, just to name a few).

Decay in urban areas is regularly connected with planning policies, which becomes obvious during periods of disinvestment and the neglect of maintenance of segregated neighborhoods. For example, Mésztelep (Tatabánya) has declined since it was basically abandoned by its population who used to be employed in a local mine, and social housing was allocated to poor, mainly Roma households (Teller, 2009). The dwellings were never formally equipped with indoor toilets, thus tenants constructed

ad hoc extensions to bring them inside. The neighborhood, which is categorized in the local spatial plan as an industrial zone, has been shrinking in terms of the number of buildings. Dwellings that became empty have been closed down with bricks and concrete by the municipality to prevent squatting. These buildings have often since been torn down and the building materials reused by residents. Local stories are told about people leaving for work and coming back in the evening to half-demolished houses or broken doors, grounding the fear that even occupied dwellings face being demolished.

Another example of continuous physical decay is Lyukóvölgy, which is one of the largest segregated areas in Miskolc. Originally a recreation site, it soon became a refuge for families who needed to reduce housing costs. It used to be served by the infrastructure of a nearby former mine, but after the closure of the industry not only was the water supply in the specified area cut off, but accessibility declined, along with the value of the area as a whole (Teller, 2009). The downward trend sped up when the first contained neighborhoods in the city were abolished and families realized that they could buy small shacks, or squat and find space in empty constructions in the area. Water and sanitation is not available in more remote parts. The original population of Lyukóvölgy grew from an estimated 500 at the beginning of the 2000s to over 3000 by 2019.

A further example of urban decay is represented by a relatively freshly refurbished neighborhood in north-eastern Hungary. In Sátoraljaújhely, the former Roma settlement was heavily affected by floods in 1984, then reconstructed by building basic social housing (row housing) with one or two rooms but no bathroom or indoor toilet. A third of these homes were not privatized after the transition, often because of the unclear tenancy rights, or because the tenants did not want to / did not have the financial means to privatize the dwellings (in 2013, the city owned approximately 600 dwellings, of which 100 were located in the Roma settlement – both south and north of Road 37 which cuts this part of the city into two) (European Commission/World Bank (2013), case study prepared by Nóra Teller).

A historically segregated neighborhood with a complexity of challenges is the so-called Guszev (or Huszár) settlement in Nyíregyháza. This neighborhood is actually a

former military post, built 120 years ago. After the closure of the military site, local nomenclature and police staff were housed here. The horse stalls were converted to "no-comfort" (minimal quality) dwellings, while officers' houses were equipped with water and sanitation. The former casino building was converted into a school, the former canteen into a kindergarten with a nursery school, moreover, an elderly club was opened in the contained neighborhood. Even before the transition, the outflow of higher social status people had occurred, so by the early 1990s Huszár-telep had basically turned into a ghetto. It is also physically segregated: it is bordered by train tracks, an industrial area, and the former fences of the military post. Approximately two-thirds of the housing stock is owned by the municipality (European Commission/World Bank (2013), case study prepared by Nóra Teller).

An example of a neighborhood affected by several waves of decline is the Herbolya settlement in Kazincbarcika. This neighborhood lies in a valley on the outskirts of the city. In Herbolya, approximately half of the population are reported to be Roma, and it is largely a very poor area, housing people with very low or no income, debts, and very little chance of moving elsewhere. Herbolya consists of three parts, all of which used to house miners, which were built approximately 100 to 50 years ago. The lowest quality housing in Herbolya is represented by buildings comprising from four to six homes, all with one or two rooms, with no toilet or bath (but regularly equipped with cooking facilities with no internal water supply). Toilets are located outside. There are some larger homes with small gardens as well, but these are typically not equipped with sanitary facilities. Over 80% of the total of 150 homes are without a water supply and sanitation. Houses are heated with wood and, often, waste. These housing conditions have been present in Herbolya settlement for many decades, as it was originally a miners' settlement with very low-cost housing (and of course, building standards from before WWII were very different). The physical dilapidation of the area has gone through different stages. The houses are damp, especially in the lower parts of the valley, because of the lack of rainwater drainage and the closure of the mine in the early 1990s, which resulted in mine water no longer being channeled away. It was reported that the houses can only be sold on the housing market with great difficulty. Despite upgrading investments around 2010, the service level within the housing units remains very low.

Magdolna, a historically deprived neighborhood in District 8 of the capital, Budapest, showcases how the tremendous gap in housing quality within a central part of Budapest has led to a concentration of poverty and exclusion. Magdolna is in the central part of the capital and houses approximately 12000 inhabitants, a third of whom are reported to be Roma. Most houses in the district were constructed before WWII, and approximately half of the dwellings were maintained in municipal ownership (mostly in buildings where all homes are municipally owned) to create room for later urban rehabilitation investments involving the demolishing of full blocks of houses. This is still one of the most run-down areas in the eighth district, and in the capital city. Urban rehabilitation started in 2005, progressively covering the area. Although this area is well connected with other parts of the district and Budapest due to its central location, it remains a more or less contained area due to the very low quality housing (before the rehabilitation, approximately 60 percent of all dwellings were single rooms), crime, poverty, and unemployment. (Teller, 2009; European Commission/World Bank (2013), case study prepared by Nóra Teller).

As opposed to urban areas hit by the stepwise concentration of poverty which led to decline and segregation, in the rural context physical decay sped up with the after-transition crisis, largely fueled by the flight of an employable labor force. In some cases, pre-transition regional development policies also paved the way for such processes. For example, in 2016 in Tiszabura, a 3000-person village in Szolnok county, located on the very margins with poor transportation connections, there were very high levels of poverty, and three times the unemployment compared with the district average. The village started sliding down the slope due to the regional development regulations of the 1960s when it was put on a list of villages "not to be developed." When the agricultural activities of the state-owned cooperatives stopped, people lost their source of employment, and can now find only temporary and seasonal jobs within the local surroundings. With the increase in housing-related costs (e.g. water), sanitation slowly disappeared from the poorly constructed houses. Even today, the municipality is under central budget control due to indebtedness and its inability to raise revenue. Buildings of former public institutions are empty, gardens are not maintained, and houses seem as if they were vacant, although behind empty or carpet-covered doorways there are sometimes multiple families. The rate of overcrowding is

1.5 times the Hungarian average. Before electricity was reconnected to the streets primarily settled by Roma, the installation of electrical connections (typically by neighbors) was one of the forms of usury loans (Teller, 2017).

Often, physical decline is connected with a lack of infrastructure and informal or illegal housing arrangements. For example, in Öreglak, a village in Somogy County with a population of 1550 people near the Balaton, the segregated neighborhood of Barátihegy is some distance from the core village (by approximately six kilometers). The local population is estimated to be approximately 250 people. A paved road ends in the upper part of the neighborhood, where the segregated kindergarten, a shop, and a bus stop are located. The remaining houses have to be accessed using dirt roads. Infrastructure is lacking completely from the lower parts of the village, except for illegal electricity connections. Those who were able to find a job after agricultural activities stopped were eager to move out from the remote area. Nowadays, dilapidated and small illegal or informal houses make up a large proportion of the neighborhood (field visit in 2018).

A further internal feature discussed in the analytical framework is tension and conflict within segregated neighborhoods. This feature seems to be less the focus of analytical work in the Hungarian-Roma-segregated-neighborhood-related literature compared with the relationships between segregated and non-segregated neighborhood communities (i.e. Roma and non-Roma). Nevertheless, there is evidence about how internal relationships are structured, and conflicts emerge. One pioneering piece of work is Stewart's ethnographic fieldwork from the middle of the 1980s in Hungary (Stewart, 1997). He describes "brotherly egalitarianism" (ibid:56) as the main structuring relationship, which is constructed and reconstructed constantly within the community. The reaffirmation of belonging to the community through shared identity, customs, and "romanes" norms has a binding effect (ibid:93). Internal conflicts are resolved by disputes organized by men of equality (through so-called "kris" – a kind of informal justice process). Stewart's analysis of how the differentiation between Roma and non-Roma is constitutive has been termed "romanticizing" (see for example Ladányi and Szelényi [2001a]), but in many ways it has been affirmed by social workers' reports about how the communities work, especially regarding how lines of division are created according to self-imposed norms.

Within communities, exploitation and strong ties that seem to reinforce dependent relationships are often reported (Tábori, 2009). Conflicts may emerge according to family and kinship boundaries (Kovai, 2017a), due to ethnic affiliation, and according to perceived levels of embeddedness in the community; that is, newcomers versus the established population (Váradi and Virág, 2014).

The contribution of such tensions to processes of decline – through the eyes of social workers – is mainly connected with the neglect of shared space and how physical conditions deteriorate. Dump, destruction, and deterioration are three phenomena that often occur in combination. The mitigation of internal conflicts is reported to be a prerequisite for any development work (including working with children, and upgrading the quality of public spaces).

Beyond the previously discussed features, deviance and criminality are considered core features of neighborhoods in which alternative social structuring is at play (Venkatesh, 2007). Wacquant talks about the "depacification of daily life" and disintegration of public space, accompanied by the withdrawal of the state which downgrades its presence and services (but increases its "surveillance and repressive presence," and "economic informalisation" [Wacquant, 1997: 345]).

In the Hungarian context, connecting criminality and Roma neighborhoods – that is, ethnicizing criminal practices – is linked with far-right discourses and media representations, often fueled by hate speech, and has been prevalent since the 1980s, with peaks after the transition and the period of the great financial crisis (Dupcsik, 2009; Csepeli and Simon, 2004; Bernáth and Messing, 2013; Vidra and Fox, 2014). Statistical evidence, however, challenges the overrepresentation of criminal activities according to ethnicity, and finds that levels of economic development and marginalization are the main factors in the distribution of criminal activities (Kerezsi and Gosztonyi, 2014).

Field interviews often report about destabilized communities, with many young adults having issues with the juridical system, which factor in extreme cases may constitute a significant component of the internal hierarchy of the community (e.g. in Lyukó, reportedly, not having spent at least some nights at the police station, or in pre-trial detention, may reduce the status of young males in the social hierarchy) or are at least

a given condition one has to accommodate. Petty crime and misdemeanor-related fines are "paid" to the state through spending days in incarceration (e.g. for driving without a license). Stealing within the community is a signal of the decomposition of solidarity.

Usury, drug addiction and prostitution are also often reported, but remain a severely under-researched and documented phenomena related to deviance and criminality.[16]

The analytical model's last dimension concerning the internal mechanisms behind decline is connected with the social distance perceived by residents. Peach (1996) finds that a segregated population effectively internalizes a "politics of separation" (ibid:391). Staff working in the field often refer to the "lacking behavioral patterns" of children, which can be largely ascribed to their parents' perceived position in society, lack of information, isolation, and the life path they think should follow, including demographic patterns like early marriage and childbearing as a means of becoming independent adults (Durst, 2006).

Self-esteem is established through interaction. In settings where two communities can serve as referential groups, integration, marginalization or assimilation vs. separation (in terms of internalizing one's own social group's norms) are the choices that are available (Pálos, 2010). Neményi (2012) describes this situation as follows in the case of school-age children who grow up in a segregated environment:

> People of ethnic minority who suffer the same fate strengthen their commitment to their community – at the expense that their ethnic identity becomes more decisive compared to other components of their identity. Whether, from the perspective of the individual, attachment to their own group leads to self-hatred, or, in given cases confrontations, open aggression with the majority, is not only a personal question, but also depends on the public

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[16] These factors are often mentioned in broader summaries as components of the struggles of such communities (see Durst, 2015; Virág, 2010; Váradi and Virág, 2014, Pásztor and Pénzes, 2017, Virág, 2017). Numerous press summaries can be read about this topic, such as: https://m.magyarnarancs.hu/kismagyarorszag/prostitucio-drog-rabszolgak-megis-nelkulozhetetlen-az-uzsora-90040/ and https://444.hu/2018/11/16/van-aki-a-gyereket-kuldi-be-dizajnerdrogert-a-diler-hazaba-danyon.

sentiment which surrounds Roma in contemporary Hungary. (ibid:50, translation by Teller)

When interactions are overwhelmingly stereotype-based and subjugating based on "power differentials" (Powel, 2008) and discrimination, separation emerges in a straightforward way (Stewart, 1997). Social inequality and poverty contribute to lowered self-esteem, combined with defeatism (Nyírő and Durst, 2012). Community development interventions, therefore, often focus on expanding the pool of skills to foster more equal forms of communication with authorities and other professionals, and hence extending formal networks outside the closed Roma community (Farkas, 2014). The prevalence of loose and fragmented communities feeds back into other mechanisms of internal decline.

4.4   Revisiting the first perspective

In this section I have reviewed theoretical and empirical resources in order to develop and validate the relevance of an analytical framework of segregation at the contextual level. Starting from a careful historical overview of segregation theories in Section 4.1, and the progress of the urban development context, I extended Skifter Anderson's (2003) urban decline model to accommodate the components of the first perspective. This analytical model is described in detail in Section 4.2 and divides the contextual-level mechanisms into two groups in order to differentiate between external and internal processes linked to decay and segregation.

It was considered important to refine the model in order to make sure that the governance- and policy-structure-related mechanisms are awarded the relevant position in the process of decline. Moreover, it is important to emphasize that the processes within and outside such neighborhoods are closely linked; they combine, interact, fortify each other, and, most notably, they operate in their complexity.

In Section 4.3 I followed up the conceptual differentiation between internal and external neighborhood-related contextual mechanisms. Based on empirical evidence, I summed up external features such as regional and social inequality (poverty and

employment, education, and housing), the governance issues that impact spatial change, and external stigmatization and discrimination. I also focused on internal features in order to provide evidence of physical decay, tensions and conflicts, increasing insecurity, and internal stigmatization and self-esteem. Throughout these sections, the intersections of these phenomena were highlighted.

Based on the review and empirical evidence, it can be stated that, due to their historical development, urban and rural segregated neighborhoods in Hungary play a special role in the housing pathways of Roma through a number of contextual mechanisms. The social inequalities of Roma go hand in hand with the spatial distance and segmentation of the housing market. There are drivers of contextual-level conditions which foster the growth and conservation of segregated neighborhoods, reinforcing the growing inequality between segregated neighborhoods and other housing market segments, which manifest at the institutional level in the current Hungarian context. One group of contextual-level drivers is external to the segregated neighborhoods as a locus of action (i.e. regional inequality, planning policies, and discrimination), whereas the other group manifests within the neighborhood (i.e. physical decay, tensions and conflicts, increasing insecurity and internal stigmatization).

The analysis has demonstrated that these contextual-level mechanisms are at play in the Hungarian context in segregated Roma neighborhoods. They sufficiently explain at the contextual level how such neighborhoods have emerged historically and keep on being (re)produced in their current social context. External processes and internal processes are interlinked, and they are *complementary*, meaning that they reinforce each other. The processes may be at different stages of development in different neighborhoods, with factors at variable levels of dominance.

5 Second perspective: Housing choice and adjustment

We call the second layer of mechanisms that operate to create and recreate segregation the "household or "individual" level, which are in this discussion termed "micro-level" factors. Schelling's (1969) influential segregation model defined the micro-level as a sufficient engine of separation. He decomposed segregation into individual decisions, and described how constrained individual decisions lead to collective results that are "independent" of individual intentions. The Schelling model demonstrates that, based on a varying set of preferences, outcomes in a constrained space vary accordingly. He provides evidence that the level of tolerance of actors (compare this with "preferences for one's own group") can result in segregation patterns by itself.

Bruch and Mare (2009)[17] refine the model by assigning social positions (the inequality of ethnic groups) and social distance (discrimination) to acting people. They classify segregated neighborhoods as "enduring" groups that are formed in a segregation process. One of their core statements is that "[s]egregation is created and maintained through the interdependent actions of individuals" (ibid.: 272).

Starting from here, the focus of the investigation related to the second layer is whether the pathways available in the constrained housing market segments are distinguishable from mainstream housing careers. We shall search for differences linked to diverging adjustment patterns compared with those of the general population. In order to create a more nuanced picture, we decompose household-level adjustments into two layers: individual life-cycle-related housing decisions, and adjustment to contextual-level conditions. In this framework, individual housing decisions and household strategies are impacted by their own social networks and kinship, local housing allocation policies, labor market, accessibility, welfare and other service delivery design, discrimination, and general housing policy directions.

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[17] Some challenges to Bruch and Mare's model by have been uncovered, e.g. by de Rijt et al. (2009), but for the framing of my research question the model seems to be robust enough.

I emphasize the embedded nature of the decision making and adjustment strategies within a context that is essentially linked to the contextual level, which corresponds to how the linkage and intersection of demand and supply emerges.

Similarly to the structure of Section 4, in the following sub-chapters I examine the standpoints of housing mobility and adjustment theories about how housing mobility patterns emerge, then look for empirical evidence in the Hungarian context. Based on the findings, I revisit the above statements.

5.1 Background: Housing mobility and adjustment theories

Urban change and housing mobility are related phenomena, thus the roots of the conceptualization of housing mobility originate in the same theoretical school as urban change. Considerable parts of Chapter 4.1 report about the evolution of this framework, with reflections on how successive theories have complemented and changed the approach. For example, housing mobility "pathways," as formulated by David Clapham (2005), complemented with the vacancy chain framework can increase understanding of the meaning of a home as a financial strategy, investment strategy, or a last resort in a household's life course within a more contextualized framework that takes into account changes in the housing market, or, in a given case, the position of a whole neighborhood.

In Short's (1978) summary, the development of housing mobility theories can be dated back to the Chicago school, most prominently to Burgess' concept of "invasion," which essentially connects the people who make housing-related decisions and move to particular areas in the urban fabric. Hoyt's filtering theory adds to this perspective by connecting individual housing choices in the form of chains. This framework makes it easier to understand both gentrification and the phenomenon of blow-out, as it deals with the changing housing positions of neighborhoods which emerge through a range of housing-market-related transactions. Such changes are "variations on the theme of social and income classes, their differential access to housing and the resultant mobility patterns" (Short, 1978:426). White's (1971) vacancy chain approach comes from this analytical discipline.

Another research framework has a dedicated focus on actual households on the move. The life-cycle model claims that housing adjustment is generated by family composition. Rossi's essential work, which dates back to 1955, is often referred to as the starting point (Short, 1978).[18] Rossi found that households who move experience a change in their household structure. Their needs change, thus they have to look for other dwellings that are available on the market. As this theory paved the way for research by generations of housing mobility researchers into market behavior, and was extended with other modes of operation, this school seems to be the most influential with regard to later research.

A fourth strand of modelling housing mobility is related to the trade-off model. In his historical overview, Short (1978) states that this approach created the opportunity to go beyond demography-related explanatory framings and include the trade-off relationship between proximity of workplace vs. travel efforts. However, given the urban development processes and patterns of suburbanization in the USA, especially of US middle-class homeowners, the model remains supported by limited evidence.

The digressing models show that research soon came to prove that housing mobility covers a complexity of motives and actions, and its interpretation through varying spatial arrangements makes developing an "ultimate" model very difficult, if not impossible. Based on a more dynamic approach to connecting mobility and the evolving city, economic cycles were included in the analytical models to show how economic upswings bring about diverse residential mobility patterns. In the US context, Short (1978) sums up findings related to a selection of the differential mobility rates of the lower-income class, and claims that, importantly, the analysis of major historical and social changes has been made possible within this economic analysis framework.

At the end of the 1960s a parallel approach emerged; namely, the individual was again placed at the heart of the analysis with the rediscovery of the role of individual

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[18] In an even earlier piece of writing by Riemer (1943) from a supply side perspective, this message appears as follows: "Housing needs are variable with regard to demographic, social and psychological characteristics of the individual family. (a) The family cycle. The composition of the family is a fundamental determinant of housing needs" (ibid.: 276) Furthermore, "social status," "personal traits," and "patterns of dominance," within the family determine what housing needs architects should pay attention to.

attributes, which is seen as the explanation for housing mobility. Residential mobility was termed "a selective process," and age was found to be the most important factor, qualified by emotions, wealth accumulation, the physical features of housing stock, etc. The model, however, was criticized for discussing only voluntary moves, and for omitting power relations and segregation. US research from those years shows that as the housing market is segmented and creates spatial differences, some social groups tend to show diverging patterns or so-called "migration channels" (which denominate the same or similar "origin and destination areas" [ibid: 433]). This framework seemed to be useful for accommodating constraints and choice into explanations, starting with the mismatch between needs and conditions (Clark, 2012).

Short (1978) identified a fifth area of analytical work which puts spatial units under the lens and explores the turnover of the population within such geographical areas. Obviously, the roots of this approach are in urban ecology theory, but the shift from there to the data-supported mobility patterns of groups that come and go from these spatial units brought a new dimension to the research. The interesting question was thus not only "who moves?" but also "who stays?" Physical feature, tenancies, and negative externalities such as the bad reputation of neighborhoods were deemed relevant causal factors according to this analytical framework.

However, another paradigm is broadly used in housing mobility research. The analysis of the behavior of households in the progress of decision-making shows that there is a multitude of aspects (some can be classified into clusters) which create distinct patterns of housing decisions: for example, is it some forms of consumption, community, the proximity of family, job location, etc. which are the key drivers for changing/not changing housing? In the course of the decision-making process, households evaluate their potential options, then conduct a search, and then, in a third step, make a choice. As Short (1978) shows, research identifies a bundle of relevant factors at each decision-making stage. For example, during the phase when the decision to change is made, costs, dwelling characteristics, location, quality of the environment, and the social status of neighborhoods are taken into consideration. The second phase – search activity – is impacted by only partial knowledge of the market, and, more importantly, by the "awareness space" of households. This means that places they know and visit often, and where their activities are located, may be preferred to other places. The

choice to change – the third step – happens through a decision by which a move may or may not happen. This can lead to staying in a dwelling, or remaining, or, in other terms: evolving dissatisfaction or satisfaction. Some twenty years later, Littlewood and Munro (1997) added even more evidence about the complexity of choice to this framework, explaining why the analysis of the actual choice becomes rather complex: the former explored the activities of home-buyers who adjusted their condition by making stepwise improvements while staying in the same place. Thereby, they showed that moving and improving are in no way "discrete" or "alternative" means of achieving equilibrium.

In the 1970s, with evolving micro-level data collection, growing methodological richness contributed to the creation of a new analytical school. As noted some paragraphs above, grounded on Hoyt's filtering theory the groundbreaking publication of White (1971) offered a new framework for better understanding how housing mobility works, and how various housing moves follow each other. Vacancy chain research, thus, deals not only with households on the move, but also with the position of those homes that become vacant because people move out from them, or die. These homes can be either demolished, or occupied by other people who move in. The "next" item in the chain of this cycle involves the former homes of those who have just moved to another one, etc. In this sense, vacancy chain analysis is a useful tool not only for exploring how people change their positions within the housing market, but also how the positions of (vacated) homes change over time. Obviously, micro- and macro-factors can equally form the object of analysis. This discussion became established when debates about housing policy outcomes were peaking on the US housing policy agenda and involved whether, to what extent, and how housing subsidies "filtrate" down to lower social strata, or remain ineffective (Kristof, 1965). With the help of such analysis, the effects of real estate investments in general within a delimited geographical area could also be illuminated. One benefit of the vacancy chain frame is that it makes it possible to explore the links among housing sub-markets, while linking the changes to housing pathways (Ferrari, 2011).

Analytical work also often deals with adjustment strategies in other life domains such as consumption and job market behavior that is engaged in sustaining housing consumption, status, or becoming mobile in the housing market. For example,

Pickvance and Pickvance's (1994) interest was attracted to "trade-offs between aspirations and the acceptance of sacrifice or dependency" (ibid:657). "Sacrifice" is used in this context as the adjustment of other forms or levels of consumption, while "dependency" refers to help requested and received from family and kinship. They find that there is an "unconscious" component to adjustment which is culturally transmitted, too (for example, the postponing of childbirth in higher-class households compared to lower-class ones).

Visual 2. Analytical frameworks of housing mobility
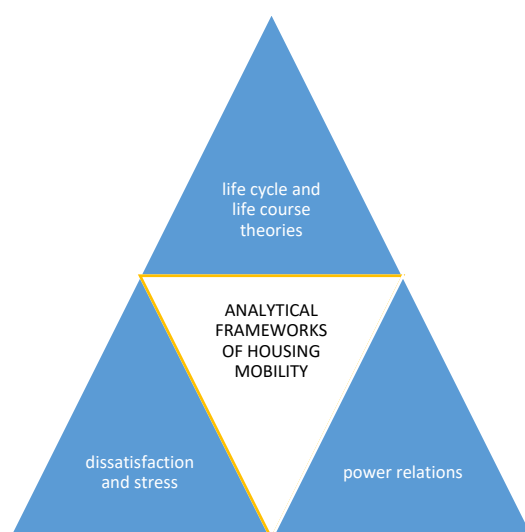
Source: Basolo and Yerena (2016), author's editing

To sum up, mapping of the analytical frameworks of housing mobility shows three major strands in terms of what makes people change their housing (Basolo and Yerena, 2016). One group of explanatory frameworks is closely linked with population studies. Life-cycle and life-course-related mechanisms belong to this group. The second cluster connects housing change with dissatisfaction and stress. Such analyses are grounded in individual preferences, which, inevitably, are also linked with life events, and changes in household composition. Families look for the preferred quality, size, and neighborhoods with services and safety, including proximity of family and work. The variables most often used in life-cycle models are hence incorporated into the second group's analytical framework as well. The third area of research puts power relations at the center of analysis by incorporating whether moves and stays are voluntary.

Basolo and Yerena (2016) also find that ethnic-group-specific mobility patterns and research on specific national contexts can also be a clustering principle of analytical work.

From our perspective, a more recent strand of analysis is also relevant. This framework, life course analysis, focuses on a combination of various layers of equilibrium and life events in households' housing mobility. Life course analysis goes beyond life cycle analysis (Clark, 2012), because it extends the life cycle model to the impact of parallel trajectories on the housing situation and choices of households. It is based on a disequilibrium – or mismatch – approach and follows the paths of families in terms of four different trajectories (age, household structure, job or occupational career, and housing career). In this way, the interplay of a multiple set of variables can be explored to understand the "correlates of mobility."

Clark (2012) shows the multitude of quantitative research that has been produced based on this analytical framework which uses a variety of statistical methods. For example, triggers for moves are tested using logit functions; discrete choice modelling was used to appraise the importance of room stress in the USA; the multiple classification approach was able to demonstrate that owners behave differently. Clark also identifies simulations and automated models that deal with the mobility process in selected housing markets, mainly in the USA.

Coming from a European research tradition, van Ham (2012) finds the behavioral approach to be influential. This claims that housing behavior is not equal to housing choice, but involves "real choice" which drives housing mobility. Starting from the concept that housing is a "composite good" involving a bundle of characteristics, van Ham claims that the mountain of research done so far to understand the behavior of households can be classified according to a series of components of causality that were found to be most relevant in analysis, such as life events, labor career, family status, tenure choice, upward or downward mobility, and distance mobility. He also notes that talking about actual mobility and planned mobility (that is, "stated" vs. "revealed" preferences [ibid: 49]) also helps uncover whether an actual dwelling was the optimum for the given household, which may face housing market constraints. In a more recent piece of research, Boschman et al.(2017) conclude that analyzing the difference

between the two kinds of housing decisions (planned vs. implemented) is enlightening when trying to understand the motivation for moving, for example away from neighborhoods with a certain population concentration:

> The finding in earlier research that ethnic minorities are less likely to leave ethnic minority concentration neighborhoods is thus most likely explained by the fact they are less likely to *want to leave* these neighborhoods. (ibid:509, italics in the original)

Clark (2017) adds that an analysis of "stays and stayers," which is difficult to measure, is crucial to understanding the dimensions of attachment and duration in housing mobility behavior. He finds that risk aversion and developments in the market such as price increases can also postpone or change decisions. He suggests that research which reflects on the "social efficacy" (ibid:584) of neighborhoods proves useful in understanding housing choices in terms of preferences for one's neighborhood:

> By introducing social efficacy (the notion that community involvement, social networks and friendship ties are important elements of neighborhood quality), the research agenda goes beyond the physical characteristics and the individual family characteristics to the way in which social cohesion and shared values and expectations play a role in creating prosperous and sustainable communities. (ibid:589)

However, in the case of deprived neighborhoods, attachment can have adverse effects. If segregated neighborhoods work as traps, moving out from such places is a prerequisite for social mobility, as shown in the Hungarian urban rehabilitation context of the 1990s (Egedy, 2005).

In terms of adjustment, the emerging lack of security and new patterns of reciprocity are crucial to comprehending household patterns of adaption, for example, to changes in their social circumstances (Round and Williams 2010). Coping strategies and the adjustment tools of households are in part discussed in behavioral housing mobility literature, as discussed further above.

Some causal aspects of housing mobility have generated more interest, such as changes to household composition and room needs, along with a few other triggers like income and jobs. Nevertheless, a vast range of analysis deals with the processes and drivers of adjustment to new neighborhoods, often in connection with ethnic minority groups' spatial mobility (i.e. moving) to majority urban neighborhoods. Morris and Winter (1975) claim that adjustment is a response to normative expectations, be these within the family or society or in relation to reference groups (they refer to this as "cultural" norms). Building on previous research, they find that:

> The combination of factors – the [sic] norms, the [sic] current housing conditions, and the constraints – combine to produce family preferences. Preferences are the immediate frame of mind at the time that a decision is imminent, and thus involve compromises of the [sic] norms in light of the [sic] constraints. There are two kinds of preferences, those for a specific type of housing adjustment behavior and those for a particular type of resultant housing. (ibid:83).

Housing structure, quality and neighborhood preferences are, in their interpretation, embedded in norms.

In the European context, research dedicates special attention to adjustment to housing market volatility and during the course of the migration of ethnic groups from North Africa and the Near East. In relation to the first, an exemplary case is Forrest and Kennett's (1996) investigation of the post-housing-market depression in the 1990s in the UK. They find that, despite objective hardship which forced households to downgrade or shift tenure, preferences for home ownership remained unaffected, and coping with instability as it occurred in the lives of families seemed to have been in some cases "post-hoc" rationalized. Based on qualitative analysis, they show that housing adjustment as a choice is a complex matter:

> Inevitably, some strategies are more conscious than others. Some households may have a clear, premeditated housing "plan" which is adjusted as external or household circumstances change. For others the strategy is a series of ad hoc responses to difficulties with no evident goal other than to maintain their current housing status. Housing is, however, a central component in people's

"lives" and for most households the maintenance of housing status and security is a key priority. [...] Coping strategies are specific and usually short-term adaptations to contingencies, with little reference to longer-term plans. The implication is that negative equity is requiring many households to make such short-term adaptations and such measures may be distorting normal housing career trajectories. (ibid: 373)

Regarding the diversity of coping strategies, Munro and Madigan (1998) come to a similar finding. They consider coping rather as a set of responses. The also conclude that if the same responses are applied by others, certain patterns emerge, thus other actors ultimately come to "assume that this is effective, appropriate or even socially sanctioned behavior" (ibid: 719). In short, a micro-level ad hoc decision is valued as a form of strategic coping by others in similar circumstances, and, as it spreads, social and normative patterns may evolve – especially within a neighborhood.

The second topic which often seems to be discussed in the European context is how living in new places impacts adjustment resources or the social capital of households. Dhalmann (2013:400) finds that "[l]iving in mixed neighborhoods forced them [the immigrants] to weaken their ties," and to find the balance between obligations towards close-tie kinship and other newly attained resources. In a broadly individualistic society where other sources (welfare) replace kinship-based social capital, this leads to alternative behavioral patterns. Greenfields (2010) reports that Roma and Traveler communities in the UK go through "collective adaptation" when they settle, meaning that while they move from halting sites to regular housing (new housing contexts), their adjustment is accomplished through a "culture of survival."

Referring back to the concept of housing as a "bundle" (van Ham, 2012), Dieleman and Clark (2017) observe adjustment patterns in a housing market with relatively discreet housing submarkets. This finding is based on the claim that household types behave differently in the housing hierarchy. The authors incorporate income, age, household size, and housing policy factors as triggers for household adjustment to their life cycle periods.

This relinks us with further aspects of an adaptation framework. According to Arbaci (2007 and 2019), there are elements of welfare arrangements that may constrain

individual households in a given social exclusion context. In the post-socialist context, for example, a lack of (or weak) family ties – in Central East Europe and South Europe alike – may have different impacts compared to those on social-democratic countries' welfare systems, where state services may cover resource gaps more effectively. This claim accords with what Hegedüs (2001) finds in the post-transition Hungarian context, where regional mobility seems to be used as a tool for downsizing in a 'super home-ownership' housing system "for households that have not been able to adjust household consumption to within their budgetary constraints" (Hegedüs, 2010). Social capital (Bourdieu 1985) is a crucial resource for maneuvering while coping with constraints. The question is where this capital accumulates: within or outside the segregated neighborhood (or within nested neighborhoods, as discussed in the neighborhood effect literature, e.g. by Galster [2008]).

Families may find alternatives to tapping into the resources offered within or outside their neighborhood, which is often equivalent to within or outside their kinship relations (Stewart, 2007), and strive to replace one resource with another. Reciprocity seems to be crucial to comprehending households' coping patterns. Round and Williams (2010) find in the post-soviet context that coping strategies function through a "network of favours" (ibid.188) given the lack of other resources. In this process, some employ their powers ("strategy"), whereas others have adaptation "tactics" which do not tap into unequal relations. Pavlovskaya (2004) goes further and appends that the system change led to a bundle of responses – she terms these "other transitions" – by urban households that help them make their way through hardship via engagement in multiple economies.

To sum up, adjustment or coping-strategy-related analytical frameworks differ not only according to *where* they analyze households (i.e. in their new position which is the result of the adjustment, or before the adjustment-related step is undertaken in a complex decision-making process). Some analyses focus on differences in the distinct patterns of social classes or ethnicities, whereas others look for commonalities. They are also diverse in terms of the triggers they examine. The social networks of households seem to be substantial in most of the analytical work, given that they constitute the environment of the households; nonetheless, some authors ascribe different meanings to these: for example, defining consumption-related norms,

sanctioning adjustment patterns, serving as a resource, and tapping into the unequal social positions of given households.

In the next section, a life-course based analytical model is designed to help organize evidence from the Hungarian primary and secondary literature about the different patterns and triggers of the housing mobility of Roma and non-Roma households.

5.2 A life-course-based analytical model of the housing mobility of Roma in segregated neighborhoods

In order to relate the housing mobility patterns of households who may be constrained in their decisions in terms of space and housing market segments (see the "mobility channel" paradigm), a life-course-based analytical model is proposed. Building on previous analytical work and combined with the coping strategy research findings summarized in the previous chapter, this model aims to assist in the analysis of the *micro-level;* that is, household-level housing mobility.

Given that the role of segregated neighborhoods in the housing life course is the midpoint of my analysis, I link moves in and out of these lowest market segment neighborhoods to spatial manifestations of upward and downward housing mobility from the *contextual perspective*. The housing choice that is made (irrespective of whether revealed or planned) is considered an adjustment on an "ad hoc" or a "strategic level" from a *micro-perspective*. Beyond tackling disequilibria or mismatches in consumption, the trade-offs of low housing consumption vs. other life-course traits are also accommodated in the analytical model. Moving into segregated neighborhoods is perceived as a broadly non-sanctioned coping strategy, as it is carried out by many households inside kinships and social networks.

The analytical model that incorporates the above-described aspects is depicted in Visual 3.

Visual 3. A life-course-based analytical model of housing adaptation at the micro-level
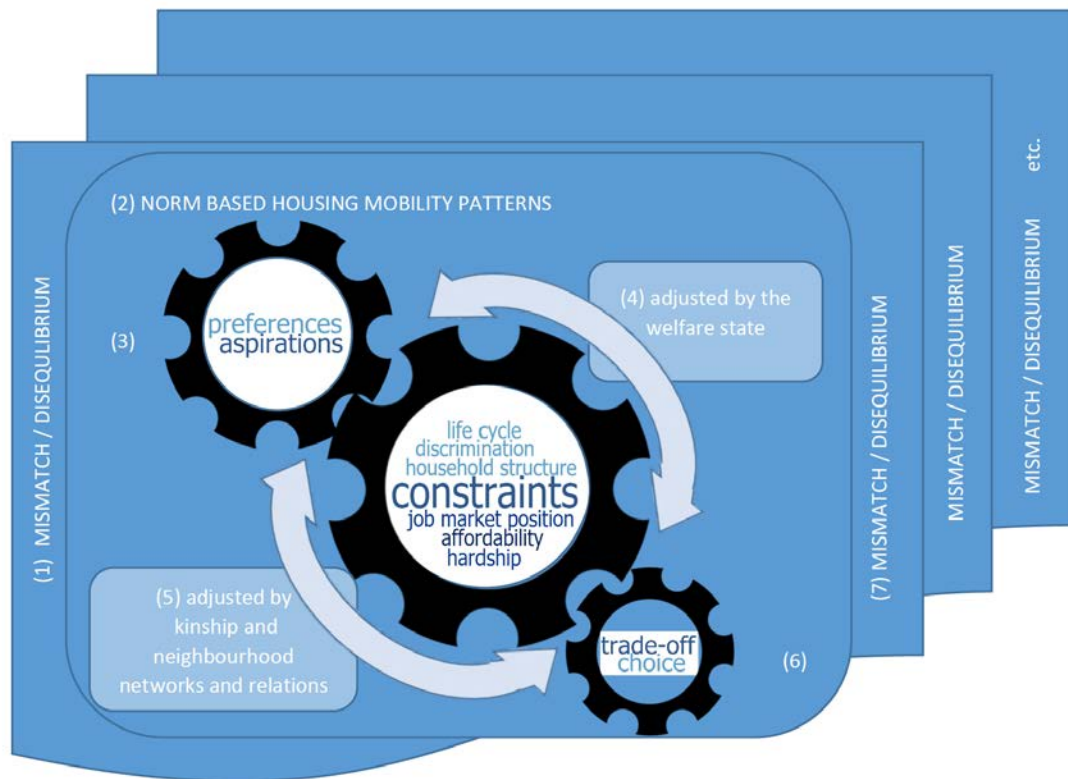
Source: Author's construction.

According to the framework, at the household-level, (1) mismatches may emerge at any point of the life course. For example, due to a job change it may become necessary to move to another city or neighborhood. Alternatively, the household size and structure may change, creating different room-related or location needs (for example, the desire to find a dwelling closer to services, schools, etc.). Mismatches may emerge due to cuts in the household budget as well. It may occur that the quality of the dwelling is perceived as inadequate by the household, either due to changes in the neighborhood or the physical conditions of the building.

When the household realizes the mismatch, (2) in alignment with the norm-based housing mobility patterns of the given social group it feels attached to (or wants to feel attached to), it formulates aspirations and preferences for adjustment. For example, for first-time buyers in the housing market, the choice of a smaller dwelling is quite common, thus young couples opting for such a housing choice will not be sanctioned

by peers. Or, in other cases, if in the community it is common that youngsters move to the boy's parents home when they become a couple, as may happen according to tradition in some Roma communities, this will be perceived as an optimal choice for the young people, instead of renting their own flat. Doubling up in cases of hardship is a broadly accepted decision, even if it is done in the longer term. Self-help or illegal housing arrangements are also an example of a norm-conforming decision pattern in informal segregated settlements.

As the next stage in the process, (3) the aspirations of the household will be modified or challenged by a set of constraints. Such constraints may be caused, for example, by their position in their life cycle. Some questions prove relevant here: does the household have the opportunity to accumulate enough savings and job experience to apply for a loan, are they planning to retire if their income is reduced, and is their health condition stable for their age, etc.? Additionally, are they planning for long-term regional mobility (or staying) due to their labor market position, will there be demand for their jobs in the coming years in a local town; and do they have care-related responsibilities in their broader kinship or household which do not allow them to move further away? Hardship in terms of income loss is seen as a key constraint, and is linked to how savings and other capital or intergenerational transfers may impact the affordability of another home. The matching capacity of formal and informal economic activities to create acceptable living standards is also relevant here. Potential discrimination in the housing market is also a constraint.

These constrictions may be adjusted by two resources: (4) the welfare state, which offers, for example, housing subsidies, job search allowances, or income replacement; and (5) kinship and neighborhood resources, which make life more affordable due to reciprocal help relations, thereby enhancing the resilience of household budgets and making jobs accessible through extended family or social networks. On the other hand, these two resources may also aggravate any constraints, as the two double arrows portray. It may be exactly the insufficiency of social benefits that constrains the housing choice of families. For example, due to the lack of rent subsidy, entering the private rental market with an unstable job/career is a risky strategy. Alternatively, there may be no tools for challenging discrimination in some submarkets, nor state incentives for housing poor / Roma families. Kinship and neighborhood relations can

also deepen constraints, for example through commitments and dependencies if individual decisions are controlled by broader household decisions, or when potential long-term planning gets derailed by ad hoc emergencies within the extended family. Internal exploitation – for example, various forms of usury-based loans – can be another aggravating factor.

It is important to note that reciprocal relationships based on favors are normally created and produced within local communities or neighborhoods, thus their production cannot be easily displaced or moved to other communities. This may be one of the factors why moving away from kinship which is supportive and functions as a (second) safety net (see the "social efficacy" concept further above) may intensify constraints.

(6) While checking and evaluating all constraints against potentially mitigating factors, the household adjusts its preferences and opts for trade-offs before making the actual choice. A broad range of choices and combinations of choices may be available, such as leaving an area, upgrading in situ, moving, moving and upgrading, upgrading later, etc. and also a part of the household leaving temporarily (for example, going abroad and sending back remittances to their family for the purpose of upgrading). Due to such choices, the household's satisfaction levels may approach equilibrium, but changes do not necessarily happen. If there is a mismatch, the process restarts, and (7) another choice will be made involving a newer constellation of preferences/constraints and mitigating factors and trade-offs.

In the case of households living in segregated neighborhoods, a number of factors within the general micro-level adjustment model are of core interest. With the help of the above analytical model, two core issues can be analyzed:

(a) the coping patterns of families regarding their constraints; that is, to what extent they can make *real* choices between neighborhood networks vs. mainstream welfare arrangements in order to mitigate their constraints within a segregated neighborhood; and,

(b) the aspirations involved in changing housing, and the cost of the trade-off at which these can be achieved.

The ultimate questions are: to what extent do these neighborhoods impact other life-course trajectories; and do they serve as a buffer, a last-resort, or as a trap?

5.3 Constrained housing choices and adaptation patterns in Roma neighborhoods in Hungary

There are some general housing mobility patterns in Hungary. Based on the 2015 housing survey data, HCSO (2016) describes the main trends as follows:

- Seven percent of all households have never moved from the dwellings in which they were born. Roughly one-third of them have lived in two, and another 30% in three dwellings. Twenty percent of the population are living in their fourth or fifth dwelling, whereas approximately 10% have moved more than five times. This gives an average of 3.4 dwellings per household, which is slightly more than ten years earlier.

- Between 2005 and 2015, approximately 1.26 million households were mobile within the housing market, with approximately 1.9 million moves in total, resulting in approximately 190 thousand moving-related transactions per year.

- Most moves happen in the secondary housing market, with approximately 80 thousand transactions per year in this market segment which are effectively connected with households that change residences. The summary of survey data points out that there is considerable change regarding the private rental sector, as it is here that over a quarter of all moves happen. Social housing is of marginal importance (ca. 4%), and inheritance is a further resource involved in changing housing (slightly over 6%).

- As conveyed by the Central Statistical Office, the length of stays in one dwelling greatly differs according to tenure. For example, home-owners have lived on average for 25 years in their dwellings, whereas private renters for less than three years, and social tenants for 18 years on average.

- Three-quarters of first-time movers (those leaving the family nest) moved to home-ownership, while 14% rent in the private rental market. First-time buyers tend to move to cheaper and smaller flats compared to those who have moved more times. Half of them bought housing in the secondary housing market. Thirteen percent of first-time home owners got their housing via inheritance,

while another third got help from their family to buy housing (on average, every fifth transaction is supported with family resources).

- Regarding distances, three-quarters of the general population remain in the same town or village. In the capital city, approximately half of all mobile households moved to their current dwellings between 2005 and 2015, while in villages the same proportion is reported to be 22%. Three-quarters of all movers to cities come from municipalities with lower real estate prices, therefore they tend to buy housing in lower prestige areas or buildings. Those who move locally tend to buy more expensive flats compared to in-movers.

In the above-mentioned survey (HCSO, 2016), the Central Statistical Office explored the reasons for moving as well. In their report, life-cycle-related aspects seem to be the most important drivers. As the data show, these were connected with the age at which it is more or less the norm to leave the family nest. As Figure 4 shows, the most important reasons can be classified into three clusters: (1) household structure (that is, establishing a partnership, family, or, on the contrary, divorce); (2) reasons related to housing quality; and (3) moving for jobs.

Figure 4. Reasons for moving, HCSO 2015 Housing survey, all households (% of respondents mentioning)

In the first instance, the reason to move was…
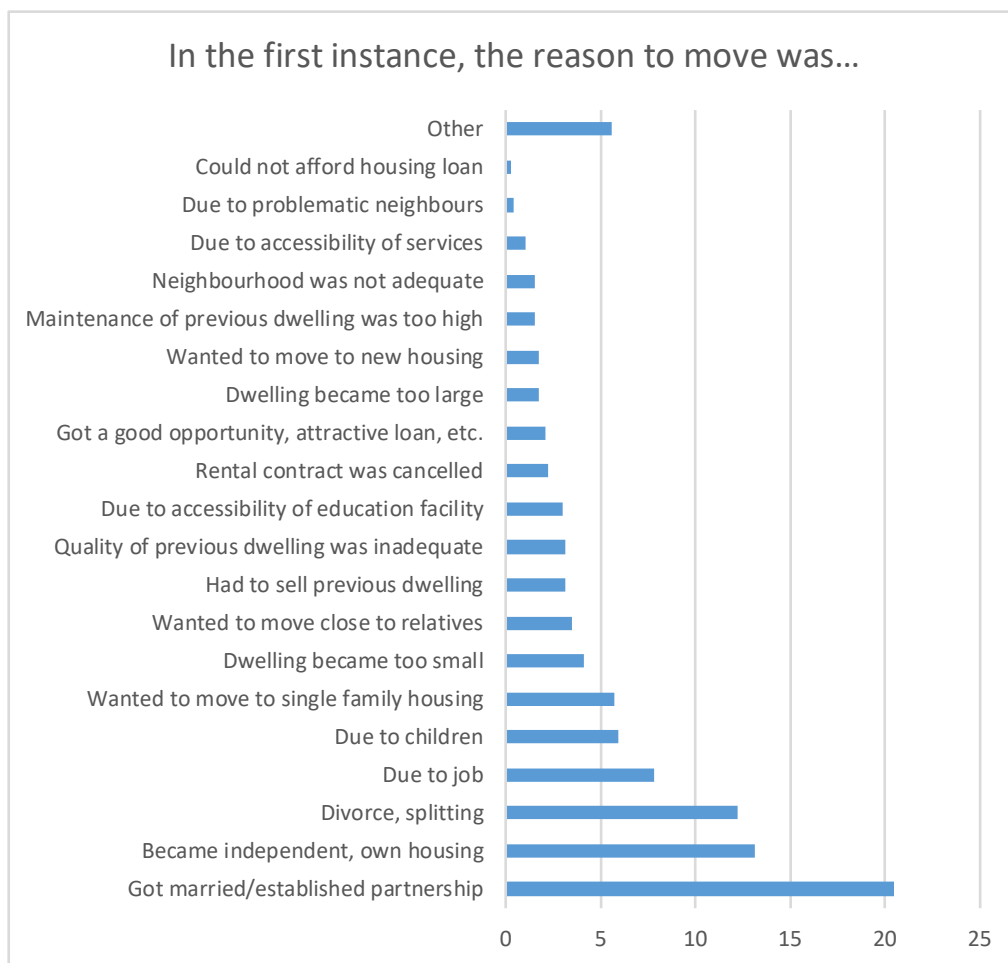
Source: HCSO (2016), translation of graph on page 37.

The survey also contained data about the preferences of the movers. Survey responses showed that there is a clear difference between those who moved to home-ownership and those who moved into the rental sector. Neighborhood quality, security, and low maintenance costs were the three most important drivers for home-buyers, followed by the condition of the building, and transportation. Little importance was attached to service supply and the composition of residents, or future selling perspectives. Renters reported first of all looking for dwellings with low maintenance costs, followed by good transport connections. The conditions of the building and composition of the building's residents were of less importance to renters than homeowners (HCSO, 2016).

The 2015 Housing Survey Report also deals in detail with the housing mobility directions of the general population, and finds that the overall pattern of moves is *upwards*, meaning that people move to better, larger, and more expensive housing, in line with their growing household size and income level. The HCSO Report also finds that there was an explicit change in the mobility patterns of households in later life-cycle stages: whereas the previous – 2003 – survey found that households tended to be at the peak of their housing career in their last period of life, the 2015 data found many more households downgrading, especially after 2008, the first year of the financial crisis. Despite this, over 50% of households moved up the ladder; typically families with children or adult children. Compared to the period 1996-2003, between 2009 and 2015 2.5 times as many households chose to move to cheaper housing (12.4 % vs. 31.6 %). Approximately 60% of the single elderly had moved to cheaper dwellings (HCSO, 2016).

The above-cited report discusses housing plans within the next three years, and the foreseeable future:

- The data show that close to 80% of households plan to remain where they are.
- The rest, approximately 440 thousand households, have different plans: for a third household structure will change, and two-thirds plan to move together.
- Interestingly, dissatisfaction does not seem to play a role in relation to the planned moves; rather, the key variables are household formation, leaving the nest, and change housing type.
- The analysis highlights the regional variation within the set of motives: in villages, becoming independent appears to be a stronger driver of moving than in Budapest, for example, and affordability is mentioned nine times more often in the capital city than in rural areas. People from villages are twice as likely to say they would move for a job than those from Budapest.
- Compared to "revealed" plans, future plans involve thinking about longer distances: approximately half of all households plan to move elsewhere.
- The survey also asked what obstacles families have to implementing their plans. Approximately a third of the households were sure that they could

change according their vision, whereas from the remaining 68%, half of the responses mentioned issues with affordability (all data from HCSO, 2016).

The HCSO survey data make it possible to compare the characteristics and motives of upwardly and downwardly mobile households. Figure 5 and Table 3 show the "revealed" mobility actions in connection with core life-cycle and other patterns of motivation for upgraders and downgraders.

Figure 5. Change in market value of housing - all movers according to age
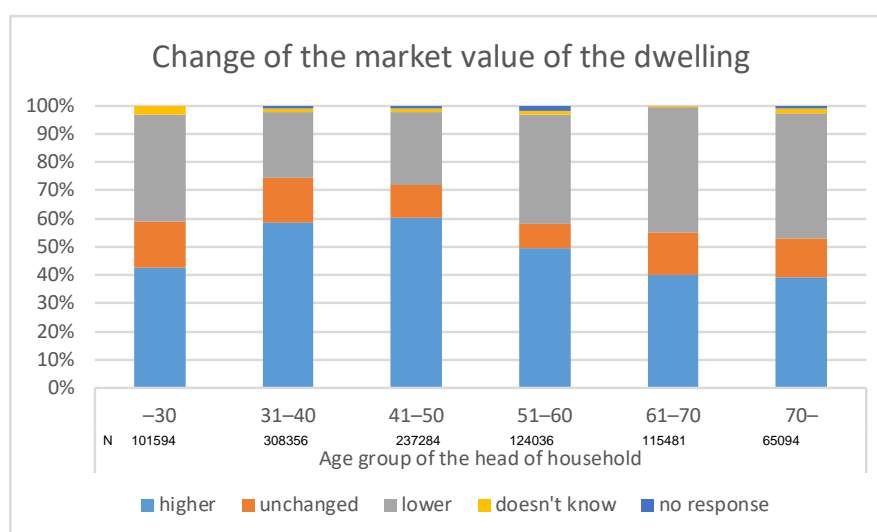
Source: 2015 Housing Survey, author's calculations.

Table 3. Share of upward and downward movers within age cohorts, total population

	Age group of head of household					
	−30	31–40	41–50	51–60	61–70	70–
Share of upward movers in total	43%	59%	60%	49%	40%	39%
Share of downward movers in total	38%	23%	26%	39%	45%	44%
Ratio of upward vs. downward movers	1.13	2.53	2.30	1.28	0.89	0.88

Source: 2015 Housing Survey, author's calculations

Figure 5 and Table 3 show that upward and downward mobility is characteristic of broadly different age groups. Within the youngest age group (below 30), which includes approximately 100,000 households, approximately 43% moved to higher value housing (their current dwelling), 5% more than those who moved down. The

next cohort, approximately 310,000 households with members no older than 40, are overwhelmingly upward movers or their housing status stayed the same: only a quarter of them moved to cheaper flats. We can observe a very similar pattern in the next age group (approximately 237,000 thousand households) (people in their forties), with a slightly increasing share of downward movers. At the age of between 50 and 60 (125,000 households), downward movers represent close to 40%, and their share increases in the next two elderly cohorts, reaching up to 44% for the eldest ones. If the sizes of the two groups – upward and downward movers – are compared, the different cohort's patterns of movement appear to be very clearly distinct. In the youngest age group, the two mobility patterns are balanced, whereas towards the peak of the life cycle, upward movers are more than two times as numerous as downward movers. At above 50, the pattern changes considerably: when approaching retirement and later, more households moved down than up.

To compare the HCSO Housing Survey data with the BCE Roma survey data, the mobility pattern of marginalized families was also explored. Based on a social stratification classification of deprived households on the Hungarian housing market developed by Hegedüs and Katona,[19] Figure 6 summarizes the difference in mobility channels between the general population and deprived households.

Despite some differences, there are more common features. For example, in the youngest age groups, the share of upward and downward moves is equal. The next age category displays some change: deprived families move up to a lesser extent than the general population, and downward moves are also more prevalent in their case. In households with members in their forties, the difference practically disappears. In the case of deprived households whose family heads are in their fifties, more people move

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[19] The group was specified according to four dimensions: income per capita, overcrowding of dwelling, estimated housing value (in the case of ownership), and substandard housing quality. The classification is used in ongoing commissioned research in the framework of a consultancy assignment undertaken by the Metropolitan Research Institute, funded by *Szociális és Gyermekvédelmi Főigazgatóság*. Unpublished.

down than up (in reverse proportion compared to the general population). The pattern for people in their sixties does not differ, but then shifts again for the eldest age group.

This information is crucial for understanding that the emerging patterns among Roma households – which seem to be significantly different from the general trend – cannot be explained by their social deprived status *only*.

Figure 6. Deprived and non-deprived households' mobility channels (as % of total moving population)
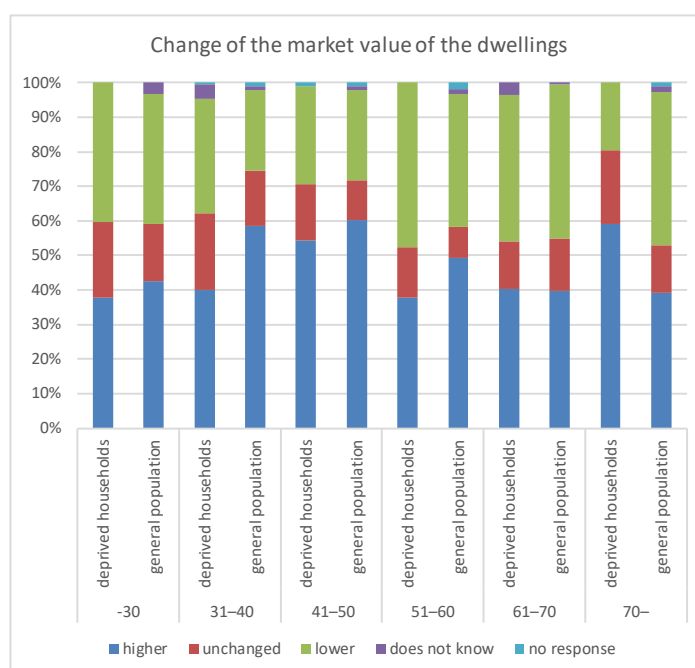
Source: HCSO Housing Survey 2015

Figure 7. Primary motivation for moving up or down according to age group of movers
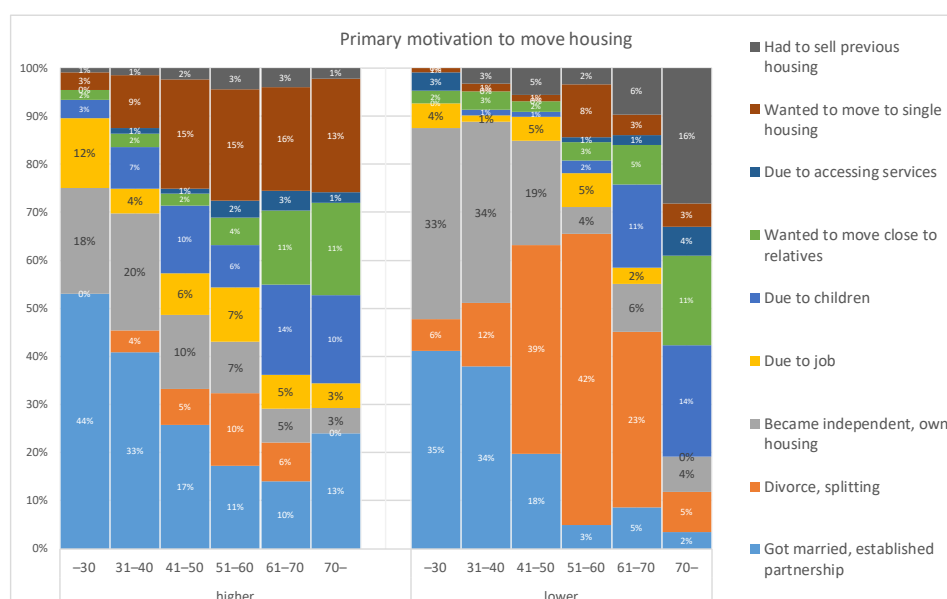
Source: 2015 Housing Survey, author's calculations

Figure 7 illustrates that the triggers for moving diverge greatly between upward and downward moving age groups. Taking the nine most frequently mentioned primary reasons for moving, and focusing only on the upward and downward movers, we can see how the relative importance (that is, the frequency of the given trigger that is mentioned compared to the total of all nine most prevalent triggers) of each single cause changes across the age groups.

Among upward movers, household formation remains as important as it is with downward movers until individuals reach the end of their forties, but then it practically diminishes in importance in the pattern of downward movers. Divorce, another episode within the life-course, triggers some people in their fifties to move up, whereas this factor becomes more and more substantial across age groups of down-movers earlier. According to the statistics, most first-time divorces happen to individuals in the age-group 40-49 (HCSO, 2019). Unsurprisingly, the housing mobility effect of divorces triples within this age group, and diminishes only in the age group above 60.

Becoming independent is a further trigger for moving, and is substantial for both upward and downward movers. In the case of people moving to lower value flats (compared to their previous ones), this trigger represents the first or second most

important justification for moving until the age of 50. One reason for this may be connected with how people enter the housing market. At the earliest stage of the housing life course, people may occupy lower value flats compared to the nest they left. Among upward movers, this trigger is also present, but less relevant for the first three age groups, which suggests that entering the housing market for the first time can also mean a shift in social status.

Job-related moving occurs with both mobility groups, with more weight in the pathways of the youngest. Households across various age groups move both up and down for child-related reasons (unspecified), but this trigger is more prevalent in the upward moving group until they are older, for which groups it is a slightly more substantial reason for moving down.

Kinship and relatives are triggers in both groups; and with increasing age, their relative importance grows in both groups. Given the housing market position of single family housing, this motive is markedly more present among up-movers across all age groups.

Last, an unspecified need to sell a house is clearly a reason to move down (no specific explanation for this is given by respondents).

For the sake of comparison, the frequency of reasons mentioned as motivation for upward mobility pathways and downward mobility pathways is contrasted. The dataset was used to explore whether the triggers are mentioned more often as reasons for moving into a lower priced or a higher priced dwelling. As previously shown, the role of age groups is substantial in terms of how motivations emerge and change, thus the results are distinguishable by distinct age groups.

Marked changes along the life-cycle are highlighted with arrows in Figure 8. The red line indicates "balance"; that is, that the trigger plays an equally important role in upward and downward mobility decisions.

The illustration suggests that some triggers are more typical of one or the other mobility path across all age groups. More typical triggers for upward mobility seem to be moving to single family housing, and labor market activity. A trigger for downward mobility across all cohorts is divorce.

In the age group 51-60, some patterns change: independence is more strongly connected with upward moves, and household formation is relevant for more expensive housing market segments than with younger age groups. Transactions driven by a push to sell housing do not necessarily happen on the downward housing slope: it may be the case that they are part of upward moves. For all younger age groups and those above 60 the need to sell housing is more strongly associated with moving to cheaper housing.

The child-related trigger loses its association with upward movement, perhaps because respondents of above 60 relate this trigger to intergenerational transfers. At above 70 years of age, a desire to access services becomes a stronger trigger for downward movement.

Figure 8. Distribution of triggers according to upwardly and downwardly mobile households, in six age groups
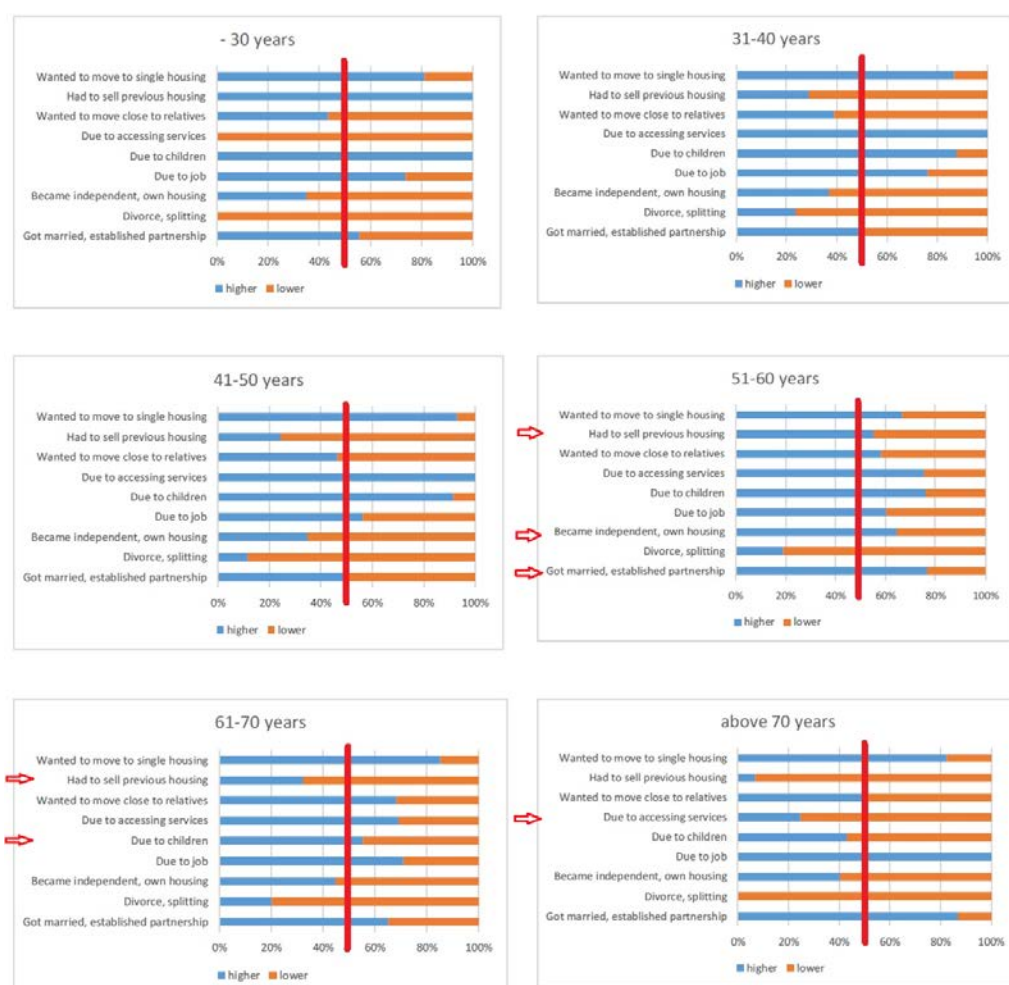
Remark: When a reason was mentioned only either as a trigger for upward or downward movement, the solid bar color extends to 100%. These responses are taken from the below-described descriptive analysis. If the trigger was mentioned in a% of cases for upward moves and b% of downward moves, the value for upward moves is calculated as a/(a+b), and for downward moves b/(a+b). The split in the bars is made according to the formula (a/(a+b)) +(b/(a+b)) =100.
The response rate regarding neighborhood characteristics and up or downward moves is approximately 25%, thus this dimension cannot be analyzed separately.

In parallel to the observation of triggers for the general population, the most recent BCE survey of 2011 delivered some evidence about changes in Roma housing conditions and some data about mobility patterns, which – to a limited extent – can serve as inputs for better understanding the triggers of upward and downward mobility, and the recreation of segregation. As shown in Section 4.3, the data demonstrate and illustrate that there have been considerable improvements in Roma housing conditions in the past decades, and that the "gap" in housing quality has somewhat closed. However, the proportion of those living in segregated neighborhoods has not diminished at all, and despite the closing gap in housing quality among Roma and non-Roma, growth in the concentration of the population of the same ethnicity has taken place.

Based on the data from the BCE 2011 Survey concerning the Roma self-identified sample, some housing pathway patterns can be identified. Note that the response rate regarding whether people have ever lived in a segregated Roma settlement was close to 50%.

As shown in Figure 9. it seems that approximately 40% of all age cohorts[20] have never lived in a segregated neighborhood. The youngest and the oldest (that is, people just about to establish their housing career, and those towards the end of their housing pathway) are more likely to live in Roma settlements compared to other age groups. The same is true of past experience of living in a segregated neighborhood: a third (34%) of households with a middle-aged head of the family have lived in segregated neighborhoods; and this proportion reaches 36% in the case of those in their fifties (all

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[20] The number of respondents in the age groups is as follows: - 30: 238; 31 - 40: 268; 41 - 50: 237; 51 - 60: 158; 61 - 70: 55; 70 +: 7: All subgroups represent from 47% to 54% percent of the total population. In order maintain a high number of observations in each category, the last two age groups have been merged into one group.

these respondents have since left these neighborhoods and do not now live in a Roma segregated environment).

Figure 9. Share of households living in segregated Roma neighborhoods (as % of all respondents)

Have you ever lived in a segregated Roma neighbourhood?
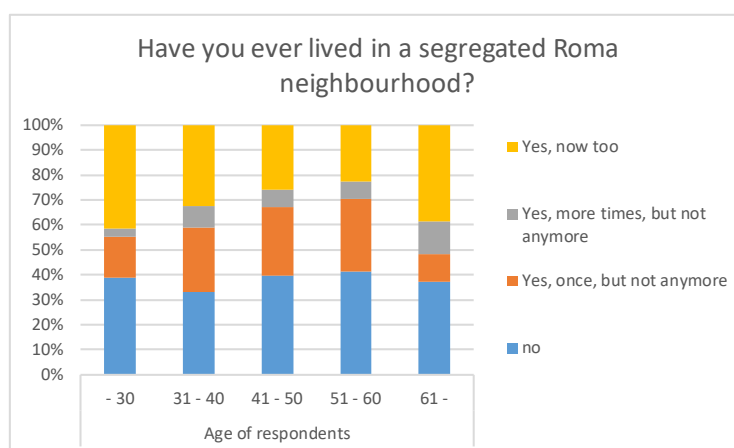
Among the Roma, based on the 2011 sample, downward mobility is not explicitly measureable, but the motivation to move to or from a Roma settlement – a market-segment in which housing is of lower quality and lower price – was explored. Given that these neighborhoods are perceived to be of lower market value, we will explore housing pathway episodes in such neighborhoods as moves down the housing ladder.

Figure 10 depicts the share of people with upward, downward, and unchanged mobility patterns according to age groups within the Roma population.

Figure 10. Share of population with distinct mobility pathways within the Roma population (as % of respondents)

Change of position of households
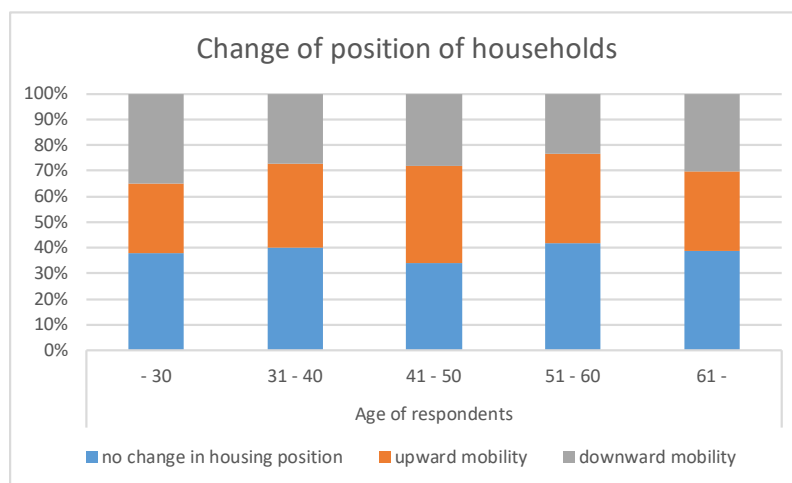
Source: BCE 2011 survey, author's calculation.

Across the age groups, approximately 40% of all households have not changed their housing position, meaning that they have not moved into or out of Roma neighborhoods, but are housed in various other kinds of dwellings. For the other two channels, the share of upward movers increases in the first three age groups (from 27% to 38%), and then decreases to 31% in the older groups. The average is 33%. Downward mobility is highest among the youngest (35%), and decreases throughout all cohorts up until individuals reach the end of their sixties (23%), then grows among the oldest cohort (30%) to slightly above average (29%).

Compared to the overall population, the housing pathways of the Roma population investigated in the BCE 2011 survey seem to be markedly different. As depicted in Figure 11 (and discussed further above), within the general population the share of upward movers is higher in the youngest age group compared to the Roma sample and increases considerably when individuals are in their thirties before decreasing slowly across two age groups. The growth of upward movers within the Roma population remains modest, and gains pace only when people are in their fifties. A decline in the value of housing of those individuals classified within the eldest age groups is characteristic of both the general population and the Roma sample.

Figure 11. Share of upward and downward moves within the general population (2015) and Roma (2011) (as % of population)
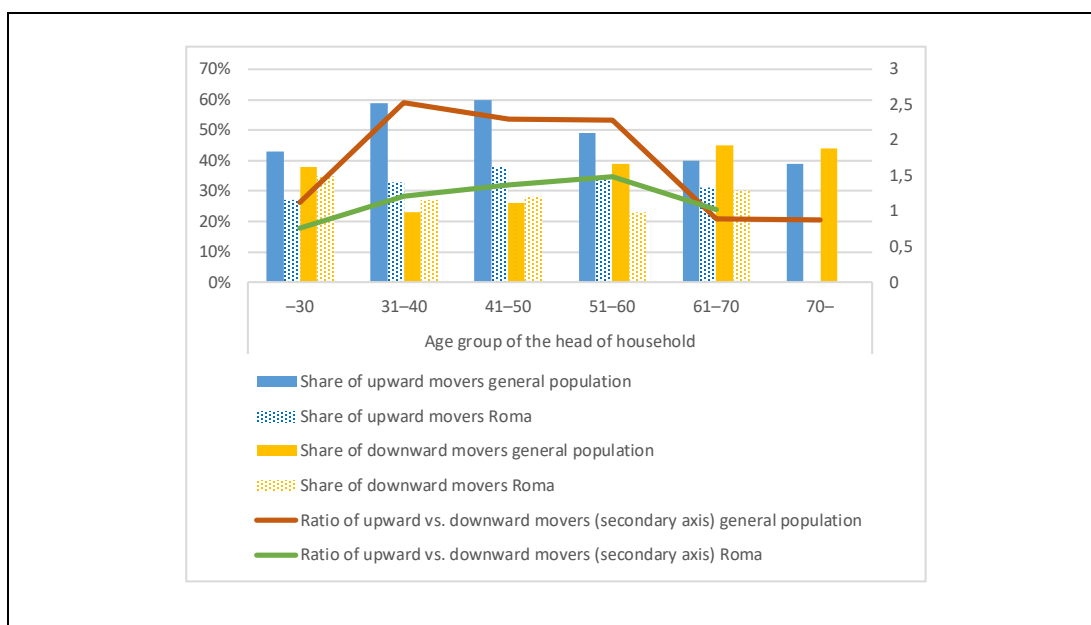
Source: 2015 Housing Survey and BCE 2011 survey, author's calculation. Note that in the Housing survey, the moves are evaluated based on the change in market value of the dwelling, whereas in the Roma survey the direction of moves is based on topological criteria; that is, into or outside a Roma neighborhood. Emergency housing (N=17) was considered to be of the same poor quality. The sample size for the age group above 70 years was only seven respondents, which may be due to the different demographic pattern of Roma in general, thus the two last age groups are merged for the Roma sample.

To sum up, it is not only the proportion of upward vs. downward movers which differs greatly between the two groups (over 50% of the general population vs. 33% in the Roma sample in total), but also the dynamics; there seems to be a postponement of upwards mobility, meaning that improving housing conditions by leaving Roma neighborhoods happens at a later age. Given that the life expectancy of Roma is lower, this delayed downgrading recalls the pre-transition housing mobility pattern of the general population, when households were documented to tend to stay where they had got to at the peak of their housing ladder (HCSO, 2016).

To compare the triggers of upward and downward mobility for the Roma sample, a similar investigation was undertaken to the one depicted in Figure 7. The BCE 2011 survey collected less detailed information about motives,[21] ultimately gathering a total of 549 responses about triggers. Some triggers that proved relevant in the case of the

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[21] The following triggers were not prompted: due to children; due to accessibility of services; got a good opportunity, attractive loan, etc.; had to sell previous dwelling; wanted to move to single family housing; wanted to move to new housing; dwelling became too large; could not pay housing loan; rental contract was cancelled; due to problematic neighbors.

general population (like moving due to children, or moving to single family housing) were not collected, unfortunately. This makes the comparison of the patterns of the general population and those of Roma less robust.

Most importantly, one should note that given the small difference among the age groups according to mobility directions, the role of some triggers seems to be less obvious. Figure 12 illustrates that the composition of upwards triggers seems to change across the age groups to the extent that household formation becomes less important at later ages, and the quality and size of the previous dwelling becomes a considerable factor as respondents age.

We witness that job and education are mentioned across all age groups (except by individuals in their forties). The proximity of relatives as a trigger is mentioned more often by the youngest and the eldest. One striking driver of upwards movement is the quality of the neighborhood (note that this was not among the 10 most frequently mentioned triggers for the general population), which is important for all age groups, but especially for the oldest ones.

Downward mobility triggers across age groups show some interesting features, too. Partnership formation may cause downward moves, especially in the second age cohort, but compared to upward triggers, we find approximately the same distribution of responses, except for the eldest group. Divorce remains marginal as a reason for moving across age groups. This is an even more important finding, given that this is the most important trigger in terms of downward moves for the middle-aged in the general population, and those who are older.

Figure 12. Primary motivation for changing housing according to mobility direction and age group (BCE 2011 Roma survey)
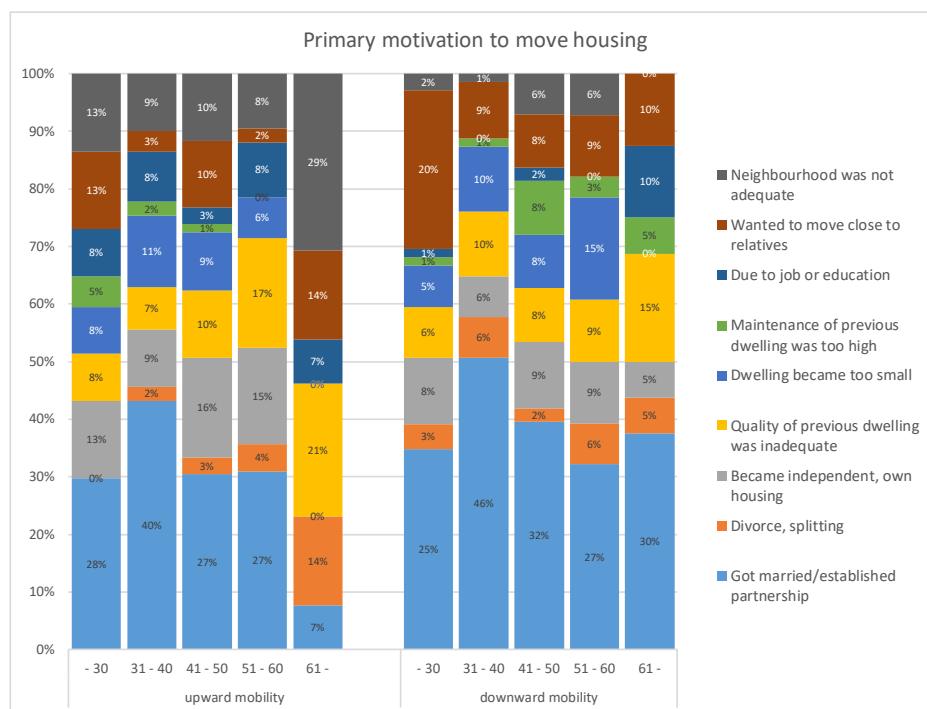
Source: BCE 2011 survey, author's calculation.

Dwelling quality and size of former dwelling made more middle-aged people in their fifties move down, which suggests that improving floor space may only be possible for some households by buying a dwelling positioned within a lower market segment (in this case, a Roma neighborhood).

For a tenth of people in their forties, the affordability of their previous dwelling was also a primary issue when they decided to move to the Roma neighborhood. Proximity to relatives is a significant trigger across most age groups, which leads us back to the role of kinship and family ties in coping strategies.

The survey data make it possible to analyze more explicitly the triggers of those households who have at some point lived in a segregated neighborhood but since moved out, although some of them may have already moved back. These households were asked about the specific housing decision which made them leave the Roma segregated neighborhood (N=307 for those whom age group is known). These ex-post

rationalized decisions differ from the upward moving patterns to some extent, as shown in Table 4.

Table 4. Differences in upward moving patterns in general vs. those of population prompted by triggers for leaving the Roma neighborhood (selected triggers according to age group)

		life cycle (marriage, divorce, independence)	housing quality, neighborhood and affordability	job and relatives' proximity
- 30	in general (N=40)	16	13	8
	specific subgroup (N=48)	21	17	7
	specific / general	1.3	1.3	0.9
31 - 40	in general (N=87)	45	26	10
	specific subgroup (N=99)	54	28	8
	specific / general	1.2	1.1	0.8
41 - 50	in general (N=77)	35	24	10
	specific subgroup (N=82)	36	24	10
	specific / general	1.0	1.0	1.0
51 - 60	in general (N=48)	22	15	5
	specific subgroup (N=63)	25	27	2
	specific / general	1.1	1.8	0.4
61 -	in general (N=14)	3	7	3
	specific subgroup (N=15)	5	6	2
	specific / general	1.7	0.9	0.7

Source: BCE 2011 survey, author's calculation. Specific / general are calculated as the % of responses within the specific group and % of responses within the general group.

Among the youngest individuals who had actually left a Roma neighborhood, independence, housing quality, and neighborhood quality played out as more important factors than for the wider population. For the next cohort, a similar pattern emerges (the figures for the individual triggers suggest that becoming independent is a slightly more relevant trigger, and that proximity to relatives may be better achieved

by moving away, which corresponds to the housing location patterns discussed further above). Leaving bad housing quality is also among the more prevalent motives. There are no differences between the two groups aged forty to fifty. People in their fifties mentioned they had moved for better quality housing more often among the explicit drivers.

As the number of responses is rather low in the sample, and earlier it was shown that the differences between the triggers across the age groups is modest, it seems to be relevant to take a closer look at the aggregate replies.

In the group which was prompted to depart from a segregated neighborhood, becoming independent, moving away from bad quality housing, and divorce/splitting with a partner were more important than for the average sample. Overall, the most important triggers were:

(1) household formation/marriage,

(2) becoming independent,

(3) inadequate quality of building,

(4) inadequacy of neighborhood,

(5) increased need for room,

(6) proximity of relatives, and

(7) moving for job or education.

In order to investigate whether the triggers for moving up and down within the Roma sample were different compared with the general population, the 2015 Housing Survey data and the BCE 2011 results were merged and compared, as illustrated in Figure 13. Due to the limited number of questions in the BCE 2011 survey, only those items are explored for both surveys which were included in both datasets.

Figure 13. Triggers for upwards and downward mobility in comparison, total and Roma population
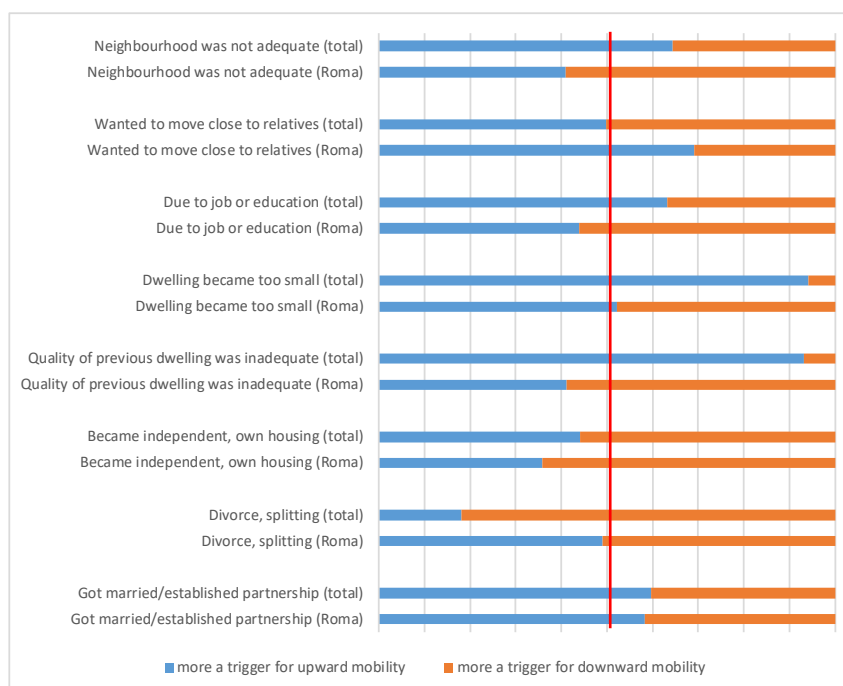
Source: 2015 Housing Survey and BCE 2011 survey, author's calculations.
Note: If the trigger was mentioned in a% of cases for upward moves and b% of downward moves, the value for upward moves is calculated as a/(a+b), and for downward moves b/(a+b). The split in the bars was created according to the formula (a/(a+b)) +(b/(a+b)) =100.
The maintenance-cost-related trigger was excluded due to the extremely low response rate. The neighborhood-related trigger response rate is low in relation to the total.

There are four core findings:

(1) Some triggers for upward moves seem to be *less relevant* for Roma than for the average population. Neighborhood characteristics, quality and size of dwellings, and moving for jobs or education are among these triggers. This may be connected with norm-framed expectations and social inequalities: the generally lower level of housing consumption may push households to move to segregated neighborhoods to satisfy needs for room despite bad quality and low neighborhood status; moving for a job means moving to a higher priced area which may not be affordable.

(2) While household formation and becoming independent seems to play a similar role, *divorces* do not play out as important in downward movement in Roma segregated neighborhoods.

(3) Within the total Roma sample, the proximity of relatives is more strongly connected with upwards moves than downward moves. This may be due to the fact

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that the most upwardly mobile age group is less present in segregated Roma neighborhoods (see above).

(4) The gap between the relevance of upward mobility triggers may be connected with constraints stemming from social inequalities.

In the next section, some qualitative data are used to complement the quantitative analysis.

The analysis revealed that there are some differences between the triggers included in housing decisions made by Roma and non-Roma households when it comes to upward and downward moves. According to the life-course-based adaptation model, the triggers were explored for distinct age groups. For the BCE 2011 Roma survey, only a few age-group-related differences could be identified, as opposed to findings about the general population's mobility patterns based on the 2015 Housing Survey. Since the UNDP/EC/WB 2011 survey showed that approximately 85% of the Roma respondents who lived in segregated neighborhoods would like to live in an integrated environment (UNDP, 2012), it is clear that some of the triggers are not as relevant – meaning that some crucial constraints may be at play.

In order to investigate what household-level constraints are not covered by the triggers, in this section the BCE 2011 Survey data are analyzed in more detail with the help of a logit model.

Since the significance levels of some social indicators were deemed to be too high (>0.05), they were excluded from the model. These included family status, health status, reason to move, and tenure. Due to missing data, income and housing expense (to income ratio), and indebtedness/arrears could not be included either. Receipt of financial aid from other households was used to assess income poverty. The detailed model output is included the annex. The core findings are presented in Table 5.

The overall predictor value of the model is quite low (see annex for details), but significant. As the table shows, in some cases the overall significance of the independent variables is $p<0.05$, some items of these variables are significant. Note

that the values are presented for downward mobility (upward movers = 0, downward movers=1).

The model was developed to check whether the general populations' mobility patterns and triggers were in any way similar to Roma household patterns. Based on the descriptive analysis of simple distributions included above, we have seen that the share of upward and downward moves across the age groups does not follow the life cycle model in the case of Roma households (or at best it follows a pattern that was prevalent a generation ago, with people stopping moving at the peak of their housing career). We have also seen that changes in household structure – including divorce or marriage – does not predict upward or downward moves, as opposed to the situation with the general population. Triggers and constraints obviously affect each other differently in the case of Roma households.

Table 5. Constraints in relation to upward and downward mobility – LOGIT model

		B	S.E.	Wald	df	Sig.	Exp(B)
Variables in the Equation							
Step 1ᵃ	**Four age groups (contrast: less than 30 years old)**			9.492	3	**.023**	
	31-40 years	-.470	.200	5.537	1	.019	**.625**
	41 to 50 years	-.423	.212	3.992	1	.046	**.655**
	above 51	-.638	.226	7.966	1	.005	**.528**
	Finished education 4 groups (contrast: less than 8 grades' edu.)			16.110	3	**.001**	
	8 grades	-.565	.211	7.199	1	.007	**.568**
	vocational education	-.877	.251	12.228	1	.000	**.416**
	maturity or higher	-1.383	.443	9.751	1	.002	**.251**
	Household size - 6 groups (contrast: 1 person)			17.028	5	**.004**	
	2 persons	.629	.325	3.739	1	.053	1.877
	3 persons	.473	.317	2.218	1	.136	1.605
	4 persons	.653	.315	4.291	1	.038	**1.922**
	5 persons	.611	.320	3.653	1	.056	1.842
	6 or more persons	1.145	.309	13.749	1	.000	**3.142**
	What is the share of Roma among your friends? (contrast: all of them are Roma)			29.145	4	**.000**	
	majority of them are Roma	-.575	.206	7.818	1	.005	**.563**
	half-half of them are Roma and non-Roma	-.925	.195	22.578	1	.000	**.396**
	majority of them are not Roma	-1.039	.296	12.355	1	.000	**.354**
	no Roma	-1.257	.382	10.803	1	.001	**.285**
	Settlement size - Four groups (contrast: Budapest)			8.603	3	**.035**	
	county seat, city with county rights	.637	.339	3.522	1	.061	1.890
	other town above 5000 inhabitants	.815	.308	7.003	1	.008	**2.260**
	settlement with less than 5.000 inhabitants	.482	.303	2.530	1	.112	1.619
	Do you work or have a job (including temporary work and business)? (contrast: yes) no	.601	.199	9.074	1	.003	**1.823**
	Has your household/ family received any financial aid from other households? (contrast: yes, regularly)			9.879	3	**.020**	
	yes, from time to time	-.941	.503	3.501	1	.061	.390
	yes, seldom	-1.600	.525	9.298	1	.002	**.202**
	no	-1.142	.443	6.653	1	.010	**.319**
	Constant	.764	.618	1.527	1	.216	2.146

a. Variable(s) entered in step 1: Four age groups, Finished education Four groups, Household size - Six groups, What is the share of Roma among your friends?, Settlement size - Four groups, Do you work or have a job (including temporary work and business)? Has your household/ family received any financial aid from other households?

Source: BCE 2011 data, author's calculation. Results with significance p<0.05 are displayed in bold.

The model demonstrates the following findings:

(1) with increasing age (across four age groups, given the small sample size), the chance of downward mobility decreases.

(2) Education, unsurprisingly, reduces downward mobility considerably, especially in the best educated groups (in our model: maturity included), who are only a quarter as likely to move down compared to people with an unfinished education.

(3) Household size seems to be a relevant trigger / constraint only in four-person or six-or-more person households. In four-person households, the probability of moving down doubles compared to single households, and in the largest households it triples.

(4) Social networks have an impact as well. When the network of the household is not overwhelmingly composed of Roma only, the chance of moving down decreases considerably. Even when just half of the network is composed of non-Roma, the chance of moving to a segregated Roma neighborhood diminishes to approximately two-fifths of that compared to households whose friends are exclusively Roma (note that reverse causalities may be at play – see Section 3.3).

(5) Unfortunately, the settlement-size-related constraint proves to be relevant only specifically for towns: compared to Budapest, living in a municipality of over 5000 inhabitants radically increases the chance of moving downward – meaning that Budapest is a "safe" place in terms of stability.

(6) Labor market participation works as expected: if one does not have a job or any labor market activity, the odds of moving down increase over 1.8 times, representing one of the strongest constraints, besides low education, large household size, and limited social network.

(7) Households that do not have to ask for financial aid from relatives and friends in times of hardship are much less exposed to downward moves compared to those who depend on regular help from their kinship and network. Interestingly, those who *seldom* receive any financial aid seem to be more secure than those households who never do.

These quantitative results may need some refinement from qualitative research. Numerous past and current studies have dealt with the social inequalities of Roma within rural areas and the urban fabric. A broad summary of the core topics and findings was shared in Section 4.3. In this chapter, one specific household-level adaptation pattern is of interest, given the deficiency of data in the quantitative database that was used.

Income shortages are a key feature of coping strategies, in part as triggers, and in part as constraints. Interviews during field work reveal that "household finance" and strategic household financial planning virtually does not exist in extremely poor neighborhoods. For outsiders, it may seem as if cash is perceived as a windfall gain, and is spent on "tasty" calories instead of "useful" ones (Banerjee and Duflo, 2011). Reportedly, there are two critical times of the month. As a social worker reported: "If it were up to me, I would cancel the first and the last week of the month" (Miskolc, Lyukó case worker, field work 1).

Obviously, these are the days on which benefits are transferred and the final ones before the next supplement arrives. (Relatively) excessive consumption and the satisfying of unfulfilled promises made during the previous month happen in the first few days after receipt of benefits.

> *I often wondered why mothers bought small bottles of coke instead of the larger, more economic ones. Then I once asked them and they told me it was because they had promised one to the child when they were short of money. And they did not want to cheat the kid, so they bought it [a small bottle] after all. (Tatabánya, Mésztelep, social worker, field work 1)*

Hardship can reach extreme levels, leading to long-term losses (e.g. in winter when furniture is burnt, or when personal items may be sold at an "irrationally" low price to acquire cash for food, medication, transport, etc.). In this context, the idea of treating housing as a source of wealth and income, and as part of the financial or asset portfolio of a household (Hegedüs, 2011), has to be qualified.

In her work about supportive networks among Roma and non-Roma poor, Messing (2006) grounds her findings primarily on quantitative data. Nevertheless, she adds that there are historical reasons why support networks have emerged within communities, and how given communities are connected with the majority population regarding help and support (see "norm-based patterns" in the analytical housing adaptation model). More importantly, the same mechanism is relevant when it comes to finding jobs and make one's living.

Within the communities, usury-based loans function as a double-edged sword: they are needed to make ends meet, but are also a form of exploitation that create long-term dependencies in more and more fragmenting poor communities. (Formal, very high interest loans are also reported to be present in segregated neighborhoods.)

Adaptation to a low income was more recently explored by Messing and Molnár (2010). One coping strategy is income generation through paid (often manual) labor involving shift work or jobs accessible through weekly commuting – the latter more prevalent in situations when local labor market discrimination or a shortage of job opportunities drives adults to shift to other regions – on weekdays. These jobs are often semi-formal, causing multiple vulnerabilities. Public works schemes are equally a resource, and often – as a trade-off for the low pay – some flexibility (early closing of business, patient sanctioning, etc.) is offered to employees in the schemes.

The replacement ratio of social transfers is rather small (Karácsony et al., 2019), thus additional income generation through temporary and seasonal jobs is needed to sustain even a very low level of living standards (Szikra, 2018). Informal relationships (that is, bridging ties to the labor market) are an important asset in these cases. Temporary migration abroad often serves to increase income in the short term or to manage debts which cannot be handled within the local context. Informal networks, sometimes coupled with exploitation (forced low paid work, prostitution, illegal activities, over-charging for transportation and housing arrangements, etc.) are also reported to exist in coping strategies, but involve trade-offs.

Messing and Molnár (2010) report in detail about agents and brokers who collect a labor force and control access to jobs. Gathering and collecting materials for sale in the market (and wood, herbs, and mushrooms) is another revenue resource. Trading

within the neighborhood (e.g. informally with food or other goods) was also reported to be a way of earning money.

> *I take a holiday from my formal paid work to do some day-labor, seasonal work, and then I earn some money from which I fund expenses like buying paint or building materials, or just to make sure I can pay back a loan to my sibling. (Mother of two, field work 1)*

Coping strategies include not only revenue-generating activities, but also the reduction of expenditure. Messing and Molnár (2010) confirm that restricting housing consumption (including not paying bills on time) and downward housing mobility are key instruments for households in hardship. The former report moves to shared housing and doubling up – which often leads to tension and anti-social behavior.

In conclusion, income constraints can be coped with through various channels, but largely building on informal relations which may be supportive (e.g. in the search for jobs), but also constraining (e.g. in the case of informal loans). Downscaling (food, housing, etc.) consumption to the very minimum level is also an option.

5.4 Revisiting the second perspective

Hypothetically, Roma housing mobility pathways, once they include having lived in a Roma neighborhood, which was the case of approximately 30% of Roma in 2011 according to most recent estimations,[22] are heavily constrained pathways out of these no- or lower-value market segments. In some cases, such decisions are made for short-term gains or an urgent need to liberate equity from housing in order to pay off debts. However, such coping strategies which at least compensate for the lack of some services might not be accessible in other sub-segments of low-value housing. Some examples include reciprocal child care, the sharing of electricity and space if needed, usury-based loans in kind in shops where no formal credit is available, etc. The

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[22] The figure is based on a representative Roma survey carried out by Corvinus University (BCE) in 2011, unweighted database.

question is whether adjustment strategies related to housing decisions are associated with further issues in segregated neighborhoods.

The proposed analytical model lists a range of items that are deemed constraints, and some others that are defined as triggers for housing adjustment. The quantitative analysis showed that there are some reported (social-inequality-related) sources of motivation for upward and downward moves by the general population which seem to be less relevant for households that leave segregated neighborhoods, or which move to segregated areas. The analysis revealed that there are some differences between the triggers involved in the housing decisions made by Roma and non-Roma households when it comes to upward or downward moves. According to the life-course-based adaptation model, these triggers were explored for distinct age groups. For the BCE 2011 Roma survey, only a few age-group-related differences were identified as being in opposition to the mobility patterns of the general population based on the 2015 Housing Survey. Since the UNDP/EC/WB 2011 survey showed that approximately 85% of Roma respondents who lived in segregated neighborhoods wished to live in an integrated environment (UNDP, 2012), it is clear that some of the triggers are not as effective – meaning that some crucial constraints may be at play.

I found that some triggers for upward movement seem to be *less relevant* for Roma than for the average population. Such triggers include neighborhood characteristics, quality and size of dwellings, and moving for jobs or education. Norm-framed expectations linked with social inequalities may play a role here: the generally lower level of housing consumption may push households even lower in order to tackle the need for room, whereas moving for jobs means moving to higher priced areas, which may not be affordable for these households.

Also, while household formation and becoming independent seem to play a similar role, *divorces* seem to be a marginal cause of downward moves in Roma-segregated neighborhoods.

Interestingly, within the total Roma sample, the proximity of relatives is more connected with upward moves than with downward moves. This situation may be linked to the fact that the most upwardly mobile age group is less present in segregated Roma neighborhoods. To conclude, the gap between the relevance of upward mobility

triggers for Roma and non-Roma may be connected with constraints stemming from social inequalities.

Moreover, the logit model suggested that social characteristics such as a low level of education, large household size, low labor market activity, an overwhelmingly (Roma)-kinship-based social network, and financial hardship are the most significant constraints on upward mobility for Roma. These factors seemingly cannot be as effectively mitigated as in the case of the general population (e.g. based on the idea of house-as-asset which can be freed up if needed), as shown in the comparative analysis.

Based on the above findings, we conclude that the pathways available in the constrained housing market segments are distinguishable from mainstream housing careers. The difference is linked with the diverging adjustment patterns of Roma households compared with the general population.

Household-level adjustment has two layers: individual life-cycle-related housing decisions, and adjustment to contextual-level conditions; in both cases, there seem to be differences. In the case of Roma, life-cycle components seem to be weak, whereas deprivation and poverty-related risk factors seem to hit Roma households much harder. Based on the different impact of similar constraints on housing choice, it can be presumed that, besides individual housing decisions, household strategies are impacted by local housing allocation policies, the labor market, accessibility, welfare and other service delivery design, discrimination, and general housing policy directions.

6 Third perspective: Interventions and policy implications

This section deals with select policies and interventions that sought to impact housing decisions patterns and segregation outcomes in the lowest market segments represented by Roma segregated neighborhoods, thus linking the micro- and the contextual-level through the lens of the transmission mechanism of institutions and interest groups. As Musterd (2005) explicitly points out, this analytical focus is utterly relevant:

> Societies (states), cities, neighborhoods, and citizens are interrelated systems, and policy responses to neighborhood problems, therefore, should take these various units and levels into account simultaneously: (1) the welfare state at the national level; (2) the labor market, and economy at the regional and global levels (3) the social networks, socialization, and stigmatization processes at the local levels; and, (4) personal characteristics at the individual level. All probably play a role in understanding what is happening at the very local level. A strong focus on one policy solution or on segregation levels only, therefore, does not seem to be the proper response to locally developing problems. (Musterd, 2005:345)

One must add the governance of urban and development policies, at both national and local level, which seems to play also a substantial role. A recent paradigm shift[23] (Hall 2014) in this governance realm is strongly connected with the changing roles and capacities of states. According to Brenner (2004), in Europe until the early 1970s the state was oriented towards territorial equalization as a national project, while in consecutive periods it has rather facilitated the formation of the competition strategies of urban areas by devolving economic and other regulation to lower tiers and assisting the re-concentration of assets into powerful or growth-based areas. Addressing social challenges was relegated to the local scale. However, general changes in public financing have occurred: the national level has faced drawbacks and local levels were forced to rely more on their own initiatives and developments, hence they were put on

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[23] This sub-chapter is a shortened excerpt from Teller (2015).

their own development trajectories. According to Brenner (2004), the 1980s led to unfolding of the retrenchment of national welfare states, further resulting in a changed concept of local governance. The emphasis shifted from local welfare delivery to promotion of local economic development. This process of "glocalization" led, by the 1990s, to levels of inequality which halted growth, and to cities with conflict.

Hence, urban planning had to invent a different approach. Guiliani and Bianchi (2015) point out that "instead of capitalism as the structuring principle in the political and spatial organization of the city … satisfaction of social needs [becomes] […] the guiding principle for urban planning" (ibid:42-43.). Supported by urban movements, a more just urban space is being strived for. Still, the effects of (g)localization processes represent limitations and benefits at the same time.

At the neighborhood level, as Peck and Tickell (2004) point out, neoliberal regimes "punish" areas that fail to sufficiently address challenges that hinder growth and economic prosperity. The lowest level is the one at which social issues culminate. Politics tends to permit these areas to perpetuate further down according to their historical pathway; that is, disconnected from the dynamics of the urban area they are enclaves of. Urban regeneration approaches that drastically address this disconnected nature of run-down neighborhoods can often fall into the trap of becoming "diseconomies of conflict" (Gaffikin 2015: 44), meaning that in order to better serve the residents of such communities, local governments or service providers create parallel services to make sure the community gets access to the quality services that address their particular needs *locally*. Equivalent services are created, instead of granting access to mainstream services *outside* the neighborhood, or those run by other ethnicities or groups with which long-lasting conflict has endured.

Recent years have shown that the rescaling of the state in space (that is, the devolution of numerous tasks and the redesign of redistribution systems to make cities more competitive) has left many cities to address social challenges alone. In part, the states have "rolled out" to address some of the challenges more efficiently at a meso-spatial level. Notwithstanding, this has led to the particular position of run-down neighborhoods within the (g)localization concept of the city:

Yet while zones of deeply impacted poverty and social exclusion may have been no-go areas for neoliberals during the 1980s, in its roll-out guise neoliberalism is increasingly penetrating these very places, animated by a set of concerns related to crime, worklessness, welfare dependency, and social breakdown. (Peck and Tickell 2004: 395)

When there is spatial concentration of socially vulnerable inhabitants, municipalities are even harder hit by service duties that demand additional funding. Evidence has shown that there are several responses to such increased needs: 1. do nothing and let the population exist with low capacity services, resulting in under-served areas and further downward perpetuation of areas due to under-investment into services; 2. increase service capacity and diversify it according to needs; 3. decrease public service delivery capacities further, on the one hand resulting in an outflow of inhabitants from the area, mostly followed by the inflow of even poorer residents as real estate prices fall, and the creation of "parallel" service delivery – for example, by charity organizations – similarly to what is termed "diseconomies of conflict" (for case studies for each scenario, see Teller, 2009).

In the Hungarian context, similarly to in other Central East European countries, the spatial reallocation of Roma to poor but moderate housing through the process of integration into the industrializing and workforce-hungry labor market happened in the 1960s. Large-scale (overwhelmingly prefab) housing construction with tenants connected to the then political elite (Szelényi-Konrád, 1969) went hand in hand with the launching of numerous integration or assimilation policies for Roma, including settlement abolishment and resettlement actions (Hajnáczky, 2015; Teller, 2018). The effects of the interventions were evaluated in the first Roma survey conducted by Kemény in 1971, and despair and severe levels of housing poverty were found, which showcased the inefficiency of state housing policy which relocated Roma into poor, vacant, low quality housing (Dupcsik, 2009).

Some municipalities, principally cities, have attempted to tackle housing poverty with diverse measures such as infrastructural investment, housing allowances, and debt management interventions, but these policies are often framed by a "punishment-of-

the-poor" approach, primarily involving Roma families, by moving them into a segregated social housing environment (Teller, 2018).

In the Hungarian context, interventions related to segregated neighborhoods have to be designed in line with so-called local equality plans, settlement development plans, and desegregation plans. These policy frameworks have been assessed against their potential social development and inclusion impact by Bernáth et al. (2013). Our study concluded that such strategic documents could serve as triggers for local policy makers to take action to promote Roma inclusion, especially during the years when the government was still operating a strong methodological support network that supervised local planning and had the discretional rights to condition access to EU funds for investment. The funds represented, and still represent, a key incentive for the local level to invest in social inclusion.

Still, rehabilitation policies from the very beginning tended to lead to the displacement of the population by "paying off" social tenants (Csanádi et al., 2006), who thus leave to lower market segments, informal housing (Kőszeghy, 2017), squats, and run-down neighborhoods. They then sometimes reappeared in similar concentrations elsewhere in or close to the urban fabric (Ladányi, 2007; Teller, 2009; Havasi, 2018).

The motives for entering into such bargains offered by local decision makers which include short-term gains but are risky or costly in the long term can often be interpreted only via a lens which takes into account the intersectional character of the individual and the contextual layers.

The core question remains whether and how manipulating these combined effects is possible through policy interventions. We need to investigate whether the pace of segregation can be altered if selected dimensions of inequality are tackled and individual adjustment strategies are counter-incentivized. Escaping from living in segregated environments becomes possible only if avenues other than housing mobility channels are open. We need to understand why policy design which does not take into account both layers of adjustment may fail.

Discussion of the contextual-level and micro-level analytical frameworks included details of the dimensions which are at play when a spatial concentration of poverty,

marginalization, and decline emerge. In this section, I examine to what extent such constraints can be altered through policies and interventions, and, on the contrary, which interventions exacerbate the downward perpetuation of neighborhoods and worsen the perspectives of their residents.

For example, in the case of housing affordability subsidies, budget constraints may push policy makers to design schemes which are linked to formal consumption. However, these schemes will achieve only low coverage because of informal housing and a low replacement rate because of low formal housing consumption in poverty-stricken neighborhoods.

As shown in the contextual analytical section, raising the individual housing consumption level may be constrained by the lack of affordable housing stock. In policy terms, in Hungary social housing is kept decentralized, which, under the current conditions, brings about residualization and virtually no mobility due to the very low turnover of tenants. Therefore, institutional interest in keeping poor families out of social housing is very strong. Rent revenues may cover only a small share of the management and maintenance costs of public stock, and any outstanding payments endanger the operation of the sector.

Moreover, home ownership subsidies/loan products can be maximized if families stay in/move to poor neighborhoods because proportionately larger houses can be obtained with the help of such funds in cheaper areas. Moreover, further segregation and the displacement of segregation evolve as poor people concentrate in poor areas with low service levels. The vicious circle closes: the policy outcome is segregation fueled by public funding.

Based on these examples, our interest turns to settings and actions which in many ways affect the mutually reinforcing drivers of the housing mobility patterns of downwards moves (see also above; low levels of education, large household size, low labor market activity, overwhelmingly [Roma] kinship-based social networks, and financial hardship), and challenge the constraints otherwise leading to moving to segregated neighborhoods in a context in which declining neighborhoods are located on the margins of the housing market.

6.1 Lessons from the field: housing interventions and mobility pathways

Housing integration interventions aimed at relocating Roma from severely substandard housing were endorsed as early as in the 1960s. According to Dupcsik (2009), a government decree of 1964 attempted to eradicate Roma settlements that failed to meet "social requirements," and was accompanied by a housing construction and purchase package. This was also the time when the so-called "CS" dwellings, of reduced building standards, were constructed. As early as the beginning of the 1970s it had become clear that displacement very often meant moving into slightly more solid, but still very poor housing, or onto plots which were environmentally hazardous (MTA, 2004).

The first after-transition housing program run by the National Roma Minority Self Government turned out to be a fiasco, too, due to related investment in very low quality housing of a comparably high (construction-related) price in low market value areas. Actually, until 2005, only sporadic interventions were carried out that specifically targeted the housing improvement of Roma (neighborhoods). These local interventions included in situ upgrading, the creation of basic infrastructure, and arrears management.

The composition of central housing subsidies was also amended at the beginning of the 2000s; among other elements, the lump sum grant for housing construction for families with children was increased. In order to rationally maximize the subsidy element within the investment, households constructed modest housing in cheap market segments. Hegedüs et al. (2009) point out that this design resulted in a comparably large housing construction program with contradictory effects, including a concentration of poverty and segregation along with housing quality improvement.

In 2005, a government-run pilot program mobilized nine municipalities with very different topological arrangements and historical development of their Roma neighborhoods to design local integration programs that included a desegregation component along with employment programs, training, and intensified social work.

Later on, in urban areas, social rehabilitation projects were launched, which – beyond infrastructure development – included social programs, such as education and training,

health, community building, and labor market interventions. The main innovation of the social urban rehabilitation projects was that they aimed at handling both the social exclusion of the residents and upgrading the affected neighborhoods *and* tried to push as few residents out of the target areas as possible. Undoubtedly, the most comprehensive program so far in Hungary has been run in the Magdolna neighborhood in Budapest District VIII, where a series of interventions have been carried out in the course of the past approximately 15 years, including investment into rearranging and upgrading public space, building and upgrading social housing, clarifying tenancy rights, crime and drug prevention, health and education programs, sports, job-seeking and training programs, anti-discrimination awareness raising, and community building. Intensive social work accompanied this investment, reaching out incrementally to a growing share of residents (Teller, 2009). As the housing market started peaking after the recovery, the neighborhood was found by investors who were able to build on the rent gap, mainly owing to the proximity of the city center.

In the urban context, beyond Budapest, the city of Pécs – building on the work of the Maltese Charity Service, Phralipe Association, and other NGOs – experimented with a range of interventions (including the eradication of segregated areas) to boost the social inclusion of segregated neighborhoods in the city. The related dilemmas, challenges and results are broadly presented and discussed in Brettner et al. (2018). Generating, finding out, and articulating local needs, channeling funds that have visible impact, reviving the aspirations of households to move into mixed areas, preparing majority communities to accept newcomers, working with a range of policy makers, officials, and NGOs are just few of the program milestones that had to be worked out.
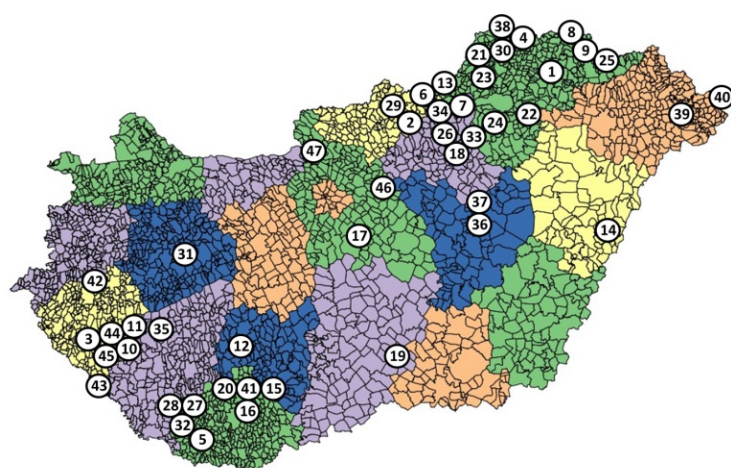
Beyond some minor-scale urban interventions, the larger share of investment has gone to rural areas. Without taking account of all the details of pilot programs, the following maps illustrate the locations of Roma-inclusion-related interventions between 2005 and 2010 (from national and EU funds), and within the 2013-2020 EU implementation period. Social urban rehabilitation programs that have been accomplished would extend the list of the programs only slightly (for lessons, see EC/World Bank, 2014), thus they are not included on the maps. One minor program run by the Türr István

Kutató Központ in six locations[24] is not indicated on the maps either. The most recent ongoing urban rehabilitation projects (close to 90, [25] involving varying scale interventions) are under implementation and are also not displayed on the maps.

Map 4. Locations of government-run Roma integration programs between 2005 and 2010 and launched around 2017

Pilot programs between 2005 and 2010

1 Abaújszántó, 2 Bátonyterenye, 3 Bocska, 4 Bódvalenke, 5 Dencsháza, 6 Domaháza, 7 Egercsehi, 8 Füzér, 9 Füzérradvány, 10 Galambok, 11 Garabonc, 12 Gyulaj , 13 Hangony, 14 Hencida, 15 Hidas, 16 Hosszúhetény, 17 Kakucs, 18 Kerecsend, 19 Kiskunmajsa, 20 Kisvaszar, 21 Rudabánya, 22 Sajóhídvég, 23 Sajókaza, 24 Sály, 25 Sátoraljaújhely, 26 Sirok, 27 Somogyapáti, 28 Somogyhatvan, 29 Sóshartyán, 30 Szalonna, 31 Szentgál, 32 Szigetvár, 33 Szomolya, 34 , Szúcs, 35 Táska, 36 Tiszabő, 37 Tiszabura, 38 Tornanádaska, 39 Tunyogmatolcs, 40 Uszka, 41 Váralja, 42 Vasboldogasszony, 43 Zákány, 44 Zalamerenye, 45 Zalaszentjakab, 46 Zsámbok, 47 Pilismarót


Source: Map designed by the Metropolitan Research Institute in Petrovácz et al. (2011)

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[24] The locations were Nyíregyháza, Komló, Szolnok, Ózd, Tiszaroff and Vajszló.

[25] Including all county seats, Budapest, and a further 66 towns.

Projects launched around 2017

Translation of the legend: pin = supported applicants within EFOP – 1.6.2, EFOP –2.4.1, EFOP 2.4.2, EFOP-2.4.3 and VEKOP – 7.1.4 measures (138 settlements, 216 applications); grey = districts with complex development needs, dark blue = villages with segregated neighborhoods; black = towns with segregated neighborhoods. grey line = district borders; black line = county borders; dot = county seat
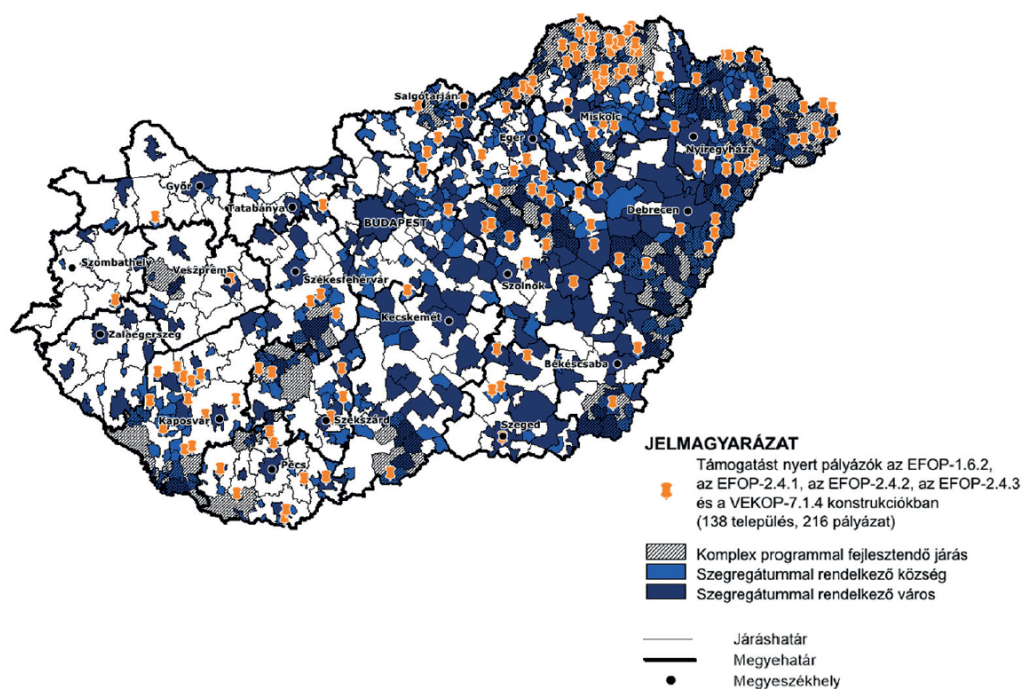
The focus of the interventions is typically social inclusion in general, with less focus on boosting housing upgrading or mobility. This target is strongly associated with the design of the EU funds made available for housing investments (approximately a maximum of 10-15% of all funds are used for housing in this investment package). Thus, the impact on housing conditions and spatial mobility remains marginal in most cases, especially compared to the severity of local problems.

There are municipalities where the projects include the eradication of housing units. In order to increase floor space, often tiny minimal comfort dwelling units are joined to accommodate larger households and to create space for the installation of bathrooms (like in Pécs or Monor). In other places, the full eradication of settlements or neighborhoods has taken place (e.g. Bátonyterenye, Egercsehi, Sirok, Kakucs, and in

part Táska), resettling families either scattered or in proximity to each other, depending on the available space, resistance of political decision makers, and local inhabitants.

Field visits reveal that residents are often reluctant to leave the vicinity of their kinship and social networks, despite the chance of moving to integrated parts of town and improving their service access. Recent qualitative analysis reinforces this finding elsewhere in Hungary (Tóth et al., 2017), and previous European urban renewal projects found similar outcomes among first-generation movers (Bolt et al., 2010; Smets and Salman, 2008). This conclusion is also largely in line with the findings of the previous section, and confirms what Banerjee and Duflo (2011) found in relation to the poverty trap: it is insufficient to help to take the first steps to take sacrifice (that is, making trade-offs within the life-course-based analytical model), because it does not help balance the risks households face when losing their reciprocal networks of daily coping strategies and the capacity to continually recreate their ties.

Thus, interventions have been launched in environments where there is a serious gap compared to non-Roma in terms of physical housing conditions (20-40 years' lag). The peripheral locations of Roma neighborhoods often lead to worse access to various services, hence less coverage and efficiency. In terms of housing, it is not only physical conditions that can be critical, but households are frequently exposed to tenure-related insecurity for various reasons (e.g. unclear titles, arrears). Thus, there is a complexity of housing- and service-access-related issues to be addressed at the local level, beyond the constraints that prevail at the individual household level.

Field work[26] has uncovered some examples of interventions specifically aimed at tackling the most relevant set of challenges, and changing the effect of their combinations. For example, tackling the contextual factor of labor market marginalization has been the focus of several local "complex' projects," of varying impact. In Kerecsend and Kisvaszar, during the first phase of the Roma integration program, low- and semi-skilled manual labor was enrolled in construction-related vocational training so that the newly acquired skills could be immediately used for the

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[26] These findings are based on field-based projects and evaluation of investments, especially nos. 1, 3, 4, 5, 6, 8, 11-15, 17-19, 21, 23, 27, and 30. For the detailed descriptions, see annex.

housing upgrading program component. In Kerecsend, the municipality employed new workforce directly, whereas in Kisvaszar the local entrepreneur was encouraged to employ people to finish the training. In some social urban rehabilitation projects, women often were enrolled in social professional vocational training with two main targets: acquiring care-related skills they can use for parenting and looking after their families, and serving as labor force for local social or educational institutions (elderly care, nurseries or kindergartens). In Sirok, for example, elderly care was reorganized based on this "new" focus on human capacity, which at the same time offered room for transforming prejudice against Roma through "exposure" to Roma care personnel who used to live in cave housing. Current cleaning, cooking, and other technical personnel – often employed through local public works schemes – have often been trained in such targeted schemes in numerous locations.

The economic upswing after the 2008 crisis solved many labor market marginalization issues (starting from around 2012), either through the informal labor market, or the public works program, or a combination of the two. Those who could build additional skills through program-based training are reported to be able to better sustain positions and obtain much needed experience in work places to stabilize their positions in the labor market. Thus, after periods of subsidized and supported work, their labor market perspectives may be – if only temporarily – more positive in areas where labor demand and (formal or informal) commuting opportunities are improved.[27]

Local projects often address a variety of backlogs in terms of education levels and a general lack of skills and competence. Early childhood education – an investment priority in itself in Hungary –, along with after-school programs and adult education, form a considerable part of such targets. However, early school leaving has further triggers beyond social vulnerabilities in general, and some of the parallel sectorial policy interventions have been deemed unsuccessful, or at least have produced contradictory results, no matter what the local interventions were intended to achieve. For example, the decrease in compulsory school-leaving age was introduced along with obligatory enrolment into kindergartens. Thus, whereas incentives were

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[27] The potential impact of the 2020 COVID-19 epidemic are not analysed in the thesis.

introduced for early childhood development to reduce disadvantages upon entering primary education, and preparing children to perform better in school, vulnerable youngsters were pushed out earlier onto the informal labor market (and temporarily into public work until 2016), from which they seldom returned to schooling or training. Field visits reported an increase in early pregnancies as the most detrimental effect of this regulatory change.

Efforts to tackle such policy gaps proved very problematic, given that they remained sporadic and ad hoc. On the other hand, early childhood education along with afterschool programs are reported to have resulted in better school performance, which, in the long term, may serve as an incentive for families to stay on in education and dedicate more weight to this in household (coping) strategies. Long-term engagement with families (e.g. in Monor and Tarnabod) has resulted in more successful enrolment in secondary education and the first college degrees in neighborhoods where school drop-out was the mainstream case before.

Local projects aimed at improving housing consumption levels often clash with the affordability-related challenges caused by higher housing maintenance costs. In the urban context, with higher local revenue capacities, this may decrease the pressure on public budgets; and rent or housing allowance schemes may mediate increased expenditure. In rural areas or smaller municipalities where resources for welfare benefits are lacking, the increased costs represent a large risk. Local programs have shown that, despite upgrading through installing water and sanitation infrastructure, only a few households have been able to connect to these costly utilities. To tackle this issue, the technical innovation of pre-paid metering was implemented in projects that work with vulnerable households, and for a few years, this became the mainstream solution for providing household with access to upgraded electricity, gas, and water infrastructure. Tiszabő, Tiszabura, Veszprém, Tatabánya, Pécs, and Győr are a few examples of places in which this technical solution has been implemented. The latter strategy not only serves to increase comfort levels in homes, but also increases tenure security (backlogs in payment do not accumulate into dangerous levels of indebtedness, thus evictions can be prevented more easily). In addition, the development of more strategic household financial planning is strongly backed by housing security that involves less stress and tension.

The extensive list of local interventions serves as evidence that projects are frequently implemented under time pressure due to specific financial techniques connected with the resources that fund them. The incremental development of community cohesion, fostering bridging ties, and, based on this, encouraging and enabling regional / spatial mobility is only seldom the focus (beyond the general funding constraints of the latter, given the exploding housing and rental prices after 2015). Nevertheless, local norm-based mobility channels may be modified by conscious local housing allocation policies and community-based planning, as seen in places where local social work and straightforward political commitment to inclusion has been in evidence for longer, or where the local housing stock makes adjustment to life-course-based challenges and financial constraints – or improvements – possible.

The stepwise mobilization of households is a typical intervention, meaning that while the worst housing is demolished, new investment is allocated to households with the least social risk (among the vulnerable), and their vacated homes are allocated to worse-off ones. The creation of such vacancy chains has proved efficient, for example in Pécs, Magdolna and Monor, too.

In some localities, the controversial effect of "white flight" has emerged: subsidized transactions in the secondary housing market have triggered non-Roma households to sell off their assets in lower market value but still mixed neighborhoods, thereby inducing a domino effect of moves of the lower-middle class away from these villages and urban areas, or blocks of flats like in Miskolc. Planning for keeping and mobilizing residents is largely hampered by the price effect of discrimination on the housing market (reportedly, prices decrease when vulnerable Roma families move in to mixed neighborhoods), hence political pressure is put on political decision makers by median voters when programs are designed.

To conclude, field experience shows that local interventions repeatedly remain at the level of "fixing threats to life"; that is, they deal with bringing up the worst quality housing to a minimum standard. The upgrading of infrastructure (access to water, electricity, and a sewage system) and improving access (road and transportation) contribute to in situ upgrading, often accompanied by legalization- or formalization-related interventions. Regardless, some core issues remain outside the scope of local

programs, such as improving affordability and creating new mobility channels (especially through rehousing families into an integrated environment, moving them out, or demolishing fully segregated neighborhoods). While local programs very often take place in poor municipalities (given that poverty and destitution are concentrated in backward regions), the design of effective labor market interventions and training/education is often ad hoc, without offering long-term perspectives for families.

A further lesson is that fragmented communities need long-term commitment, so that beyond individual case management, community development can become part of the agenda. And finally, the sustainability and embeddedness of interventions depends on whether and how discrimination can be and is addressed locally, and more broadly – for example, whether sectoral policies (like those involving the education and labor market) address this challenge. In the Hungarian context, this clearly seems to be one of the weakest and most detrimental factors, as shown from the quantitative data analysis. Field work experience testifies that this is why the long-term impact of local level interventions may remain modest, if not partial, in the context of current mainstream policies.

6.2   Modelling segregation patterns

Most of the interventions cited further above were implemented when there already existed segregated neighborhoods with severe levels of dilapidation, social tensions, and often a very fragmented community. In remote rural areas, with no job opportunities and a lack of public services, short-term interventions seemed to have helped a few families to upgrade and mobilize, but with the end of the funded project activities, decline set in.

While discussing the first two perspectives, I aimed to develop frameworks which help understand the mechanisms of decline at the neighborhood and contextual level, and through housing decisions made at the individual / household level. The question remains how decline can be halted, or at least slowed down; that is, which components that prove relevant for contextual and individual perspectives should be altered.

While the empirical evidence reported in the previous chapter builds on field experience, in this section the dissection of relevant mechanisms is carried out via a micro-model of segregation. This thought experiment illustrates how triggers and constraints can contribute to manipulating the pace of downward perpetuation and segregation. This is done to show where the entry points of (local) policies and interventions may be able to create more effective housing integration programs.

Quantitative data analysis has proved that there is a bundle of triggers which involved in upward and downward mobility. Some of those findings, along with evidence from qualitative research, inform my empirically calibrated micro-model which is designed to illustrate segregation and downward perpetuation patterns.

Such an approach is not new to social sciences: policy-oriented explorations based on simulations have been carried out previously – for example, in Brazil (Feitosa et al. 2012) – and modelling housing markets and urban planning has become one of the agent-based modelling topic areas. The model discussed here is based on Wilensky's segregation model (1997), which incorporates the Schelling segregation model. The core added value of the latter model is that it shows that there is an emergent pattern of segregation, irrespective of the individual intentions of the actors that are involved.

The revised model conceptualizes a more complex situation, and adds further dimensions to the mechanism incorporated into the original one: the refined agent-based simulation is grounded on the assumptions that:

(a) economic capacities to choose a home strongly complement...
(b) individuals' preferences for their own (ethnic or social) group,
(c) but they are also constrained by discrimination (e.g. redlining) (see also Bruch and Mare, 2009).

Schelling's segregation model (1969) demonstrates that individual decisions lead to macro-level changes in segregation, and the former author practically claims that this segregation is an inevitable process which comes about once there is at least a "twofold distinction" (p. 488) and combining the two different groups (e.g. in space) is connected with some sort of tolerance at the individual level. The only issue is the speed (number of necessary iterations) of the process.

Based on this logic, all three above-listed elements – that is, individual decisions, (housing) market segments, and constraining (discriminatory) institutional policies – *by themselves* may lead to spatial segregation. However, if they are altered and combined accordingly (e.g. through potential policy interventions), they may change the speed of spatial segregation. One must note that, as shown in the previous chapters, the three phenomena are interlinked in a way: institutional policies constrain individual decisions, and (informed) individual housing decisions are always linked to short and long-term household strategies, which are also framed by market mechanisms.

Such a micromodel hides the complexity of the triggers and constraints uncovered in the previous chapters with the help of qualitative and quantitative data. Still, it may represent a useful tool for visualization and formulating findings about some basic parameters.

I used Netlogo 6.1.0 for modelling. I modified the built-in segregation model created by Wilensky (1997) by changing the design of the "world" and adding some attributes to the agents ("turtles"), and altered their preferences (moves up and down) within the model. I also constrained the "mobility channels" to make sure that if there is an episode in a lower market segment in one's housing pathway, the asset level of the agent decreases, and the next move filters down to the respective housing unit. I designed the adjustability of some parameters (e.g. vacancy, income differences, the difference in value of the dwelling, and the tipping point when the dwelling becomes part of the "lower market segment"). I also added a "dynamic" feature to the model: when there is a concentration of lower income, the moves of those who are part of this enclave are only possible within the proximity of the concentrated area. The codebook of the altered segregation model is included in annex 8.3.

The model focuses on how downward perpetuation speeds up, in order to explore – similarly to a counter-factual situation – what parameters at which values do not exacerbate the decline of the "world." The assumption is that there are interactions at play which will *likely* result in decline. Thus, if policies tackle these interacting mechanisms through targeted interventions, they are *liable to* have effects that slow down decline.

Now, back to the thought experiment: imagine a neighborhood with two groups of residents. There are also two housing sub-markets, so people end up living in one or the other, according to their preference for peers. However, beyond preferences there may be some further differences: there may be a value gap between the two sub-markets (as there is often is within neighborhoods because of good vs. bad quality housing); also, people earn different amounts of money (in our neighborhood one group is better off than the other). Living in a cheaper housing market segment has an impact on residents' social position, because people's social status may also change for the worse if they live in cheaper dwellings because their resources cannot grow (e.g. through selling off their property). Therefore, should they move on, their housing will also be of less value, in line with what we know from vacancy chain theory. People in this neighborhood can decide whether they want to live close to people from their group. Thus, when they find an area with enough similar families, they stay there – and their housing value "stays" with them. If they cannot find enough similar families around, they keep on moving.

We have learned based on the Schelling segregation model that people's preferences for their own group result in a much larger division of groups than the residents intend. In this modelled neighborhood, people do move on according to their preferences, resulting in spatial clustering, thus the process is quite similar. However, in "real" life, decline is not equal to the spatial division of two groups. Normally, it is a concentration of poverty, income, and asset inequality, along with discrimination (see previous chapters), triggered and mitigated by numerous factors and policies, which brings about a concentration of select sub-groups. Therefore, beyond clustering across space we are interested in what happens if there are sub-markets in which there are price differences between properties in which people live with different income levels. Do such differences impact the neighborhood process? And, if so, when and how intensively does decline happen? And on the contrary, what can be done to prevent this perpetuation?

The simplified logic displayed in Visual 4 serves as the framework of the micro-model which was developed to observe neighborhood housing market processes and the evolution of decline.

Visual 4. The concept of the agent-based micro-model of decline
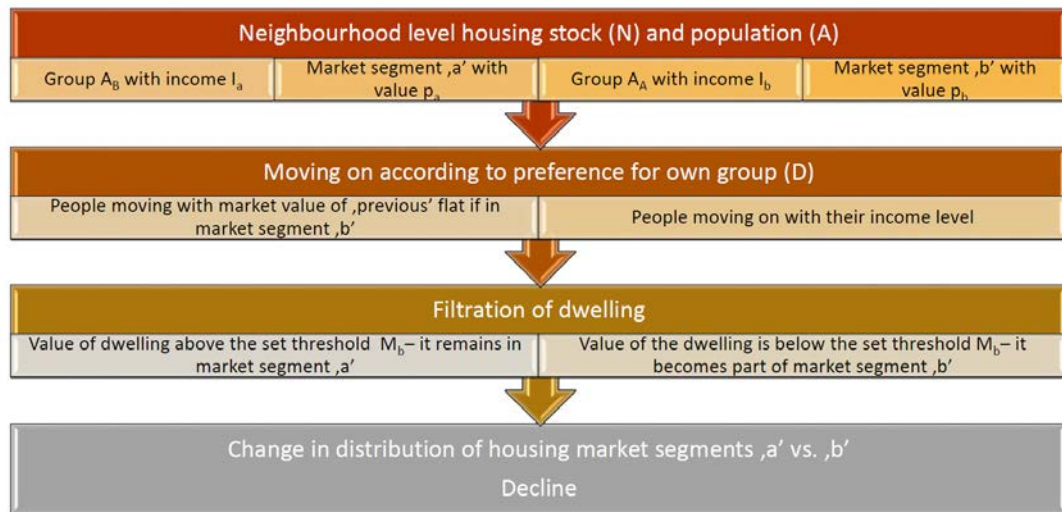
Source: author's construction

In order to incorporate these issues into one agent-based model, a range of parameters have been introduced, defined, and are connected with actions. The parameters within the model are as follows:

$N_{a;b}$ (1) The housing market is created with two sub-segments. The relative size of the segments is set up as % of the total ("a" + "b" = 100; thus, as a % point which can range between 0-100%). The units are allocated randomly across the patch.

This is to model a better and a worse positioned housing market segment.

$p_{a;b}$ (2) There can be a price difference between the two segments. The price level of "b" is expressed as % of "a." The value is thus expressed as %, and can take a value of between 0-100%. All initial price levels are applied to the respective housing market segments' units.

This is to model the gap between the price of the more valuable price segment and the less valuable price segment of the housing stock in the given neighborhood. The difference between the two

segments is followed up in the housing moves' impact on the income level of the agents.

A$_{A;B}$ (3) Two distinct groups of agents ("A" and "B") represent the households that move in the local market. The size of the groups is identical to the size of the housing sub-markets. The agents are allocated randomly across the patch.

This is to reflect that two different groups constitute the local population. They have preferences for their own group and varying income levels.

I$_{A;B}$ (4) The two groups can have different levels of income. Their income level can range from 1-100.

This is to reflect that there may be a social gap expressed as income inequality between the two groups.

D (5) Each agent has preference level with regard to living close to people from the same group. This is expressed as the minimum desired number of similar neighbors so that no further move in the local housing market is undertaken. (Note that this is similar to Schelling's "preference for own group," or dissimilarity, used here to simulate discrimination). In the model, the number of observed neighbors is 1-8, thus the value of the preference can range from 1-8. Should the requested threshold be not achieved within the patch in which the agent is located, the agent will move on in a random direction. If the threshold is achieved, the agent will stay. (Note that neighbors still move on when their threshold is not achieved, which may cause the agent's preference to be unfulfilled again.)

This is to model that people pick a place to stay where there is a preferred share of people similar to them. However, they can also wish not to have similar neighbors.

M$_b$	(6) The gap between the sub-markets can be manipulated, irrespective of the gap settings within (2). This is done by setting a threshold which is then compared with the income level of the agent that stays on the patch. If the agent's income is lower than the set threshold, the patch belonging to sub-market "a" will become part of sub-market "b."

This is to model that residents have an impact on the value of the home; that is, the dwellings filter down if poorer households live in them. Still, there may be potential housing finance products that balance out the inequality of the incomes to housing values, thus, submarket "b" does not necessarily grow (nor linearly) with growth in residents' income gap. It can also model the "expectation" of agents regarding a status loss involving their housing, irrespective of the actual market value decrease.

The actions include decisions and moves. Decisions are taken when agents have to choose whether they want to move or not, based on the level of preference for living next to their own groupmates. Moves occur in a random direction to a random distance of between 0 and 9 patches from those who leave their spot. Each agent acts independently, meaning that it may happen that one agent may be "happy" with their position while their neighbor is not, thus the established preferred neighborhood dissolves and agents have to move on again. The values of the parameters that define the settings can involve a great number of combinations, and so can the directions and distance of the moves.

With the help of Netlogo BehaviorSpace I ran an experiment with a set of values to explore which 10 combinations of the above parameters lead to the fastest decline of a neighborhood. The experiment is displayed in annex 8.4. The emerging settings are described in the following pages. (Note that No. 0 is the recoded basic Schelling model).

Table 6 summarizes the settings which define the model and describe what such settings could mean in the "real world." The analogies refer to ethnic groups, housing

sub-markets, and levels of discrimination, along with social status differences. The model investigates the pace of decline in a neighborhood with two distinct groups with a preference for staying next to similar neighbors; however, there are differences between their income and assets, and there is a housing market sub-segment threshold. The increasing share of the cheaper segment results in the decline of the neighborhood.

Table 6. Set parameter values of the model and its corresponding situation in the "real" world

"Real" world analogy for the setting	Number of setting	Parameters				
		Share of sub-markets, equal with group size of agents	Price difference between sub-markets	Income difference between group A and B	Level of preference for own group	Threshold for falling into cheap sub-market
		$N_{a;b}$ and $A_{A;B}$	$P_{a;b}$	$I_{A;B}$	D	M_b
Same social status, same size ethnic groups with moderate discrimination (basic Schelling model recoded)	0	50%	0	0	2/8	0
Same size ethnic groups and submarkets with considerable income difference of 25%, and 33% housing value gap. There is a moderate level of discrimination. The lower status sub-market threshold starts at -20% of housing asset value.	1	50%	33%	25%	2/8	80%*
The local market gap is only 10%, but one of the groups has a fifth less income than the other. The level of discrimination is high. Lower market segment starts at 80% of the higher housing value.	2	50%	10%	20%	4/8	80%
There is a great income gap between the two equally sized groups, whereas the gap between the sub-segments is minor. A moderate level of discrimination characterizes the neighborhood. If housing values fall to less than 60%, the housing becomes a lower status dwelling.	3	50%	5%	25%	2/8	60%
There is a small minority with considerably lower earnings (by 25%). The housing value gap is only 10%, but there is strong discrimination. Lower segment housing value starts at -20% of the average house price.	4	10%	10%	25%	4/8	80%
There is a small minority with considerably lower earnings (by 25%). The housing value gap is only 10%, and there is moderate discrimination. Lower segment housing value starts at -20% of the average house price.	5	10%	10%	25%	2/8	80%
There is a small minority with lower earnings (by 20%). The housing value gap is only 10%, and there is moderate discrimination. Lower segment housing value starts at -40% of the average house price.	6	10%	10%	20%	2/8	60%

(cont.)

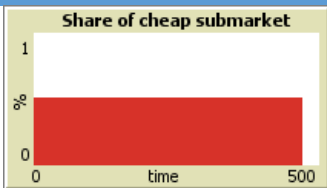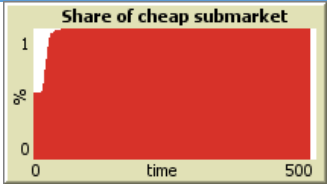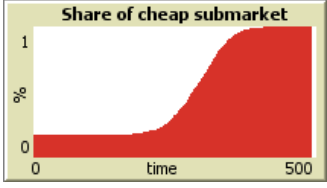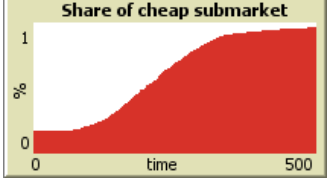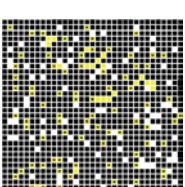| "Real" world analogy	Number of setting	Share of sub-markets, equal with group size of agents $N_{a;b}$ and $A_{A;B}$	Price difference between sub-markets $P_{a;b}$	Income difference between group A and B $I_{A;B}$	Level of preference for own group D	Threshold for falling into cheap sub-market M_b
The small minority has income equal to that of the majority, and there is only a small price gap between the market segments. Discrimination is strong. Lower segment housing value starts at -40% of the average house price.	7	10%	10%	0%	4/8	60%
The small minority has an income equal to that of the majority, and there is only a small price gap between the market segments. Discrimination level is modest. Lower segment housing value starts at -40% of the average house price.	8	10%	10%	0%	2/8	60%
There is a major value gap between the two housing sub-segments (33%). There is a small minority with lower incomes (at 80% of the income level of the majority). Discrimination is moderate. Lower segment housing value starts at -20% of the average house price.	9	10%	33%	20%	2/8	80%*
There is a major value gap between the two housing sub-segments (33%). There is a small minority with the same income. Discrimination level is moderate. Lower segment housing value starts at -40% of the average house price.	10	10%	33%	0%	2/8	60%
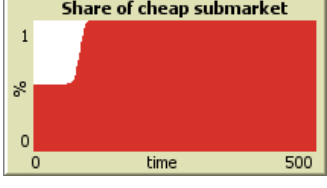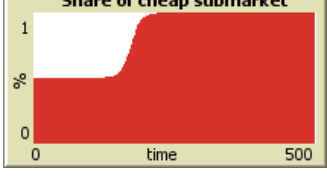
Note that the "threshold under which one enters the lower housing market segment" may occur above the value gap defined in the initial model. These scenarios are used to illustrate a market reaction following a decline in originally higher value that is perceived as a "signal" by residents that decline has started (I chose this option to illustrate a sort of a market value-linked white-flight).

The next illustration contains the outcomes of the recoded Netlogo model, where decline is linked with preference, but preference by itself does not lead to decline, only to clustering and segregation, as demonstrated by the Schelling model (No. 0).
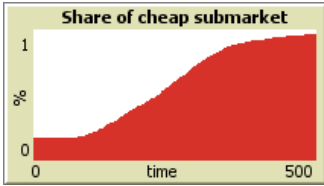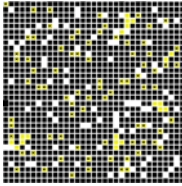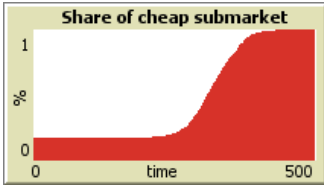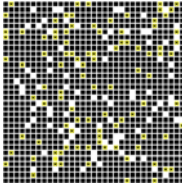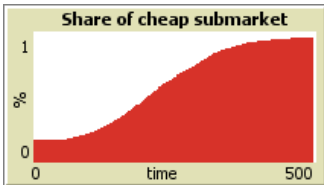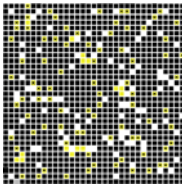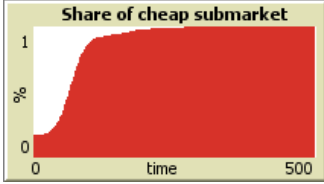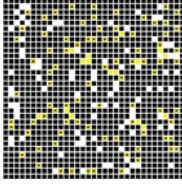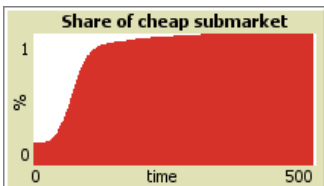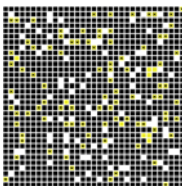
The first column of the table refers to the settings described in Table 6, which contains the exact values of the parameters applied in the model. The second column shows the histograms of the development of the lower segment housing stock within the neighborhood, signaling the pace and slope of decline. The third column includes a picture of the patch, modelling the neighborhood at the end of the process. The fourth column shows the "tipping point"; that is, the step number (in Netlogo: tick) when all

housing has turned into low segment housing. Some lessons are summed up in the last column.

Visual 5.Outcomes of the empirically recalibrated and extended Netlogo model

Setting	Share of market segment "b"	Level of segregation	Tipping point	Lessons
0		56%	none	Starting point: Segregation without any other social differences (Schelling model)
1		56.4%	29	High income and value gap among same size groups leads to extremely fast decline despite low levels of discrimination.
2		53.2%	90	High discrimination with modest value gap and substantial income gap leads to fast decline in same size groups' neighborhoods.
3		54.6%	189	A very small value gap and low level of discrimination coupled with considerable income differences leads after a balanced period to rapid decline.
4		83.3%	354	In the case of a small minority with substantial income gap and strong discrimination, even if the value gap is low, decline starts midway through and grows steadily.
5		80.9%	370	In the case of a small minority with substantial income gap and weak discrimination, even if the value gap is low, decline starts midway through and grows gradually.

(cont.)

Setting	Share of market segment "b"	Level of segregation	Tipping point	Lessons
6	Share of cheap submarket	81.2%	385	In the case of a small minority with 20% income gap and modest discrimination, even if the value gap is low, decline starts midway through and grows gradually, like in scenario (5).
7	Share of cheap submarket	82.1%	385	Despite the same income levels and low value gap, a neighborhood with a small and very strongly discriminated against minority will face decline starting midway through at high speed.
8	Share of cheap submarket	81.6%	402	Decline will start relatively early and follow only slowly in the case of a small value gap, same income level, and low level of discrimination with a low threshold between high and low status housing.
9	Share of cheap submarket	80.8%	119	Large value gap and considerable income gap leads to early and very speedy decline even if there is a small share of the minority, and moderate discrimination.
10	Share of cheap submarket	81.1%	127	A 33% value gap between market segments will push the neighborhood into fast decline even if income levels are equal and preferences for one's own group are modest, and the signal that one is becoming resident in a low-status housing is only associated with a 40% decline in price.

Source: Model outputs. The model's code book is included in the annex.

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The Schelling model showed that a stronger preference for one's own group increases clustering to a much larger extent than the original preference level. Based on the empirically calibrated model – that is, building on relevant "real world" differences – it is possible to highlight those mechanisms that are linked with preferences (or signal discrimination), and to create an emerging situation of decline through their interplay at the level of agent.

The core message from the 10 settings is that if interventions are intended to prevent decline in neighborhoods which are characterized by (1) a value gap, (2) an income gap, (3) discrimination, and (4) housing market status/stigma below a certain housing value, they should pay close attention to a few conditions in order to improve the likeliness of their being effective.

(a) In the case of small minority communities, the value gap between the cheaper segment and the majority higher value segment should be bridged to tackle decline. Income differences are not as defining for the pace of decline, in contrast to the "perception" of when housing becomes part of the lower status segment. Decline will happen fast at a low level of discrimination if the distance between the two sub-segments is considerable.

(b) Preventative interventions are needed in the case of neighborhoods with small ethnic communities to make sure that mid-term decline linked with income gap and discrimination (and external stigmatization of the lower segment dwellings) does not surge. Neighborhoods with a combination of low social and price differences and high discrimination are especially prone to such tipping points, even if the market is relatively tolerant (i.e. can tolerate a significant value decrease before a dwelling becomes classified as lower market segment stock).

(c) In the case of neighborhoods with a balanced share of ethnic groups, there are three key combinations that lead to decline:

(1) high income gap and even higher value gap combined with low levels of discrimination,

(2) high levels of discrimination combined with a modest price gap and less substantial income differences,

(3) The third combination leads to slightly later tipping of the situation, and is connected with a minimal value gap, modest discrimination, but an extensive income gap, and a permissive housing market reaction to the decreasing status of housing.

The last combination is a clear warning that if income differences remain unaddressed despite the range of policies and actions, decline will happen in such ethnically mixed communities as early as at the midpoint.

The model demonstrates that there are key triggers of decline at the micro-level which exist in combination and interaction, some of which will materialize only in the mid- or long-term, but then proceed rapidly. Given that policies and programs are often neighborhood based, it is thus of great importance that they are designed with an awareness of such intersectional spatial processes. As shown in 6.1, interventions seldom tackle these issues in their complexity, and even more rarely by addressing the sectoral policy linkages which result in the above-mentioned differences in income, value gap, and discrimination. Should the effectiveness of local projects be improved, at least the above lessons should be carefully tested within the select neighborhoods, and the actions should be designed accordingly – within and across the boundaries of the neighborhood.

Of course the micro-model's parameters can be extended using various other variables which could not be incorporated into the framework of this thesis. The model was solely included to show that some individual-level triggers *may* impact the speed of decline. It was used as a thought experiment to explore which potential policy instruments should mediate (or could have mediated) the effects of the constraints that could have strong effects in the case of Roma movers in the Hungarian context.

6.3   Revisiting the third perspective

Local interventions have evolved since the 1960s in Hungary to tackle housing destitution – and not least, to attract population into depopulating areas. The first lessons were already learned in the 1970s. Complementary social integration measures and policies were designed to make sure that not only single-sectorial investments are made that by themselves represent triggers but do not tackle constraints. Several recent policies have contributed to pushing households to decide to move to lower market segments, including state housing subsidy programs. The targeting and efforts of other interventions show that tackling evolving and persistent segregation is a resource-demanding undertaking.

Referring to the field-work experience and lessons learned from the agent-based model, we can conclude that the pace of further segregation can only be altered if selected dimensions of inequality are tackled and individual short-term adjustment strategies that are costly in the long-term both at the individual and the social level are counter-incentivized.

Thus, escape from living in segregated environments becomes possible only if broader housing mobility channels are open and the missing triggers for upward moves are created and strengthened via additional social mobility pathways. Policy design which does not take into account these layers and the interplay of the mechanisms that create decline may fail.

7 Summary

Since the early twentieth century, housing segregation, both at the community level and in broader policy contexts has been a topical research issue worldwide. The role of discrimination and regional inequalities in housing markets played out as key factors in such analyses. In the Hungarian context, in the recent three decades inequality has increased among the growing stratum of poor and the middle-class, which means that the gap to be bridged by households seeking to access quality services and the job market has widened, while the number of those in poverty started to decline; and the tools available for bridging these gaps are increasingly diverging among various social groups. Moreover, there have been great shifts in policy design both in terms of social inclusion and the urban planning and regional development sector. Although the living conditions of marginalized Roma in segregated neighborhoods have slightly improved, in segregated areas generations are trapped in poverty and destitution.

This thesis was designed to describe an exploration of the shifts in spatial inequalities and housing segregation from the 1990s onwards, and to analyze the constraints to escaping segregated Roma neighborhoods at the household level, and triggers for moving to the latter. I intended to increase understanding of how the housing system (and more specifically, housing policy interventions) impact housing pathways, and the bottlenecks that local- and national-level policy measures confront in relation to promoting social integration. I wished to contribute to the discussion about the combination of effects and transmission mechanisms which have remained largely unexplored, especially in the Hungarian research context.

In Hungary, like elsewhere, the multifaceted character of segregated neighborhoods is – among other aspects – linked to historical development (see, for example, Havas, 2008 and Ladányi and Virág, 2009). Phases of Hungarian urbanization and regional development, the programs of Roma resettling, and the economic processes that go hand in hand with migration have equally affected the emergence of the present situation (Dupcsik, 2009). Newer processes and policy interventions have also contributed to the emergence of declining and worse off neighborhoods. A vast range

of analyses of urban interventions have generated a set of lessons about the complexity of the institutional preconditions for sustainable interventions (EC/WB, 2014; Jelinek and Virág, 2019).

The thesis is intended to elaborate a framework for increasing understanding of the links between segregation and "sub-optimal" household-level housing decisions; i.e., the decisions which push an increasing number of people to the margins, among them many Roma. I wished to deliver a more nuanced and systemic understanding that is specifically focused on the constrained housing mobility and housing strategies of excluded Roma households. Such research has to contextualize the micro-level adjustment patterns within the emergence of spatial inequality and segregation processes, and development and housing policies. Therefore, I also used some new quantitative data analysis to underpin the robustness of findings obtained from qualitative data for the after-transition years, with a focus on the more recent past.

The combination and interlinkage of individual decisions and contextual-level conditions (including policies) related to Roma housing segregation processes, especially the intersectional nature of its components such as discrimination, regional inequalities, and sub-optimal personal or household decisions / adjustment strategies, are at the heart of the research presented in the thesis. I claim that household decisions/adjustment strategies, (housing) market patterns, and (discriminatory) institutional policies by themselves may lead to spatial segregation, but also, in given combinations, that they may change the speed of spatial segregation. Of course, the three phenomena are interlinked in that institutional policies constrain individual decisions, and (informed) individual housing decisions are always linked to short and long-term household strategies, which are also framed by market mechanisms (Skifter Andersen, 2003).

The conceptual framework used in the thesis is based on analytical sociology. I discuss mechanisms that connect the individual level and collective outcomes in a dynamic manner based on a review of the literature about segregation, housing adjustment, and (selective) mobility. The choice is underpinned by the fact that housing decisions and pathways are necessarily context-bound, and are typical examples of actions characterized by an interplay of micro- and macro (or in other words, contextual) factors (Wong, 2002), notwithstanding the role of individual consumption choices,

interactions with institutions, social practices and housing policy, and the constrained rationality of households (Clapham, 2002). Moreover, as Schelling (1969) showed, the process that leads to segregation can be decomposed into individual decisions, and these constrained individual decisions lead to collective results that are "independent" of individual intentions in the sense that their scale and speed are unintentional.

The methodological grounding discusses some further aspects. My analysis presumes that inter-ethnic relations are components of segregation mechanisms and should be better understood. Further, households' adjustment patterns (attitudes and actions) should be understood within a research target population that has self-identified as Roma. This implies that, for the sake of the research, the segregation patterns of hetero-identified localities (Roma settlements) should be investigated in combination with individual, self-identified Roma households' housing adjustment patterns.

For the investigation, I use document analysis (literature review), quantitative data collected at various points in time (all with constrained housing mobility data), and qualitative data (collected in field-based projects during the course of approximately the last 15 years). Thus, I undertake data and methodological triangulation so as to ensure a comprehensive discussion of the research themes. Moreover, the policy perspective is linked with an illustrative, agent-based micro-model, and is calibrated for select combinations of segregation-, discrimination-, and social inequalities that are characteristic of the lowest segment of the housing market in Hungary.

To reflect the complexity of the processes and mechanisms, the line of argumentation is arranged into three large thematic blocks: the contextual perspective, household-level housing adaptation and mobility, and the local policy response level.

Chapter 4 discusses the first perspective: Reconceptualizing the links between spatial segregation and social inequality, and thus reviews the theoretical work on segregation and discusses an extended segregation model. I develop a conceptual framework which includes structural-physical problems, problems with the internal design of housing, the competition-related issues of areas, urban design and spatial problems (poor location, pollution), internal social problems (crime, anti-social behavior), financial problems (arrears, vacancies), management and organizational problems (inadequate maintenance and insufficient resources), and legislative problems, and the contextual

impacts of wider socio-economic problems. As a starting point I revert to using Skifter Andersen's urban decline model (2003), but I refine it further to make sure that governance- and policy-structure-related mechanisms are awarded a relevant position in the process of decline. Moreover, I found it important to emphasize that the processes within and outside such neighborhoods are closely linked; they combine, interact, and fortify each other, and, most notably, they operate in their complexity.

Visual 1. Contextual-level analytical model: components in interaction
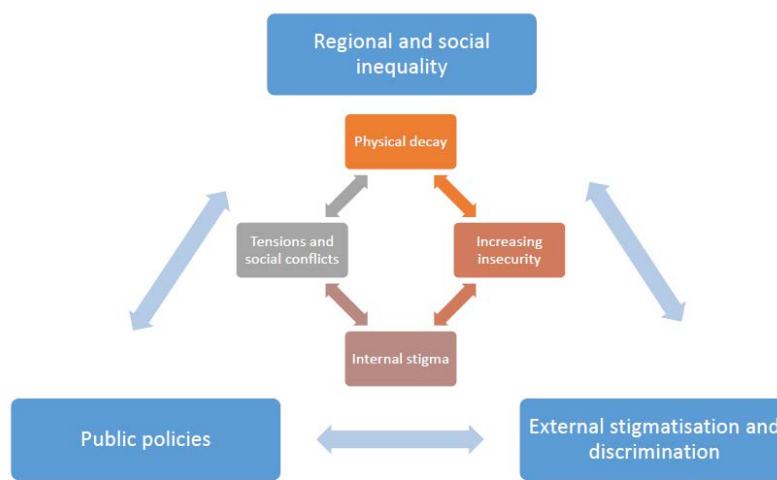
Source: Skifter Andersen (2003), with modifications

The extended analytical model contains the following conditions and processes at the contextual level:

A – External features:

> 1 - regional and social inequality (e.g. access to lower-positioned segments of the labor market and other services);
>> The actual social and economic features and conditions of the country/region affect the situation of neighborhoods. The regional and sub-regional labor market, institutions and service availability, transportation connections, etc. impact the linkages of people living in the neighborhood with the world beyond.

2 - public (housing) policies (e.g. those that put the neighborhood at a systemic disadvantage);

> The neighborhoods are not loose in institutional space, either; local-and national-level policies (for example, urban governance and regional development) affect them, and the power (and financial) relations of the local and central level also affect their development. Rolling out of state from these neighborhoods can also have a detrimental effect on internal processes.

3 - external stigmatization and discrimination (in terms of the labor market, education, insurance services and bank credit, etc.).

> People living in the neighborhood may be stigmatized and discriminated against, independent of the space in which they live; the neighborhood itself is often the locus of the production of stigma, which is reinforced by various institutions. Finding jobs, getting credit, acquiring a place at a good school, or accessing subsidies can be partially hampered by the reputation of the neighborhood from where people come.

B – Internal features:

1 - physical decay;

> Neighborhoods' physical features may be worse than those of the surroundings due to under-investment in housing, roads and other facilities, and more frequent damage to equipment in the public space. Often there is a gap between neighborhoods and their surroundings in terms of utility supply and general housing quality.

2 - tensions and social conflict;

> The social fragmentation of declining neighborhoods is often linked to conflict among families. Sometimes use of public space, institutions, etc. is dominated or controlled by the informal power of a single group within a neighborhood, causing vulnerabilities, exploitation, and dependence.

3 - increasing insecurity;

Poverty and marginalization often increase criminality. Neighborhoods may also attract illegal activities, due to the lower presence of "state structures" (see "external features"), which at the same time make them more dangerous.

4 - internal stigmatization and reduced self-esteem among residents.

Being attached to an externally stigmatized neighborhood and kinship limits the perceived opportunities of the local population through repeated experiences of discrimination. The interiorization of this external stigma may reduce the self-esteem and aspirations of local inhabitants and contribute to a reduction in social and cultural capital.

Internal and external processes are interlinked, and reinforcing. For example, public policies may neglect places with lower social capital because their representation of interests is weaker. Therefore, fewer public investments are completed in these neighborhoods, leading to the speeding up of physical decay. Poorer environmental and housing conditions attract more marginalized groups, who may in part rely on informal and illegal activities to sustain their living, hence security declines. With decreasing security, institutions may "red-line" neighborhoods (i.e. they fear they will get no return on loans or services). The withdrawal of institutions creates room for alternative power structures and hierarchies, leading to internal tension and social conflict. Thus, this downward movement has numerous forms of causation which intersect and combine in a synchronous or consecutive manner, strengthening and reinforcing each other.

In the chapter I conclude that, due to their historical development, urban and rural segregated neighborhoods in Hungary play a special role in the housing pathways of Roma and that the social inequalities associated with the Roma go hand in hand with the spatial distance and segmentation of the housing market. There are drivers at both the policy and contextual level which foster the growth and preservation of segregated neighborhoods, reinforcing the growing inequality between segregated neighborhoods and other housing market segments which manifest at the institutional level in the current Hungarian context.

I show that relative income poverty affects proportionately four times as many Roma households. The trend indicates a slowly closing gap, which is linked to the fact that the income level of the general population (and hence, non-Roma) has remained practically unchanged, whereas Roma households' incomes have improved, lifting approximately one-third of affected households out of poverty (Bernát, 2018). However, the severe material deprivation gap has not improved. Despite some shift in this sub-component of social exclusion, the general gap between Roma and non-Roma has not changed considerably, and there are still proportionately three times more families affected by poverty and social exclusion among the Roma compared to non-Roma (Bernát, 2008). The link with labor market positions is strong.

Social inequalities translate into housing inequalities, too. Despite considerable improvements in housing quality in general, the housing situation of the Roma is still significantly worse than that of the average population. In Hungary, 1384 segregated neighborhoods (some inhabited in the majority by Roma) exist, spread over 709 settlements, of which 482 are villages that account for approximately 2.8% of the total population. Housing price differences and their evolution also have a detrimental effect on housing mobility potential in and away from regions with pockets of poverty and large numbers of segregated neighborhoods. Price differences are of significant importance when the transaction costs of moves within the ownership sector are concerned (whereas differences in rental prices may be less depending on property quality and security).

I also show that regional inequalities are reinforced by the local governance structure, too (Teller, 2004, Földi, 2006). Local governments are key players (even since recentralization was launched in 2013) because most of the service delivery and policies of spatial relevance to areas with a high concentration of vulnerable groups are driven by the former. Whilst some deal with the constraints posed by intergovernmental governance settings (for example, Hegedüs and Teller, 2006), others focus on how public players, including the (local) social sector, reproduces vulnerability because of its own institutional interests (for example, Szalai, 2004). Nevertheless, local governments have been incentivized to address social exclusion within their administrative areas using a territorial approach, whilst making use of all planning and design competencies they have, and relying on their service delivery capacities. Beyond more promising projects, some initiatives have demonstrated that

when service delivery is duplicated in segregated neighborhoods when project financing ends, local governments face difficulties maintaining the social-inclusion- and social-work-related activities in the given neighborhoods, thus "diseconomic" solutions may turn out to be problematic in the long term, hence the gap between neighborhoods and towns prevails. In conclusion, the counter-incentive to serve marginalized groups under the current governance structure has remained strong. Thus, poor Roma neighborhoods are still more of an "outcome of the involuntary spatial segregation of a group that stands in a subordinate political and social relationship to its surrounding society" (Marcuse, 1997:228), as opposed to neighborhoods where ethnic concentration becomes established because of the voluntary spatial concentration of a group which supports the welfare of its members (Clark, 1965; Peach, 1996; Vincze, 2013). Public authorities, within their powers, often contribute to increasing spatial segregation – for example, via land policies, housing policies, and investment policies in general (UN, 2014).

Evidence discussed in the chapter shows that the detrimental effect of social inequalities and governance disincentives on Roma neighborhoods is further impacted by external stigmatization and discrimination in social, political, legal, and institutional fields in Hungary (see for example Ladányi, 2001; Dupcsik, 2009, Feischmidt and Szombati, 2014).

External processes and internal processes are interlinked and complementary, meaning that they reinforce each other. These processes may be at different stages of development in different neighborhoods, with factors at variable levels of dominance.

Chapter 5 is about the second perspective: Housing choice and adjustment. It puts housing mobility theories under the microscope and discusses Hungarian data with a special focus on survey results related to the constrained housing pathways of Roma to show the major differences between housing pathways into and out of segregated neighborhoods, versus up and down the housing ladder for the general population. In this chapter I show that the pathways available in constrained housing market segments are distinguishable from those in mainstream housing careers. It is important to understand that this difference is linked to adjustment patterns that diverge from those of the general population. In order to make this distinction, we must differentiate two layers of household adjustment patterns: individual life-cycle-related housing

decisions, and adjustment-to-contextual-level conditions. Moreover, individual housing decisions and household strategies are impacted by social networks and kinship, by local housing allocation policies, the labor market, accessibility, welfare, and other service delivery design, discrimination, and general housing-policy-related factors.

I show that urban change and housing mobility are related phenomena, thus the roots of the conceptualization of housing mobility originate in the same theoretical school as urban change, with consecutive theories refining potential explanatory frameworks. For example, housing mobility "pathways," as formulated by David Clapham (2005), complemented with the vacancy chain framework, can increase understanding of the meaning of a home as a financial strategy, investment strategy, or a last resort in a household's life course within a more contextualized framework that takes into account changes in the housing market, or, in a given case, the position of a whole neighborhood.

In order to improve understanding of the housing mobility patterns of households who may be constrained in their decisions in terms of space and housing market segments (see the "mobility channel" paradigm), I elaborate a life-course-based analytical model. I link moves in and out of the lowest market segment neighborhoods to spatial manifestations of upward and downward housing mobility from the contextual perspective. The housing choice that is made (irrespective of whether revealed or planned) is considered an adjustment on an "ad hoc" or a "strategic" level from a micro-perspective. Beyond tackling disequilibria or mismatches in consumption, the trade-offs of low housing consumption vs. other life-course traits are also accommodated in the analytical model. Moving into segregated neighborhoods is perceived as a broadly non-sanctioned coping strategy, as it is carried out by many households inside kinships and social networks.

In the case of households living in segregated neighborhoods, a number of factors within the general micro-level adjustment model are of core interest. With the help of the analytical model, two core issues can be analyzed: (a) the coping patterns of families regarding their constraints; that is, to what extent they can make real choices between neighborhood networks vs. mainstream welfare arrangements in order to mitigate their constraints within a segregated neighborhood; and, (b) the aspirations

involved in changing housing, and the cost of the trade-offs at which these can be achieved.

Visual 3. A life-course-based analytical model of housing adaptation at the micro-level
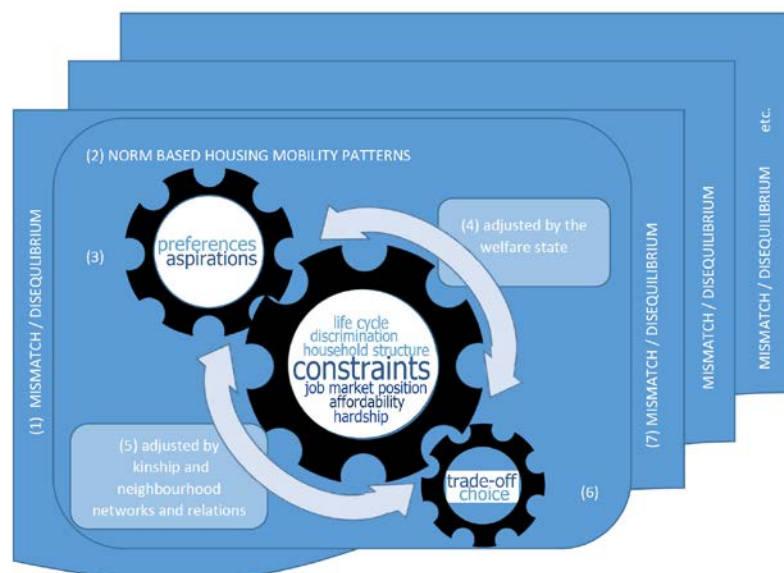
Source: Author's construction.

According to the framework, at the household-level, (1) mismatches may emerge at any point of the life course due to a change of job, change in household size or structure, cuts in the household budget, etc. (2) In alignment with the norm-based housing mobility patterns of the given social group it feels attached to (or wants to feel attached to), the household formulates aspirations and preferences for adjustment – to move, upgrade, downgrade etc. (3) However, the aspirations of the household may be challenged by a set of constraints, like a lack of savings, health conditions, care-related responsibilities, or discrimination. These constrictions may be modified by two resources: (4) the welfare state, which offers, for example, housing subsidies, job search allowances, or income replacement; and (5) kinship and neighborhood resources, which make life more affordable due to reciprocal help relations, thereby enhancing the resilience of household budgets and making jobs accessible through extended family or social networks. On the other hand, these two resources may also aggravate any constraints, as the two double arrows in Visual 3 portray. It is important to note that reciprocal relationships based on favors are normally created and produced within local communities or neighborhoods, thus their production cannot be easily displaced or moved to other communities. This may be one of the factors why moving

away from kinship which is supportive and functions as a (second) safety net (see the "social efficacy" concept) may intensify constraints. (6) While checking and evaluating all constraints against potentially mitigating factors, the household adjusts its preferences and opts for trade-offs before making an actual choice. A broad range of choices and combinations of choices may be available, such as leaving an area, upgrading in situ, moving, moving and upgrading, upgrading later, etc. and also a part of the household leaving temporarily (for example, going abroad and sending back remittances to their family for the purpose of upgrading). If there is a mismatch, the process restarts, and (7) another choice will be made

Based on quantitative data I compared the mobility pattern of marginalized families, Roma families, and the general population. The emerging patterns among Roma households – which seem to be significantly different from the general trend – cannot be explained by their social deprived status only. The data demonstrate and illustrate that there have been considerable improvements in Roma housing conditions in the past decades, and that the "gap" in housing quality has somewhat closed. However, the proportion of those living in segregated neighborhoods has not diminished at all, and despite the closing gap in housing quality among Roma and non-Roma, growth in the concentration of the population of the same ethnicity has taken place.

Approximately 40% of all age cohorts of Roma that were surveyed have never lived in a segregated neighborhood. The youngest and the oldest (that is, people just about to establish a housing career, and those towards the end of their housing pathway) are more likely to live in Roma settlements compared to other age groups. The same is true of past experience of living in a segregated neighborhood: a third (34%) of households with a middle-aged head of the family have lived in segregated neighborhoods; and this proportion reaches 36% in the case of those in their fifties (all these respondents have since left these neighborhoods and do not now live in a Roma segregated environment).

Compared to the overall population, the housing pathways of the Roma population seem to be markedly different. Within the general population the share of upward movers is higher in the youngest age group compared to the Roma sample and increases considerably when individuals are in their thirties before decreasing slowly across two age groups. The growth of upward movers within the Roma population remains modest, and gains pace only when people are in their fifties. A decline in the

value of housing of those individuals classified within the eldest age groups is characteristic of both the general population and the Roma sample.

To sum up, it is not only the proportion of upward vs. downward movers which differs greatly between the two groups (over 50% of the general population vs. 33% in the Roma sample in total), but also the dynamics; there seems to be a postponement of upwards mobility, meaning that improving housing conditions by leaving Roma neighborhoods happens at a later age. Given that the life expectancy of Roma is lower, this delayed downgrading recalls the pre-transition housing mobility pattern of the general population, when households tended to stay where they had got to at the peak of their housing ladder (HCSO, 2016).

We witness that job and education are mentioned across all age groups (except by individuals in their forties). The proximity of relatives as a trigger is mentioned more often by the youngest and the oldest. One striking driver of upwards movement is the quality of the neighborhood (note that this was not among the 10 most frequently mentioned triggers for the general population), which is important for all age groups, but especially for the oldest ones.

Downward mobility triggers across age groups show some interesting features, too. Partnership formation may cause downward moves, especially in the second age cohort, but compared to upward triggers, we find approximately the same distribution of responses, except for the oldest group. Divorce remains marginal as a reason for moving across age groups. This is an even more important finding, given that this is the most important trigger in terms of downward moves for the middle-aged in the general population, and those who are older.

There are four core findings:

    (1) Some triggers for upward moves seem to be less relevant for Roma than for the average population. Neighborhood characteristics, quality and size of dwellings, and moving for jobs or education are among these triggers. This may be connected with norm-framed expectations and social inequalities: the generally lower level of housing consumption may push households to move to segregated neighborhoods to satisfy the need for room despite bad quality and low neighborhood status; moving for a job means moving to a higher priced area which may not be affordable.

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(2) While household formation and becoming independent seems to play a similar role, divorces do not play out as important drivers of downward movement in Roma segregated neighborhoods.

(3) Within the total Roma sample, the proximity of relatives is more strongly connected with upwards moves than downward moves. This may be due to the fact that the most upwardly mobile age group is less present in segregated Roma neighborhoods (see above).

(4) The gap between the relevance of upward mobility triggers may be connected with constraints stemming from social inequalities.

I also developed a logit model to check what triggers are at play, since the life cycle model does seem to be only marginally present in the case of Roma households (or at best it follows a pattern that was prevalent a generation ago, with people stopping moving at the peak of their housing career). We have also seen that changes in household structure – including divorce or marriage – do not predict upward or downward moves, as opposed to the situation with the general population. Triggers and constraints obviously affect each other differently in the case of Roma households. The model demonstrates the following findings:

(1) with increasing age (across four age groups, given the small sample size), the chance of downward mobility decreases.

(2) Education, unsurprisingly, reduces downward mobility considerably, especially in the best educated groups (in our model: maturity included), who are only a quarter as likely to move down as people with an unfinished education.

(3) Household size seems to be a relevant trigger / constraint only in four-person or six-or-more person households. In four-person households, the probability of moving down doubles compared to single households, and in the largest households it triples.

(4) Social networks have an impact as well. When the network of the household is not overwhelmingly composed of Roma only, the chance of moving down decreases considerably. Even when just half of the network is composed of non-Roma, the chance of moving to a segregated Roma neighborhood diminishes to approximately two-fifths of that compared to

households whose friends are exclusively Roma (note that reverse causalities may be at play).

(5) Unfortunately, the settlement-size-related constraint proves to be relevant only specifically for towns: compared to Budapest, living in a municipality of over 5000 inhabitants radically increases the chance of moving downward – meaning that Budapest is a "safe" place in terms of stability.

(6) Labor market participation operates as expected: if one does not have a job or engage in any labor market activity, the odds of moving down increase over 1.8 times, representing one of the strongest constraints, besides low education, large household size, and limited social network.

(7) Households that do not have to ask for financial aid from relatives and friends in times of hardship are much less exposed to downward moves compared to those who depend on regular help from their kinship and network. Interestingly, those who seldom receive any financial aid seem to be more secure than those households who never do.

In the last thematic chapter I discuss the third perspective: Interventions and policy implications. This chapter deals with lessons from the field and summarizes an empirically calibrated micro-model to show what processes fuel local-level segregation, then concludes with some policy implications. In this section I show that the pace of further segregation can be altered if selected dimensions of inequality are tackled, and individual adjustment strategies are counter-incentivized. This has policy implications, too: if escaping from segregated environments becomes possible only if routes other than housing mobility channels are also open, policy design which does not take into account both layers of adjustment may fail.

Previous research shows that when there is spatial concentration of socially vulnerable inhabitants, municipalities are even harder hit by service-related duties that require additional funding. There are several responses to such increased needs: 1. do nothing and let the population exist with low capacity services, resulting in under-served areas and further downward perpetuation of areas due to under-investment into services; 2. increase service capacity and diversify it according to needs; 3. decrease public service delivery capacities further, on the one hand resulting in an outflow of inhabitants from

the area, mostly followed by the inflow of even poorer residents as real estate prices fall, and the creation of "parallel" service delivery – for example, by charity organizations – similarly to what is termed "diseconomies of conflict" (for case studies for each scenario, see Teller, 2009).

In the Hungarian context, similarly to in other Central East European countries, the spatial reallocation of Roma to poor but moderate housing through the process of integration into the industrializing and workforce-hungry labor market went along with the launch of numerous integration or assimilation policies for Roma, including settlement abolishment and resettlement actions (Hajnáczky, 2015; Teller, 2018). The first evaluations found despair and severe levels of housing poverty, which showcased the inefficiency of state housing policy which relocated Roma into poor, vacant, low quality housing (Dupcsik, 2009). In later decades, some municipalities, principally cities, attempted to tackle housing poverty with diverse measures such as infrastructural investment, housing allowances, and debt management interventions, but these policies are often framed by a "punishment-of-the-poor" approach, primarily involving moving Roma families into a segregated social housing environment (Teller, 2018).

Thus, most recent interventions have been launched in environments in which there is a serious gap compared to that of the non-Roma in terms of physical housing conditions (a 20-40 year lag). The peripheral locations of Roma neighborhoods often lead to worse access to various services, hence less coverage and efficiency. In terms of housing, it is not only physical conditions that can be critical, but households are frequently exposed to tenure-related insecurity for various reasons (e.g. unclear titles or arrears). Thus, there is a complexity of housing- and service-access-related issues to be addressed at the local level, beyond the constraints that prevail at the individual household level.

Still, field experience shows that local interventions continue to remain at the level of "fixing threats to life"; that is, they deal with bringing up the worst quality housing to a minimum standard. The upgrading of infrastructure (access to water, electricity, and sewage systems) and improving access (road and transportation) contribute to in-situ upgrading, often accompanied by legalization- or formalization-related interventions. Regardless, some core issues remain outside the scope of local programs, such as improving affordability and creating new mobility channels (especially through

rehousing families into an integrated environment, moving them out, or demolishing fully segregated neighborhoods). While local programs are very often implemented in poor municipalities (given that poverty and destitution are concentrated in backward regions), the design of effective labor market interventions and training/education is often ad hoc, without offering long-term perspectives for families.

A further lesson is that fragmented communities need long-term commitment, so that beyond individual case management, community development can become part of the agenda. And finally, the sustainability and embeddedness of interventions depends on whether and how discrimination can be and is addressed locally, and more broadly – for example, whether sectoral policies (like those involving the education and labor market) address this challenge. In the Hungarian context, this clearly seems to be one of the weakest and most detrimental factors, as shown from the quantitative data analysis. Field work experience testifies that this is why the long-term impact of local-level interventions may remain modest, if not partial, in the context of current mainstream policies.

In order to investigate potentially effective entry points into segregation processes, I composed a Netlogo micro-simulation of neighborhood processes characterized by (1) a value gap, (2) an income gap, (3) discrimination, and (4) housing market status/stigma below a certain housing value. The model was solely included to show that some individual-level triggers may impact the speed of decline, thus, building even on this constrained set of triggers can effectively impact the success of policy interventions.

Based on the model I put forward the claim that in the case of small minority communities the value gap between the cheaper segment and the majority higher value segment should be bridged to tackle decline. Income differences are not as defining in terms of the pace of decline, in contrast to the "perception" of when housing becomes part of the lower status segment. Decline will happen fast at a low level of discrimination if the distance between the two sub-segments is considerable.

Preventative interventions are needed in the case of neighborhoods with small ethnic communities to make sure that mid-term decline linked with income gap and discrimination (and external stigmatization of lower segment dwellings) does not surge. Neighborhoods with a combination of low social and price differences and high

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discrimination are especially prone to such tipping points, even if the market is relatively tolerant (i.e. can tolerate a significant value decrease before a dwelling becomes classified as lower market segment stock).

In the case of neighborhoods with a balanced share of ethnic groups, there are three key combinations that lead to decline: (1) high income gap and even higher value gap combined with low levels of discrimination, (2) high levels of discrimination combined with a modest price gap and less substantial income differences, (3) The third combination leads to slightly later tipping of the situation, and is connected with a minimal value gap, modest discrimination, but an extensive income gap, and a permissive housing market reaction to the decreasing status of housing. The latter combination is a clear warning that if income differences remain unaddressed despite a range of policies and actions, decline will happen in such ethnically mixed communities as early as at the midpoint.

The model demonstrates that there are key triggers of decline at the micro-level which exist in combination and interaction, some of which will materialize only in the mid- or long-term, but then proceed rapidly. Given that policies and programs are often neighborhood based, it is thus of great importance that they are designed with an awareness of such intersectional spatial processes. Interventions seldom tackle these issues in their complexity, and even more rarely by addressing the sectoral policy linkages which result in the above-mentioned differences in income, value gap, and discrimination. For the effectiveness of local projects to be improved the above lessons should at least be carefully tested within the select neighborhoods, and related interventions should be designed accordingly – within and across the boundaries of neighborhoods.

8 Annexes

8.1 Annex 1. List of fieldwork-related projects

The list below contains those consultancy and research projects carried out during former professional activity which helped generate empirical evidence for the qualitative research component of the thesis.

1) Researcher for the Maltese Charity Service: assessing the impact of local inclusion projects in four Hungarian and four Romanian Roma settlements (2019-2020) (Design of research methods and data collection, fields visits and reporting on the social work methods and social inclusion project activities applied in the settlements)

2) Consultant for the World Bank on restructuring the Hungarian Labor Market Profiling system (2017-2019) (Consultant in the advisory project, conducting field research and analysis related to the profiling activities and labor market service design for vulnerable groups, among them marginalized Roma)

3) Consultant: designing housing and education desegregation policies funded from ESIF in Hungary (2016- 2018 and 2019-2020) (Consulting the Hungarian Authorities and the EC about investments and project design)

4) Consultant: design of the impact assessment of the social integration activities of the Maltese Charity Service in Tiszabő and Tiszabura (2016-17) (Design of the monitoring indicators for assessing the impact of the local activities)

5) Consultant: Evaluation of Roma Settlement Integration Projects commissioned by TKKI/MHC (2016) (Co-author of the evaluation report of Complex Roma Settlement Integration projects running in Hungary between 2012 and 2016)

6) Consultant: producing a Desegregation Guidance Note commissioned by DG Regio (2014-2015) (Preparation of the Note for MAs and implementing bodies to support ESIF investments that would result in desegregation of marginalized Roma in education and housing in the 2014-2020 programming period, including field visits in Hungary, Spain, Slovakia, and Romania)

7) Short-term consultant for World Bank RAS in mapping the development impact of local equality plans in Hungary (2014-2015) (Conducting field research and data analysis, including co-authoring a handbook for the better

design of local-level inclusion projects in line with local equality programs in Hungary)

8) Consultant for MtM/OSI during the production of a Toolkit for Roma Integration, specific thematic focus on housing integration (September 2013 - April 2014) (Preparation of the thematic chapter of housing integration prepared for EC staff [available on the intranet of the EC] and MA personnel to support the Roma integration process in the 2014-2020 programming period)

9) Assistant: research on Roma political elites at the Hungarian Academy of Sciences (Summer 2015) (Production of a case study on the housing-related action of the Roma civil right movements)

10) Consultant to Eruditio Zrt. in the elaboration of the Roma Settlement Integration Strategy commissioned by the Ministry for Human Resources in Hungary (July – September 2013) (Carrying out secondary data analysis of segregation and housing processes in Hungary, and designing policy responses to the housing segregation of Roma in Hungary)

11) Researcher for the Maltese Charity Hungary in the SEE PAIRS project (thematic expert for housing inclusion of Roma) (January 2013 - January 2015) (Leading the Hungarian data collection process, synthesis of international analytical activities, and heading the working group on the housing integration of Roma, including conducting field visits in Hungary and Serbia).

12) Consultant to the National Development Agency (financed from MtM/OSI resources) on programming ERDF funding for Roma housing integration projects (September 2012 – August 2013) (Consulting the NDA on producing the call for tenders for settlement reintegration projects financed from ERDF, including field visits in Hungary)

13) Co-researcher in project assessing inclusive development policies in education and housing in Hungary (2012-2013) (Conducting data analysis and field research to assess the impact of equality-based education and urban development investments, including field visits)

14) Consultant: selection of best practices of Roma inclusion in the CEE and SEE region for the MERI network, commissioned by MtM/OSI (July – October 2012)

(Design of the framework of analysis and evaluation, and selection of good-practice cases with regard to employment, community work integration, and housing)

15) Lead researcher: Evaluation of the first year of the National Roma Inclusion Strategy of Hungary, commissioned by the Roma Decade Secretariat, Hungary (September 2012 - April 2013), and lead researcher in the updating process in 2014 and 2015 (Based on a template provided by the Roma Decade Secretariat, leading the evaluation activities of a civil society coalition)

16) Research on barriers to social housing for the homeless in 13 European countries (in the framework of the European Observatory on Homelessness) (October 2010 – June 2011) (Lead researcher in the analysis of social housing allocation techniques in EU member states related to their impact on access to housing of the homeless)

17) Lead Researcher: Evaluation of social inclusion projects financed from the HRD OP in Hungary (June 2012 – March 2013), commissioned by the National Development Agency (Developing the framework of evaluation and leading the research on the impact of EU-funded measures for social inclusion, including early childhood education, housing, labor market, and training)

18) Researcher: Needs Assessment project commissioned by the Maltese charity that targeted the alleviation of child poverty (January – July 2012)
(Implementing micro-regional level analysis of social processes in selected backward regions in Hungary to design better targeted complex inclusion programs for the alleviation of child poverty, including field visits to some micro-regions)

19) Lead Researcher: assessment of selected EU-funded programs in Hungary related to Roma integration effects, commissioned by the National Development Agency (March – December 2011) (Developing the framework of evaluation and leading the research on the impact of EU-funded measures for social inclusion, including field visits)

20) Research Assistant: CEU-Romaversitas-Hungarian Academy of Sciences project on the education policies of 100 Hungarian cities (2010-11)
(Assistance in producing the data collection tool for spatial segregation and

conducting field research in four cities on local education policies and social exclusionary mechanisms)

21) Research into housing programs for vulnerable groups and Roma in five Central European countries in order to foster the application of ERDF resources, commissioned by OSI (March 2010 – June 2011) (Developing a Vademecum for housing integration projects based on field case studies and secondary literature, and co-organizing a workshop for decision makers at the national level for CEE countries concerning better programming of EU funds for Roma housing inclusion, including field visits in the five countries)

22) Member of the Expert Group on the adaptation of the Harlem Children Zone program for Roma in Hungary (April – September 2010), commissioned by the Ministry of Human Resources (Field visit to the USA and developing the main lines of adaptation of the HCZ in Hungary)

23) Evaluation of the Roma Settlement Rehabilitation interventions in 2005-2008 commissioned by the Ministry of Human Resources (April – August 2010) (Consultant for the evaluation report on the first phases of the Roma housing integration projects)

24) Research about Poverty Housing in Hungary commissioned by Habitat for Humanity, Hungary (August – October 2009)
(Secondary and primary data analysis regarding housing conditions and policy developments in Hungary)

25) Researcher in the framework of the EU 7th Framework Project on Demographic Changes and Housing Wealth (DEMHOW) (September 2008 – December 2011)
(Part of the Hungarian research team for the project, carrying out qualitative and quantitative data collection and analysis, and editing related publication)

26) Advisor to the State-Level Ministry of Human Rights and Refugees in Bosnia and Herzegovina, commissioned by the EC (April – July 2008)
Social housing advisor of the MHRR of Bosnia and Herzegovina within the Service Contract No 2007/137-364 EuropeAid/123505/C/SER/BA

27) Policy Research Fellow at the Open Society Institute Budapest (2006-2007)
(Analysis of the Spatial Concentration of Vulnerable Groups and the Effects of Selected Local Government Service Delivery Policies in three Hungarian

Cities: The cases of Tatabánya, Miskolc, and Magdolna District, Budapest, based on field work and individual research)

28) Member of the Hungarian Project Team in the ESPON 1.4.2 Framework program, research topic: Housing and Regional Development (October 2005 – October 2006)

(Analysis based on the data collection, literature review, and data review of regional processes in housing and housing policy in the EU)

29) Origins of Security and Insecurity of Homeownership (OSIS): European 6th Framework program (September 2004 – December 2006)

Part of the Hungarian project team in the three-year program aimed at implementing an in-depth macro-, micro- and qualitative analysis of housing systems

30) Consultant: Roma Housing and Social Integration Program, giving technical advice to mentors on a local level, monitoring the program in its assessment phase in 2006 (September 2004 – August 2006)

Consulting local-level projects related to housing measures and the design and implementation of the monitoring of the program's pilot phase

8.2 Annex 2. Downward mobility in the Logit model

Model Output (generated in SPSS).

Notes		
Syntax	logistic regression var=mobility_2dir /method=ENter korcsop4 iskveg4_n htletsz6 network settlement_4 work_n j20 /CONTRAST (settlement_4)=INDICATOR(1) /CONTRAST (htletsz6)=INDICATOR(1) /CONTRAST (korcsop4)=INDICATOR(1) /CONTRAST (iskveg4_n)=INDICATOR(1) /CONTRAST (network)=INDICATOR(1) /CONTRAST (work_n)=INDICATOR(1) /CONTRAST (j20)=INDICATOR(1) /CRITERIA=PIN (.5) POUT (.10) ITERATE(50) CUT(.5).	
Resources	Processor Time	00:00:00,06
	Elapsed Time	00:00:00,05

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	893	44,6
	Missing Cases	1111	55,4
	Total	2004	100,0
Unselected Cases		0	,0
Total		2004	100,0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
upward movers	0
downward movers	1

Categorical Variables Codings

		Frequency	Parameter coding (1)	(2)	(3)	(4)	(5)
Household size - 6 groups	1,00	76	,000	,000	,000	,000	,000
	2,00	129	1,000	,000	,000	,000	,000
	3,00	162	,000	1,000	,000	,000	,000
	4,00	170	,000	,000	1,000	,000	,000
	5,00	153	,000	,000	,000	1,000	,000
	6 or more	203	,000	,000	,000	,000	1,000
What is the share of Roma among your friends?	all of them are Roma	225	,000	,000	,000	,000	
	majority of them are Roma	233	1,000	,000	,000	,000	
	half-half of them are Roma and non-Roma	299	,000	1,000	,000	,000	
	majority of them are not Roma	91	,000	,000	1,000	,000	
	no Roma	45	,000	,000	,000	1,000	
Finished education 4 groups	less than 8 grades	144	,000	,000	,000		
	8 grades	485	1,000	,000	,000		
	vocational education	216	,000	1,000	,000		
	maturity or higher	48	,000	,000	1,000		
Has your household/ family received any financial aid from other households?	yes, regularly	25	,000	,000	,000		
	yes, from time to time	77	1,000	,000	,000		
	yes, seldom	60	,000	1,000	,000		
	no	731	,000	,000	1,000		
Settlement size - 4 groups	Budapest	95	,000	,000	,000		
	county seat, city with county rights	121	1,000	,000	,000		
	other town above 5000 inhabitants	263	,000	1,000	,000		
	settlement with less than 5.000 inhabitants	414	,000	,000	1,000		
4 age groups	- 30	233	,000	,000	,000		
	31 - 40	261	1,000	,000	,000		
	41 - 50	216	,000	1,000	,000		
	51 -	183	,000	,000	1,000		
Do you work or do you have a job (including temporary work and business)?	yes	206	,000				
	no	687	1,000				

Block 0: Beginning Block

Classification Table[a,b]

	Observed		Predicted		
			Sample of upward and downward movers		Percentage Correct
			upward movers	downward movers	
Step 0	Sample of upward and downward movers	upward movers	497	0	100,0
		downward movers	396	0	,0
	Overall Percentage				55,7

a. Constant is included in the model.

b. The cut value is ,500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-,227	,067	11,374	1	,001	,797

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	4 age groups	10,580	3	,014
		4 age groups (1)	,307	1	,580
		4 age groups (2)	2,369	1	,124
		4 age groups (3)	1,424	1	,233
		Finished education 4 groups	40,609	3	,000
		Finished education 4 groups(1)	6,550	1	,010
		Finished education 4 groups(2)	17,752	1	,000
		Finished education 4 groups(3)	13,465	1	,000
		Household size - 6 groups	22,476	5	,000
		Household size - 6 groups(1)	,649	1	,420
		Household size - 6 groups(2)	2,958	1	,085
		Household size - 6 groups(3)	,854	1	,355
		Household size - 6 groups(4)	,023	1	,880
		Household size - 6 groups(5)	20,223	1	,000
		What is the share of Roma among your friends?	54,842	4	,000
		What is the share of Roma among your friends?(1)	,011	1	,917
		What is the share of Roma among your friends?(2)	9,497	1	,002
		What is the share of Roma among your friends?(3)	10,215	1	,001
		What is the share of Roma among your friends?(4)	6,001	1	,014
		Settlement size - 4 groups	22,568	3	,000
		Settlement size - 4 groups(1)	,070	1	,792
		Settlement size - 4 groups(2)	4,511	1	,034
		Settlement size - 4 groups(3)	,534	1	,465
		Do you work or do you have a job (including temporary work and business)?(1)	28,437	1	,000
		Has your household/ family received any financial aid from other households?	5,615	3	,132
		Has your household/ family received any financial aid from other households?(1)	,198	1	,656
		Has your household/ family received any financial aid from other households?(2)	3,160	1	,075
		Has your household/ family received any financial aid from other households?(3)	,021	1	,883
	Overall Statistics		127,074	22	,000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	137,123	22	,000
	Block	137,123	22	,000
	Model	137,123	22	,000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1089,390[a]	,142	,191

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than ,001.

Classification Table[a]

			Predicted		
			Sample of upward and downward movers		
	Observed		upward movers	downward movers	Percentage Correct
Step 1	Sample of upward and downward movers	upward movers	373	124	75,1
		downward movers	175	221	55,8
	Overall Percentage				66,5

a. The cut value is ,500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	4 age groups			9,492	3	,023	
	4 age groups (1)	-,470	,200	5,537	1	,019	,625
	4 age groups (2)	-,423	,212	3,992	1	,046	,655
	4 age groups (3)	-,638	,226	7,966	1	,005	,528
	Finished education 4 groups			16,110	3	,001	
	Finished education 4 groups(1)	-,565	,211	7,199	1	,007	,568
	Finished education 4 groups(2)	-,877	,251	12,228	1	,000	,416
	Finished education 4 groups(3)	-1,383	,443	9,751	1	,002	,251
	Household size - 6 groups			17,028	5	,004	
	Household size - 6 groups(1)	,629	,325	3,739	1	,053	1,877
	Household size - 6 groups(2)	,473	,317	2,218	1	,136	1,605
	Household size - 6 groups(3)	,653	,315	4,291	1	,038	1,922
	Household size - 6 groups(4)	,611	,320	3,653	1	,056	1,842
	Household size - 6 groups(5)	1,145	,309	13,749	1	,000	3,142
	What is the share of Roma among your friends?			29,145	4	,000	
	What is the share of Roma among your friends?(1)	-,575	,206	7,818	1	,005	,563
	What is the share of Roma among your friends?(2)	-,925	,195	22,578	1	,000	,396
	What is the share of Roma among your friends?(3)	-1,039	,296	12,355	1	,000	,354
	What is the share of Roma among your friends?(4)	-1,257	,382	10,803	1	,001	,285
	Settlement size - 4 groups			8,603	3	,035	
	Settlement size - 4 groups(1)	,637	,339	3,522	1	,061	1,890
	Settlement size - 4 groups(2)	,815	,308	7,003	1	,008	2,260
	Settlement size - 4 groups(3)	,482	,303	2,530	1	,112	1,619
	Do you work or do you have a job (including temporary work and business)?(1)	,601	,199	9,074	1	,003	1,823
	Has your household/ family received any financial aid from other households?			9,879	3	,020	
	Has your household/ family received any financial aid from other households?(1)	-,941	,503	3,501	1	,061	,390
	Has your household/ family received any financial aid from other households?(2)	-1,600	,525	9,298	1	,002	,202
	Has your household/ family received any financial aid from other households?(3)	-1,142	,443	6,653	1	,010	,319
	Constant	,764	,618	1,527	1	,216	2,146

a. Variable(s) entered on step 1: 4 age groups , Finished education 4 groups, Household size - 6 groups, What is the share of Roma among your friends?, Settlement size - 4 groups, Do you work or do you have a job (including temporary work and business)?, Has your household/ family received any financial aid from other households?.

8.3 Annex 3. The Netlogo model of segregation-contextualised decline

```
globals [
  percent-similar  ;; on the average, what percent of a turtle's neighbors
            ;; are the same color as that turtle?
  percent-unhappy  ;; what percent of the turtles are unhappy?
]

turtles-own [
  happy?        ;; for each turtle, indicates whether at least nr of similar-wanted turtles
are around, that are the same colour
  similar-nearby   ;; how many neighboring patches have a turtle with my color?
  other-nearby     ;; how many have a turtle of another color?
  total-nearby     ;; sum of previous two variables
income-level ;; income level of the turtle depending on the colour of the patch it is on

]

patches-own [
reds-nearby ;; how many neighboring patches have a red turtle?
yellows-nearby ;; how many neighboring patches have a yellow turtle?
local-income ;;-- changes with the individial that stands on it
av-income ;; the value of the patch
]

to setup
  clear-all
    ask n-of number patches   [set pcolor grey + 2] ;; creation of the housing market
  ask n-of (number * ratio) patches   [set pcolor white] ;; one submarket
   ask n-of number patches [sprout 1 [ set color black  set income-level red-income-
level] ]
  ;; turn a ratio the turtles yellow - according to ratio slidert
  ask n-of (number * ratio ) turtles
    [ set color yellow  set income-level yellow-income-level]  ;; the other submarket
  ask patches [if pcolor = white [
    set av-income  white-patch-value]]
  ask patches [ if pcolor != white [ set av-income  other-patch-value]]
  reset-ticks
end

;; run the model for one tick
to go
   if ticks >= years [stop] ;; stops after years slider max

  rent-seek ;; to earn/lose money while moving across the subsectors
  move-unhappy-turtles
  update-turtles
  update-globals
  update-patches
```

```
    tick
end

to rent-seek ;; patch value defines the level of income of the turtle.
  ask turtles
    [
    if pcolor = white [
      set income-level (av-income * income-level );; all transactions of lower market
segment
    ]]
    ask turtles
  [if pcolor != white [
      set income-level income-level ;; all transactions of the higher market segment
    ]
  ]
  end


to move-unhappy-turtles
  ask turtles [
  ifelse   similar-nearby <= min-similar-neighbours ;;only those turtles move away
whose different neighbors are more than the min nr of similar neighbours they wish to
have
    [ find-new-spot ] ;; move turtles further if they are unhappy with the number of
similar turtles
    [move-close] ;; move turtles closer if the number of similar neighbours is OK
  ]
    end

to find-new-spot
  rt random-float 360
  fd random-float 10
  if any? other turtles-here ;; keep going until we find an unoccupied patch
  [ find-new-spot ]  setxy pxcor pycor   ;;
end

to move-close
  rt random-float 1
  fd random-float 1
  if any? other turtles-here ;; keep going until we find an unoccupied patch
 [ find-new-spot ]  setxy pxcor pycor

end


to update-patches
ask turtles [ ask patch-here [ set local-income [ income-level ] of myself ]]
ask patches [
   if (local-income < threshold-to-become-white) [ set pcolor white]
```

```
  ]
end

to update-turtles
  ask turtles [
    ;; in next two lines, we use "neighbors" to test the eight patches
    ;; surrounding the current patch
    set similar-nearby count (turtles-on neighbors)  with [ color = [ color ] of myself ]
    set other-nearby count (turtles-on neighbors) with [ color != [ color ] of myself ]
    set total-nearby similar-nearby + other-nearby
    set happy? similar-nearby >=  min-similar-neighbours
    ;; add visualization here
    if visualization = "old" [ set shape "default" ]
    if visualization = "square-x" [
      ifelse happy? [ set shape "square" ] [ set shape "square-x" ]
    ]
  ]
end

to update-globals
  let similar-neighbors sum [ similar-nearby ] of turtles
  let total-neighbors sum [ total-nearby ] of turtles
  set percent-similar (similar-neighbors / total-neighbors) * 100
  set percent-unhappy (count turtles with [ not happy? ]) / (count turtles) * 100
end

; Copyright 1997 Uri Wilensky. Modifications and additions by Nóra Teller.
```

8.4 Annex 4. Experiment run in Netlogo BehaviorSpace

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