

University of Sopron
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**IMPACTS OF INVESTMENTS FROM THE
MODERN CITIES PROGRAMME IN SOPRON**

Theses of Doctoral (PhD) dissertation

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1. Background of the research, objectives, hypotheses

The innovative directions of regional development also determine the competitiveness of cities. An increasing number of residents are seeking urban environments to achieve a higher quality of life and to take advantage of the infrastructure and extensive services offered by urban environments. A livable city also determines the economic environment in which the elements of territorial capital are complexly manifested. The dissertation presents value-creating investments at the mid-sized urban level in regional development, which influence the quality of life of residents through the impact of social and economic capital.

The aim of the dissertation is to examine the effects of the Modern Cities Program (MVP) on regional development. The dissertation covers three areas of development:

1. The impact of the M85 road development
2. The impact of the Lenck Villa reconstruction, which aims to influence cultural consumption
3. The impact of the modernization of sports infrastructure on residents' sports habits and their willingness to spend money on sports.

Hypotheses were formulated regarding the implementation of MVP in Sopron.

1. Development of the M85 expressway

Hypothesis 1: The construction of the M85 expressway has changed the traffic intensity of the roads around Sopron.

2. Reconstruction of the downtown area - the cultural consumption impact of the Lenck Villa renovation

Hypothesis 2: Societal groups interested in cultural programs at Lenck Villa become identifiable.

3. Societal and economic effects of Lóver Swimming Pool

Hypothesis 3: The new Lóver Swimming Pool has a stimulating effect on the physical activity and lifestyle of Sopron residents.

Hypothesis 4: The investment in Lóver Swimming Pool has led to an increased willingness among Sopron residents to spend money on using swimming pools.

2. Content and methodology of the research

The dissertation examines the investments of the Modern Cities Program implemented in Sopron, which allows for the evaluation of the applied method of regional development. Such research has not yet been carried out in Hungary, as the program itself is unique in international regional development.

The relevance of the research is due to the fact that a part of the program has already been completed in Sopron. The application of innovative elements, the utilization of new directions in cultural consumption, the elevation of sport infrastructure elements into regional development, and the combined management of the basic regional development components defined in the literature (e.g. road network development) aims to generate an increase in the competitiveness of the city.

The main aim of the research is to provide an overview of the local infrastructure developments financed by MVP resources, and the development of the road network. The survey measures the economic and social consequences of individual elements of the MVP and examines how these developments affect the urban population in various ways.

The dissertation examines the following areas: the first is the development of the road network (M85), the second is the cultural utilization of reconstruction areas (Lenck Villa, as an incentive for innovative cultural consumption), the third is the change in the population's

sports habits resulting from the development of sports infrastructure (Löver Swimming Pool), and on the economic side, an examination of household spending habits.

The methodology of the dissertation defines the operational steps that guarantee the effectiveness of the investigation. The results of the research are presented in three parts, as required by the analysis of the hypotheses. Based on the evaluations of the surveys, the theses are formulated, followed by a theoretical and investigative summary of the thesis. Given the results and the limitations of the research, possible future research directions are identified at the end of the dissertation.

The traffic engineering data of the M85 expressway were examined by statistical analysis. The source of the secondary data was provided by the Hungarian Road Nonprofit Zrt., the Central Statistical Office and the TEIR database. The data were processed based on the average daily cross-sectional traffic (ANF) in a given year. The analysis of the first hypothesis was carried out by the paired t-test method using the SPSS statistical program, based on a secondary statistical database.

The research related to the Lenck Villa and Löver Swimming Pool are closely linked, as they are based on the same database that was created during the same data collection. The sample consists of 700 adult residents of Sopron, selected according to quotas: the gender ratio is 50-50%; the age distribution is 65% for ages 18-60 and

35% for ages over 60; the ratio of graduates to non-graduates is 30% to 70%. Respondents were randomly selected within each quota using computer-controlled methods from the database available to the surveyors.

The questionnaire was divided into two demographic blocks and one block each for sports consumption, cultural consumption, and opinion climate. Descriptive statistics, bivariate non-parametric tests of association (Chi-square test, Spearman's correlation), and difference tests (Wilcoxon test) were performed during the statistical analysis.

Multivariate analysis was conducted using binary logistic regression with the "Backward" method, which complemented ordinal and nominal variables found to be significant in bivariate analyses with continuous variables. The analyses were conducted using IBM SPSS Statistics software.

In the case of the Lóver Swimming Pool, an analysis of visitor data from 2014-2017 and 2021-2022 was also conducted as a supplement to the questionnaire survey. In this analysis, monthly visitation data for the old and new swimming pools were compared using linear regression trend analysis. The analyses were also conducted using IBM SPSS Statistics software in this case.

3. Research results

Both statistical data and literature support the idea that the road network in Hungary acts as an economic incentive, but its direct impact on local economic development cannot be proven. However, the literature confirms that cities accessible from a transportation perspective have higher economic potential. With the construction of the M85 highway, Sopron can be reached from Budapest and Győr in a more favorable time and under good road conditions. However, there was no change in traffic intensity on the surrounding roads of Sopron compared to previous data as a result of the road development. Based on statistical and road analysis data from the secondary database, the hypothesis *was not accepted*.

Thesis 1.

There is no measurable change in traffic intensity on the surrounding roads of Sopron in the short term.

Regarding the cultural consumers of Lenck Villa, it was found that familiarity with and the probability of using Lenck Villa increases parallel with age, improved education and health status, and the frequency of participation in cultural events. Based on the results of donation propensity, it appears that Lenck Villa means more to those who already participate in cultural events

more frequently and do not live alone in terms of their well-being. Women value it more and show greater willingness to donate, which is also true for residents who are more satisfied with Lenck Villa. Therefore, it can be stated that the social groups visiting Lenck Villa have been identified, and the second hypothesis was *accepted*.

Thesis 2.

Lenck Villa, as a renewed cultural venue, is primarily most attractive to older women interested in culture and living in social relationships.

At the new Löver Swimming Pool, satisfaction with the way things are usually done significantly increases the propensity for sports. These groups show an over-represented propensity to exercise at Löver Swimming Pool. Based on the questionnaire sample, the frequency of visits would be increased by those living in social relationships and having higher education, while increasing the number of weekly sports activities surprisingly decreases the propensity for exercising at Löver Swimming Pool to some extent.

Based on the attendance figures, it can be concluded that in 2021 and 2022 - the years following the opening of the new swimming pool - there were more visitors to the pool than in 2014, 2015, 2016, and 2017. Therefore, it can be stated that the new building encouraged the propensity

for sports among the population of Sopron. The hypothesis was *accepted* based on these findings.

Thesis 3.

The development of new swimming pool infrastructure can demonstrably influence the sports habits of the population of Sopron.

The new sports infrastructure is primarily valued more by those (with occasional payment willingness) who are generally satisfied with the development of local things and improvements. Although the level of willingness to donate has not changed, the willingness to pay for each use occasion has significantly increased, indicating that residents value the perceived benefits derived from actual usage occasions higher under the new circumstances. Based on these findings, the hypothesis has been *accepted*.

Thesis 4.

The residents of the city demonstrate a short-term, detectable increase in value for the new Lóver Swimming Pool for each use occasion.

4. New and innovative research results

The dissertation aims to provide new research findings in local economic development by examining the effects of practical implementation using theoretical frameworks. The purpose of the dissertation is to uncover the effects of the Modern Cities Program (MCP) on regional development. The MCP provided an opportunity for county-level cities to individually develop their local economies using their own resources. Sopron, a county-level city, was the first to receive this development opportunity in 2015, and the dissertation examines three areas as a result.

The first area examined was the traffic intensity on the roads around Sopron. The survey found that the traffic intensity during the study period did not differ from the period before the construction of the M85 road. This means that the new road did not have a short-term impact on the traffic around Sopron, but this could be due to pandemic-related closures as well.

Another area of MCP development in Sopron was to increase cultural consumption through the renovation and reuse of rehabilitation areas. In this area, cultural opportunities were increased, and their functions were innovatively and modernly applied. The dissertation conducted a survey on cultural consumption habits in relation to the renovation of the Lenck Villa. The questionnaire survey confirmed that the renovation of the

Lenck Villa identified cultural consumers who use the services provided by the new cultural center, as well as those who are less receptive to it.

As part of the array of tools for regional development, the development of sports infrastructure, which serves as the foundation of the sports economy, was also examined in the dissertation. With the renovation of the Lóver Swimming Pool in Sopron, the sports economic factors, such as improving the population's sports and health behaviors, expanding and improving competitive sports, and creating conditions for sports tourism with an international-level sports facility, were highlighted.

The new infrastructure results in an improvement in Sopron's sports competitiveness, with an increase in the number of competitors, an international-level infrastructure, and hopefully, its results as well. While the primary research of the Lóver Swimming Pool did not show an increase in physical activity among the population in Sopron (based on a representative questionnaire survey), it was already detectable among the population based on secondary swimming pool visitation databases.

Increasing the spending propensity of sports consumers and the use of sports services is a significant source of revenue for the local economy. Indirectly, the city's revenue also increases through these factors. The research showed that the spending propensity associated with each consumption occasion had already shown an increase in the short term.

5. Conclusions and recommendations

Based on the surveys, it can be concluded that MVP investments have social and economic impacts on the local economy, but these impacts occur to varying degrees and over different time frames.

As a tool for local economic development, the evaluation of the effects of road infrastructure development, which is the foundation of the economy, did not show any change in the traffic intensity of the roads around Sopron compared to previous data. The benefits of the construction of the M85 expressway should be examined indirectly and in the long term. Currently, several limiting factors have influenced the results, such as Covid restrictions, the economic consequences of the Russian-Ukrainian war, and the temporal limits of statistical measurements due to the phased handover of the M85 expressway. The current survey serves as a favorable basis for further research.

Based on the results of the cultural infrastructure development, it has been concluded that it is not only a crucial issue for the Sopron Museum, but a general dilemma whether museums should adhere to their traditional roles or embark on the path of commercialization. The institution's strategy points in the direction that the museum should be able to compete with the attractions of the entertainment industry. However, it can do so at the highest level while also playing a

significant role in education and strengthening social cohesion due to its characteristics.

The current relevance of writing the dissertation was provided by the dilemmas related to the quantifiability of the social usefulness of state investments in sports facilities. Since public investments are closely monitored by taxpayers, supporters of investments have developed numerous legitimization strategies, including rational, value-based, and authority-based arguments.

The international renovation of Lőver Swimming Pool showed the social usefulness of sports, which demonstrated that the sports consumption and expenditure willingness of the Sopron population had increased, and this could also be said for their willingness to engage in sports.

6. The author's publications related to the topic of the dissertation

1. Tóth, Imre; Csiszár, Szabolcs (2023): Múzeum a kreatív szektorban. A stratégia megalapozása a Soproni Múzeumban. *Gazdaság és Társadalom, Folyóiratcikk (Szakcikk) Tudományos*

2. Csiszár, Szabolcs (2020): Szirmai Viktória (szerk.): Középvárosi társadalmak. Egy új, innovatív városfejlesztési modell megalapozása. Soproni Egyetem Kiadó, Sopron, Soproni Szemle: Kulturtörténeti Folyóirat 76: 1 pp. 116-118., 3 p. *Folyóiratcikk (Recenzió/kritika) Tudományos*

3. Csiszár, Szabolcs János; Paár, Dávid (2021): Sportfogyasztási szempontú elemzés a Sopronban rendezett 2021-es vízilabda magyar kupáról. In: Resperger, R. (szerk.) *Társadalom – Gazdaság – Természet: Szinergiák A Fenntartható Fejlődésben (Nemzetközi Tudományos Konferencia a Magyar Tudomány Ünnepe alkalmából) - Programfüzet és előadáskivonatok*. Soproni Egyetemi Kiadó 155 p. p. 66, 1 p. *Könyvrészlet (Absztrakt / Kivonat) Tudományos*

4. Faragó, Beatrix; Csiszár, Szabolcs (2022): Competitiveness of the Visegrad Four in the interpretation of the image of health. *Acta Oeconomica Universitatis*

Selye Volume 11.: No. 1. pp. 33-52., 116 p. Folyóiratcikk (Szakcikk) Tudományos

5. Faragó, Beatrix; Gősi, Zsuzsanna; Csiszár, Szabolcs (2022): Egészségkép összehasonlító vizsgálat a Visegrádi Négyek városaiban. City.Hu: Várostudományi Szemle II. évfolyam : 2. szám pp. 51-72. ISSN 2786-4022, 21 p. Folyóiratcikk (Szakcikk) Tudományos

6. Faragó, Beatrix; Kézai, Petra; Csiszár, Szabolcs (2022): New direction for the sports economy - sports startup. Selye E-Studies Vol 13. No 2. Folyóiratcikk (Szakcikk) Tudományos

7. Csiszár, Szabolcs (2020): Város- és gazdaságfejlesztési folyamatok a Modern Városok Program keretében Sopronban: Aktuális helyzetkép. In: Czeglédy, T.; Resperger, R. (szerk.) Válság és Kilábalás: Innovatív Megoldások Nemzetközi Tudományos Konferencia Sopron, 2020. november 5. – Konferenciakötet, Conference Proceedings Sopron, Magyarország: Soproni Egyetem Kiadó 592 p. pp. 105-114., 10 p. Könyvrészlet (Szaktanulmány) Tudományos

8. Csiszár Szabolcs János; Paár Dávid (2023): A soproni lakosság fizetési hajlandóságának változása a Lőver Uszoda fejlesztéséből eredően. Magyar Sporttudományi Szemle (1586-5428): Folyóiratcikk (Szakcikk) Tudományos

