Evaluation of urban regeneration areas using target group analysis: an update of the situation in Budapest districts IX and VIII

Tom KAUKO
PhD, School of the Built Environment, Oxford Brookes University, Gipsy lane, Oxford, OX3 0BP, UK, e-mail: tkauko@brookes.ac.uk; tom.kauko@yahoo.co.uk

Abstract. This paper continues prior work with the aim of evaluating the success of urban regeneration areas based on changes in property prices when compared with changes in quality. The main idea is to distinguish between cases where price is affected, either negatively or positively, by a government intervention in a situation when the price trend is confirmed to be caused by scarcity (or abundance), quality improvement (reduction) or something more oriented towards changes in the relevant institutional circumstances. The evidence comprises price and neighbourhood quality changes in residential areas undergoing urban regeneration, based on target vs. comparative group analysis and site visits in downtown Budapest (Hungary). The findings add detail to the corresponding results from the prior study where price developments rather neatly could be related to either scarcity or quality upgrade. However, the present study only partially shows same results. As the data and methods are the same, the reasons have to be related to a change in urban and neighbourhood change processes taking place in the area of study. Another issue is that the price development in this study has covered an economic downturn in property prices caused by the global financial crisis, which generates further research questions.

Key words: Budapest, comparable group, target group, urban regeneration.

1. Introduction
A recent study by RICS (2016) highlights the importance of sustainability (i.e. the green agenda, sense of community and long term marketability prospects) for the viability of new residential developments. Intuitively, place making and property value are concepts with natural feedback relationship: improving the place quality generates market attractiveness and vice versa, increased demand triggers the improvement of various amenities associated with the location. While the urban land economics literature on place quality dates back to at least 1970s, recently RICS has taken this relationship on board in their evaluation of development practice. Their evidence from five case studies carried out in south-eastern parts of England points to the importance of master-planning and phasing; social and commercial
infrastructure; good design of location and space; green infrastructure and landscaping; and to fill the obligations of providing affordable housing and following construction standards. This is considered best practice of creating sustainable real estate locations with prospects of deriving commercial value from selling residential property. Thus it is anticipated that the market prices a successful scheme at a premium. While this is likely to work more often for low priced areas than for their high priced counterparts, when it does work for the latter, the premiums generated tend to be high. Here is obviously a variation across the locations studied as well as within each location across the range of property types provided.

The present study deals with evidence from Budapest (Hungary). While the Hungarian circumstances of planning and real estate are significantly different from their English counterparts, some general notions about sustainability are mature for examination here too. Supply led/driven markets such as the residential parks being developed in Hungary since the late 1990s are allegedly very unsustainable in all dimensions and do not take into consideration local variations in tastes of consumers (see Kauko, 2012, 2013). Instead they are based on a global idea applied in western circumstances, without any sensitivity to particular urban contexts. This is in fact much related to an old idea of J. K. Galbraith who already in 1958 (in his book *The Affluent Society*) argued that producers, when big enough corporations, have power to manipulate our consumption tastes in such a way that the market in fact is being shaped by suppliers rather than demanders (see Galbraith, 1998).

In this study the aim is to tie two academic research traditions together: (1) examination of government intervention in the built environment, notably land use regulation, and (2) property price development in a given area during a given time-period. Using this kind of research approach enables distinguishing between cases where price is affected, either negatively or positively, by a planning related measure in a situation when the price trend is confirmed to be caused by scarcity (or abundance), quality improvement (reduction) or something more oriented towards changes in the relevant institutional circumstances (see Kauko, 2003, 2008, 2009, 2015). In this vein a number of related research traditions can be noted such as the US based tradition of equilibrium urban and land economics, UK based tradition of descriptive analysis of price trajectories observed *vis-à-vis* land use constraints (and opportunities afforded by the particular place characteristics as shown in the RICS report quoted above), or other tradition such as particular analyses carried out in countries with traditionally strong land policy such as Netherlands, Finland or Hong Kong. The study also presents empirical material on prices and neighbourhood quality changes in residential areas undergoing urban regeneration, and this is based on target vs. comparative group analysis and site visits in downtown Budapest (Hungary). These results are also compared with those of a prior study by the same author – documented in Kauko (2009, 2015).

The paper is structured as follows. First a backdrop of recent urban property development projects in Budapest is presented with particular reference to districts IX and VIII (the first three sections after this introduction). After
that the empirical analysis is documented (the next four sections). Lastly some conclusions are made.

2. Background

We begin with a general background of the context of the study. After that we move to the specifically housing related background of Budapest.

2.1. Background

In Budapest, arguable three types of problems with development, governance and planning are manifest: (1) economic: how to find jobs for the younger generation; (2) socio-physical: presence of beggars and derelict and dirty streetscape; (3) the traffic system - in particular, buses and trains need to be modernized [1]. Three particular cases stand out:

A. The Metro: Arguably, the new metro-line it is too short (10 stations only); and the distances between the stations are too short; it would have been more efficient to improve the existing transportation system. (This was the former Mayor Gabor Demszki’s flagship project.)

B. Gated communities in the inner city: A recently emerged inner city property development category known as lakoparks are not luxurious enough for the affluent strata; but too expensive for the working/lower-middle class households; these are too small for families; also debatable, whether consierges/janitors are necessary to employ.

C. Duna City: A long time ago planned mega-project c. 1km south of the city centre is still in impasse situation.

Currently two new larger scale projects are being implemented – both comprise renovation of 19th Century cultural and recreational sites based on public investments. (1) State Government, EU and local consortiums have invested in the refurbishment of Várkert (Castle Gardens, Government Decree 2011) and (2) redevelopment of a corner site of Városliget (City Park, 2015-2018). The former is a renovated old park on a hill with view over Danube, with a covered old market hall at the bottom of it (directly by the riverfront, see figure 1). The latter is different in the sense that the site hitherto has been part of the City Park, but now, plans are in place for the building of a museum quarter.

Fig. 1. Photo of Várkert.

From a more general point of view, in situations with resource scarcity, such as in Budapest, such projects have the tendency to lead to land use conflicts between financial-economic, environmental-ecologic and social-cultural uses. Should the site be left open or built? And if it is built, then what kind of buildings to construct? It can be observed that both projects are oriented around traditional cultural values (grand historic architecture and urban aesthetics) mixed with economic ones (i.e. tourism revenue obtained from museums and exhibitions) [2].

2.2. Residential developments in Budapest

Recent times have witnessed great turmoil in the development of housing markets and residential development projects in the capital cities of Central Eastern Europe (CEE). This state of affairs has also proven fruitful ground
for many a research endeavour [3]. The present contribution is a continuation of a prior study documented in Kauko (2015); it is about price and quality changes in areas undergoing urban regeneration, based on the analysis of target vs. comparative cases and site visits in downtown Budapest. When reflecting about the possible presence of sustainability features the pattern is mosaic-like in so far as sharp contrasts are identifiable between adjacent sites. The general observation here is that standard larger new residential developments made in Budapest around 2003-2007 (in districts IX and XIII in particular, figures 2-5 over) are not innovative in any ways. Two observations can be made: 1. These are marketed for the ‘new’ urban middle class. 2. Security systems together with well-maintained communal areas and energy efficiency compared to the old stock (where these are really bad) make these popular among younger professional households who appreciate such characteristics.

It is to note that, unlike the prior study (Kauko, 2009), this study does not look at the older housing developments – only at those new built and refurbished after 2002-03 (including conversions).

2.3. Supply (i.e. building volume) increase in Budapest

It is to note that, unlike the prior study (Kauko, 2009), this study does not look at the older housing developments – only at those new built and refurbished after 2002-03 (including conversions).

Horváth and Révész (2014) note that “the time lag during various real estate processes is a consequence of numerous factors” such as the rigidity of the participant organizations and managers who are able to affect the time for negotiations and the construction process. During the time it takes to raise the buildings it is likely that the surrounding environment has changed, if not physically, at least in social and economic terms. One of the issues at the core of any debate on urban renewal therefore concerns the fit with the rest of the neighbourhood? The issue to speculate about is as to whether any cooperation with the municipality took place during the planning or implementation stages.

The renewal of the middle part of district IX is a good case in point. Figure 4 shows four types of refurbished blocks in this district. All except for the photo in the bottom right corner (which is a private project in an adjacent block) represent the outcome of the urban renewal project of mid district IX. It was carried out piecemeal as a public private partnership from the late 90s onwards. This project is often (but not always) evaluated favourably in terms of various sustainability goals and along different dimensions (See Kauko, 2009; 2015).

From Figure 6 we can identify the following trends and tendencies regarding the annual increase in the housing stock:

- The percentage increase in district IX is higher than in the city as a whole, except for 1995, 1998 and 1999.
- The increase in district VIII is below both district IX and the city levels 1995-2003; and 2005-2007; for 2004 and 2008, in turn, this figure (increase in VIII) is higher than for the city on average, but lower than the corresponding district IX figure.
- 2009-2011 district VIII shows the highest stock increase of the three figures (the ‘Corvin effect’, see below).
• Thus, the annual increase is higher in district IX than in district VIII, except for the last three years.
• District IX experienced exceptionally high increase in 2001-2008, due to the renewal project.
• District VIII experienced a high increase in 2008-2011, due to the development of the Corvin Promenade (Fig 5).
• In district VIII stock increases were minor (and by implication insufficient) for most of the period (1995-2003 and 2005-07), which led to backlog in the total stock and to sharp price increases until the end of the period. This is the rationale for the first hypothesis (H1), and follows what in Kauko (2003) is referred to as a market effect.
• The opposite is true for district IX: The fact that the housing stock in district IX increased steadily for so many years had a moderating market effect on price increases for the total stock in that district. This is the rationale for the second hypothesis (H2).

New housing in VIII in 2009 ostensibly - despite the global financial crisis - commands a quality premium. This is a reasonable assumption based on theoretical and empirical literature, and the rationale for the third hypothesis (H3). This also follows what in Kauko (2003) is referred to as an amenity effect.

2.4. The Research design

After this analysis of housing output the focus is turned to price developments. Figure7 shows that prices for condominiums are higher than the prices of panels for all years in this city. Fig 7 is next compared to corresponding figures for the target and comparable areas in
districts VIII and IX (hereafter: VIII and IX) for a seven year period 2003-2009.

The key to the analysis to follow using a method based on institutional analysis, target vs. comparable groups and triangulation (see Fig 8). The data to analyse comprises some statistics, expert interviews, detailed street-level inspection during site visits and project documents. The objective is twofold: the mostly private activity of real estate development and its partly public counterpart, urban regeneration. The method employs the institutional approach in the mould of following up on Kauko (2009). Institutional analysis is well-placed to ascertain elements of change when data is of insufficient quality (e.g. limited identifications as in this study) or quantity for statistical modelling, or if there are reasons to prefer a method aimed at capturing more spatial and historical detail than what statistics allow; in other words, various legal, policy-oriented, behavioural and socio-cultural nuances that affect the market and physical development of these areas. As for the renewal projects, while both can be categorised as Public-Private Partnership (PPP) in inner city areas, they differ in a number of ways: notably, after a fairly balanced PPP starting point, the project in district VIII has become mainly private, whereas it in district IX has become mainly public; in district VIII the original aims were mostly about strengthening the social and community aspects, whereas they in district IX were about increasing the diversity and density so as to generate favourable environmental and economic conditions.

3. Empirical evidence

3.1. Target group analysis of urban renewal areas in districts VIII and IX

The starting point is to compare the findings of this study with those of Kauko (2009), where the period 1997-2002 was covered; and also to compare with the citywide average price trend (Figure 7). What is expected of a similar analysis for the seven year period 2003-2009?

The findings in Kauko (2009) indicated that, during 1997-2002 an ‘artificial’ price
increase was found in VIII, whereas the corresponding price increase in the neighbouring IX was more based on quality improvement (i.e. amenity effect). Price increases in VIII were in any case faster than in IX. The new question to answer concerns the period 2003-09: is there still an ‘artificial’ price premium in VIII, or the fact that the development project thereafter went smoothly (i.e. the Corvin effect already noted) has led to an equalising price effect in VIII compared to IX? And how to isolate the effect of the financial crisis [4] on property prices?

When we compare target and comparable sales in four defined areas using the notions of Kauko (2009): inside affected IX (let us call this area A), outside affected IX (B), inside affected VIII (C), and outside affected VIII (D), we might be able to identify, once again, a steeper price increase (or due to the market downturn a lesser price decrease) in VIII than in IX. However, if the opposite is the case: the price increase is steeper (or decline lesser) in IX than in VIII, it might be due to an aforementioned ‘artificial’ element building up in IX instead. According to this line of conceptualization this smoother price trajectory in VIII is due to avoidance of cost-generating conflicts and having the nature of niche market in terms of specific economic PPP resemblance compared to IX, where the private investors sold all of their shares to the district when the crisis kicked in.

Obviously also quality change increases and decreases prices. (This demand sided effect is, in fact, the likeliest explanation.) When we compare the two areas, the issue becomes that of whether environmental or social amenities matter more. Thus, price increases can be seen as favourable or unfavourable economic development.

Different possible explanations for the price differences between VIII and XI might be identifiable:

- If the prices in VIII exceed the prices in IX, then social (and possibly cultural) factors are more important than the environment [5]. Or the Corvin Promenade project (in district VIII, Figure 5) is less affected by crisis than other projects.
- If the prices in IX exceed the prices in VIII, then still environmental factors have a scarcity premium. Or, as speculated above, bottlenecks and conflicts have generated ‘artificial’ price increase in IX, compared to the smoothness of the price development in VIII. (Thus a reversal of the situation between the two districts in relation to the analysis of price changes.)

Data from the period 1997-2002 used in the prior study showed that prices in the renewal area of district IX were consistently higher than the prices in their district VIII counterpart. When we consider new data, in 2003-09 it may be that the price levels in VIII have already become higher than the price levels in IX. It may also be that price increases are still steeper (or price decreases more moderate) in VIII than in IX. This relationship would be due to the new and ongoing Corvin Promenade project which is less affected by the crisis than its IX project counterpart (see Kauko, 2015).

3.2. Hypotheses in relation to price changes in the target and comparable areas

Like general market theory predicts, in Budapest VIII and IX prices increase in relation to supply shortages. As already stated in the present study, we focus on the new supply (including conversions) rather than the old stock. Thus bottlenecks caused by lack of collaboration [6], or monopoly pricing in
the development process generates an artificial value element that is unsustainable by definition [7]. Let us now reiterate the hypothesis already brought up in the preceding discussion.

If we record homebuilding in year $t_0$, it affects prices lagged in $t_{0+1}$.
In VIII: not much supply (i.e. volume) increases occurred before 2007; also not in relation to Budapest average.

- Hypothesis $H1$: sharp price increase 2003-2008 in the area of district VIII affected by renewal (market effect: reduction in supply drives prices up).
In IX: steady supply increase occurred until 2008; also related to Budapest average.

- Hypothesis $H2$: only moderate price increase (i.e. without speculative bubbles) 2003-2009 in the area of district IX affected by renewal. Already the prior study confirms such development during the period 1997-2002 (see Kauko, 2009). (Market effect: increase in supply drives prices down).
Lastly observe that according to the hypothesis $H3$ (B in Kauko, 2003) new dwellings in inner Budapest are of much better quality than the existing stock, which brings a sharp price increase, in VIII in particular. If this is the case, then prices increase in the area of district VIII, and this increase is affected by renewal 2009 [8]. (Amenity effect: improved quality drives prices up).

3.3. The data for this study
Data comprise sets of target groups and comparable groups 2003-09 (seven year period); this is the same method based on target vs. control groups (i.e. quasi-controlled experiment) as in the prior analysis with 1997-2002 data (see Kauko, 2009). The relevant variables represent weighted averages: street level mean transaction prices weighted by the number of sales for each street.

To explain the research design, only the cases situated inside the boundaries of the middle parts of districts VIII and IX (i.e. the zones delimited by the Grand Boulevard and five other major traffic arteries) are selected as ‘target cases’, as in Kauko (2009). Nearby situated cases in both districts are ‘comparable cases’. For the target vs. comparative sales analysis, only clearly identifiable locations are selected, not for example homes situated along boundary roads or those facing the Rakpart (waterfront promenade). Those streets that go through both target and comparable areas are labelled based on where the majority of the street is located [9].

3.4. The analysis
The analysis of target cases and comparable cases in both districts is shown in table 1 for condominiums and in table 2 for panel housing. When comparing the mean price figures we see that district IX target area remains higher than the citywide mean for all years, for both types of buildings. (This price difference stays around 14% for condominiums.) We also see that prices in district VIII target area remain lower than the citywide mean for all years, for condominium types of buildings. (This price difference hovers around 25%.) For panel cases in district VIII the corresponding situation varies between years: for years 2003 and 2005 target area prices are above the citywide mean; for the last three years cheaper than the mean. (With district VIII panel cases we obviously cannot generalise a trend due to the small dataset available.)

When examining the price trajectory of condominiums, in district IX the target area is higher priced than the comparables for the first three years (2003-05); the opposite
is true for the corresponding case in district VIII. This is logical as the quality of the housing stock and micro-locations have a direct connection to the price relations between the two districts and on the two types of areas within the districts. This is exactly the same result as in the previous analysis (so 1997-2002 data, see Kauko, 2009).

For 2006 the relation between mean prices (i.e. target price level being on higher than comparable price level) stays the same in district IX, but in district VIII this relationship changes: targets catch up (and even become a bit more expensive than) the comparables. This reversal in the trend in VIII may already be due to speculation about the Corvin development (even if not an actual Corvin effect yet as this project was not completed yet). So the scarcity based and possibly speculative (or ‘artificial’) price effect of district VIII identifiable in the prior study shows up again (H1).

For 2007, in district IX the price level of the comparables catches up with the corresponding price level of the target groups (and even exceeds it a bit). This is ostensibly a knock-on effect from the target area; in principle it can also be due to a speculative effect of the new, somewhat higher level condominiums being under construction at Vaskapu utca and other locations of the comparable area just outside Mester utca. (In Figure 4 an example of this case is shown in the bottom right corner photo). In fact, this is the first time the abovementioned ‘artificial’ effect present in district VIII in the prior analysis would be identifiable also on the district IX side. This is however unlikely due to the small size of the developments around the aforementioned Vaskapu utca. On the other hand, in district VIII the speculative effect of the previous year still continues (i.e. price levels of target and comparable cases are roughly of equal magnitudes).

Table 1. Price development of target and comparable cases in districts IX and VIII for condominiums 2003 – 2009 (1000 HUF)

<table>
<thead>
<tr>
<th>Year</th>
<th>IX Target</th>
<th>IX Comparables</th>
<th>VIII Target</th>
<th>VIII Comparables</th>
<th>City-wide mean</th>
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<tbody>
<tr>
<td>2003</td>
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<td>210</td>
<td>162</td>
<td>170</td>
<td>215</td>
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<tr>
<td>2004</td>
<td>280</td>
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<td>200</td>
<td>206</td>
<td>240</td>
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<tr>
<td>2005</td>
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<td>2006</td>
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<td>219</td>
<td>216</td>
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<td>2007</td>
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<td>228</td>
<td>229</td>
<td>264</td>
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<tr>
<td>2008</td>
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<td>307</td>
<td>245</td>
<td>229</td>
<td>280</td>
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<tr>
<td>2009</td>
<td>303</td>
<td>272</td>
<td>202</td>
<td>229</td>
<td>267</td>
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</tbody>
</table>

Table 2. Price development of target and comparable cases in districts IX and VIII for panel housing 2003 – 2009 (1000 HUF)

<table>
<thead>
<tr>
<th>Year</th>
<th>IX Target</th>
<th>IX Comparables</th>
<th>VIII Target</th>
<th>VIII Comparables</th>
<th>City-wide mean</th>
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<td>2003</td>
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<tr>
<td>2009</td>
<td>330</td>
<td>-</td>
<td>165</td>
<td>-</td>
<td>191</td>
</tr>
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</table>

For 2008 the situation in district IX normalises itself again in the sense that prices in the target area are again much higher than their comparable counterparts, so only the effect of quality improvement is identifiable from this data. In district VIII the prices of the target cases are, for the first time in this time series, considerably higher than the prices of the comparables. It is likely (if not obvious) that the real Corvin effect is already seen in this sharp increase in the price levels of both district target areas, especially when compared to the corresponding comparables in both districts.

For 2009, the last year, the relationships resemble the starting level: target areas being more expensive than the
comparables in the case of district IX and the comparables being the more expensive one of the two categories in district VIII. Here the impact of the global housing market downturn is already visible for both district IX areas and the target area of district VIII. For some reason – possibly delayed projects – this change is not identifiable from the district VIII comparables data.

Alongside the analysis of targets vs. comparables we also note that both areas in district IX are higher priced than their district VIII counterparts for all years.

Moving to the corresponding analysis of panel housing cases is more difficult due to the paucity of data. Most years not enough transactions were registered. Table 2 shows a more inconsistent picture with panel housing than Table 1 does with the condominiums. The general tendencies are still the same: district IX being more expensive than district VIII, and the target area in district IX is pricier than the comparable area of that district. The likely knock-on effects of both the Corvin project and the rehabilitation of district IX on the panel housing nearby are also identifiable from the last two years of the period. It needs to be noted that panel buildings were not actual part of the renewal projects themselves; however, as they often are adjacent or situated nearby they might be influenced due to general landscaping of the vicinity, improved commercial services and raised social standing of the composition of inhabitants. And in this way the actual renewal projects may capitalize in prices of condominiums that never where part of these projects.

3.5. The analysis

In sum, the following trajectories for the period 2003-09 can now be identified:

- In the target area of district IX, the quality increase leads to subsequent moderate price increase, in similar vein as in the earlier analysis based on the period 1998-02 (see Kauko 2009). The renewal of the target area was mostly finished by 2009; what the quality exactly is varies by block, but in general the area has a small town feeling streetscape with good access for pedestrians and modern apartments.

- Immediately outside this area in district IX a knock-on effect can be seen insofar as the price level of the Vaskapu utca development is likely to be influenced by the bigger projects of the target area. A speculative effect related to the Vaskapu project is however unlikely as this is a relatively small project. And this price increase was only for two years (2007-08).

- Not much real quality based improvement can be detected in district VIII and any price increase is largely of the speculative type – just as with the 1998-2002 analysis. Here is an exception however: the Corvin development, being of enormous dimensions and partly finished already in 2009, is likely to have influenced the price levels positively – in fact, such an effect was recorded for 2008.

- It is also to observe that the effect of the global downturn on prices was much stronger than the corresponding micro effects for year 2009. (And no externality effect of Corvin Promenade was identifiable either.)

For the panel data the situation is somewhat different than the Condominiums, but here the reliability is restricted to the low data count. Nevertheless, no fundamental difference in price trajectory between condominiums and panel cases could be
identified even if the latter only benefited from knock-on effects of renewal rather than being subject of renewal itself.

4. Conclusions
Following the footsteps of a prior study, this study set out to examine the fate of Budapest district IX and VIII property developments. For this purpose, empirical analysis of property prices, dwelling and neighbourhood quality, housing stock increases and urban renewal measures was carried out. With respect to the hypotheses formulated we can conclude the following:
H1: In district VIII sharp price increases throughout the period. This we can verify (apart from 2009, the last year)
H2: In district IX: any moderate price increases throughout the period. This we can verify only to a limited extent.
H3: New housing in district VIII in 2009 is more expensive than previous years. This we cannot verify.

These results have added some detail to the corresponding results from the prior study where price developments rather neatly followed the paths of H1 and H2. We may ask: why is the present study only showing partially same results? As the data and methods are the same, the reasons have to be related to urban and neighbourhood change processes taking place here.

What perhaps is more interesting is that the price development in this study has covered an economic downturn in property prices caused by the global financial crisis, which in turn allows us to develop further arguments, research questions and hypotheses. The obvious suggestion would be to extend the analysis to larger data sets and more sophisticated methods, with particular attention to the spatial extent of various externality effects, both inside and outside these areas. Another research direction would be to compare these results with another city, as was done in the prior study by Kauko (2009), where Budapest was compared with Amsterdam.

5. Final notes
[1]. It is to note that these problems are not caused by the current State or Metropolitan governments, but by their respective predecessors who stepped down in 2010 (in both cases: state and metropolitan regimes).
[2]. At the time of writing (May 2016) the Castle Gardens project is already completed, whereas the City Park project is not yet commenced. For more information, please see the respective websites of Várkert Bazár (2016) and Liget Budapest (2016).
[3]. First there was the 1990s “Eastern European miserablist literature” (cf. Ladányi, 1993; Hegedűs et al., 1994; Kovács, 1998), where any attempts to look for local strengths and positive factors were largely ignored in the face of a defeatist critique towards institutional evolution and physical reality. However, more recently, contributions with a more constructive approach have emerged (see e.g. Egedy and Kovács, 2010; Kauko, 2012, 2013, 2014; 2015; Motcanu-Dumitrescu, 2015).
[4]. That is the aftermath of the US subprime failures and credit crunch of 2007-08.
[5]. This is in itself not an unusual state of affairs in Budapest, but more so for the old stock (see Kauko, 2014).
[6]. Among others, collaboration between actors is considered one particular precondition for achieving a truly sustainable built environment and urban development (see Manzi et al., 2010; Colantonio and Dixon, 2011). The theory thus suggests collaboration between investors,
contractors and regulators – and ideally also residents, as this would comprise a valid criterion for judging whether a given urban property development is sustainable in both process and outcome terms.

[7]. This fits the case with artificial price bubble in Kauko (2003), see also d’Amato and Kauko (2008).

[8]. It is also likely that Corvin Promenade, as it is situated at the edge of district VIII adjacent to district IX, has externality effects observable in district IX.

[9]. So Liliom utca, Angyal utca, Tompa utca and Baross utca all belong to the target areas using this logic.

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