University of Sopron

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**ANALYSIS OF LOCAL TOURIST TAXATION IN EUROPE
AND IN HUNGARY**

Theses of Doctoral (PhD) Dissertation

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1. Ambitions and hypotheses

The dissertation has put tourist taxation into its focus that provides financial autonomy for local governments. The thesis aims to study, analyse, summarize and evaluate the regulation and the practical experience of local tourist taxation both in Hungary and worldwide. The regulation of tourist tax has not changed significantly since the regime change in Hungary. However, this tax has appeared several times in the focus of attention either on the account of smaller modifications or because of economic volatility, as the crises of 2020 in tourism proves. Central governance and central tax system prevail over local taxation; in addition, local business tax prevails over tourist tax in theory. They indicate more interest among researchers and authors, because they provide a larger share of tax revenues and they affect a broader scope of local governments.

As a consequence, the main purpose of the research is to provide a wide analysis of tourist taxation, investigating the secondary and primary data of international and Hungarian processes. The research aims to organise and synthetize local tourist taxation in Europe and in Hungary, and analyse segments of literature, which have received heretofore less attention.

The author identified the next hypotheses with respect to the aims:

1. Local tourist taxation is a widespread method in Europe; however, the practice of taxation has different roles within national tax systems. Accordingly, after the study of international local taxation literature, the author is looking for consistency between local tourist taxation practices in Europe, in order to type the countries.

H1: Among European local tax systems, Hungary has a mixed model, while other groups can be described different from the so called classic local tax models. In these categories, Central and Eastern European countries, including Hungary, can be classified as moderate tourist taxing countries.

2. The research has set the goal to analyse Hungarian local tourist taxation thoroughly, while respecting the reveal of territorial tourist tax imbalances. It examines taxation and its determinants at different territorial levels, in order to present national, regional, and local results of tourist taxation.

2.1. Pursuing the first hypothesis, the question ariseswhether Hungarian territorial entities can be divided into clusters, separated by equivalent variables. In terms of tourism, significant differences exist between Hungarian counties, therefore, they can presumably be categorized, and the research intends to form these groups.

H2: Hungarian counties can be divided into clusters using variables equivalent to the attributes applied at typing European countries. The formed groups show in which counties tourist tax plays explicit or less significant role in the local budget. The previous counties are in Transdanubia, the letter counties are mostly in the Great Plain and in the Northern regions.

2.2. Based on various touristic indicators, significant differences can be described among Hungarian areas. For instance, local tourist taxation also outlines variances, especially between regions and counties. The amount of local tourist tax revenue andthe number of guest nights give the main basis for comparison, besides, the ratio of tourist tax in local budgetary revenues should be also considered. These three indicators enables the creation of a new variable for the characterization of tourist taxation at local governments, namely the municipal tourist tax concentration index. The research aims to detect whether geographical location affects the development of this index.

H3: From the point of view of local tourist taxation, differences can be described among regional areas in Hungarian. . The variances are provable with the municipal tourist tax concentration index, which consists of the amount of tourist tax revenue, the number of guest nights and the ratio of tourist tax among local budgetary revenues. However, the thesis argues that geographical location only slightly determines the index.

2.3. Territorial disparities of local tourist tax revenues cause significant differences even among neighbouring local governments. Although, achieving the growth and innovation of tourism would be appropriate in the perspective of local touristic regions instead of exclusively pointlike developments. It requires cooperation among local governments. The research demands to create a concept, which ensures the development of local tourism by municipal collaboration throughsustainable and practic operations.

H4: Local governments can establish tourism-centered cooperations, which enhances to fosterthe development of tourism in local areas, with rational and attainable financing.

3. Local governments consistently pursue the growth of tourist tax revenues because local tax incomes play an important role in the financial independence of the municipal budgets. To increase local tourist tax revenues, municipalities' primary method is is tax control. Therefore, the aim of the dissertation is to analyse various tax control activities of Hungarian local governments and to synthetize factors affecting the effectiveness of tax control.

H5: Tourist tax control practices of local governments are ineffective, primarily because of several organisational barriers, among which the lack of resources is the most emphasized.

2. Materials and methods

The author aims to analyse the local tourist taxation and the factors affecting taxation at different territorial levels in order to establish results of tourist taxation both in Europe and in Hungary The author intends to broaden the method of the research with different scientific and statistical processes.

2.1. Spatial and temporal limits of the research

Adjusted to the aims of the research, tests were accomplished in connection with European and Hungarian municipal governments. The internationally dimensioned analysis consists of 31 countries, including 27 member states of the European Union, the United Kingdom, Iceland, Norway, and Switzerland, in order to guarantee the great extent on the continent. The selection of the sample items was affected by the fact that neither the Eurostat nor the OECD database has useful and comparable touristic performance data about other European countries. In case of Hungary, the starting point of the research was the data of settlements, which provided the base both for the county and the regional analysis , so the tests could be established on NUTS2, NUTS3 and LAU2 dimensions. Since the finance of regional public administration system differs from the finance of local governments, the research leaved out the county governments from the analysis. It deals with only the local governments, which operate at municipalities, capital districts, towns and towns with county rights.

The research topics and the related samples were steadily constricted in space, therefore the dissertation is built up adjusted to this. Firstly, the author fulfills the typing

of European local tourist tax systems, then positions the Hungarian tourist tax system within European. During the investigation of the Hungarian tourist taxation, tests were initially completed at county level with the method used in the European analysis. After that, local governments were ranked by the municipal tourist tax concentration index. The TOP50 municipalities from the ranking list provided the base for further investigation and empirical tetsts.

The timeframe was determined based onthe available datasets. The research applied fiscal year 2018 as the basic period of the international and Hungarian analyses, in order to achieve a systematic and consistent research. Furthermore, the thesis argues that the improvement of Hungarian local tourist taxation should be analysed over several fiscal years to reveal tendencies. Therefore the research used local tax revenue data from 1995 to 2018 and guest night data from 2000 to 2019. The timeframe of the research was restricted by the fact that the deadline for the presentation of the central budget final accounts for 2019 in Hungary was on 30 of September 2020. The last fiscal year included in the research was therefore 2018. All of these considerations required the necessity of turning to secondary databases.

2.2. Databases

The national financing database of Eurostat (the statistical database of European Commission) and the statistical tax database of OECD provided the base for the international analysis. Besides, the database of the World Travel and Tourism Council offered information about the contribution of national tourism sectors to the GDP of countries. The statistical database of Eurostat contains data about the member states of the European Union, where the datasets are browseable by theme. The statistical database of OECD includes information about its members and some non- member states. Eurostat and OECD statistics have sometimes deviations, therefore, it had to be taken into considerationed during the analysis of the indicators that the calculations should concern one database or the other. Occasionally occured data deficiencies caused sometimes difficulties. The tests were performed related to one fiscal year, however, the reliability of conclusions could have increased with longer research periodss The study and comparison of international and European tendencies of local tourist tax systems were also supported by national local government financing, local tax laws, European institutional publications and reports, and publications from international analysts.

The main source of Hungarian secondary database was provided by the Hungarian State Treasury, the Hungarian Central Statistical Office, the National Spatial Development and Spatial Planning Information System and the Ministry of Interior. Hungarian State Treasury supplies data about the current introduced local taxes. The National Spatial Development and Spatial Planning Information System contain information and data about municipal budgets, local tax revenues and local tax rates from previous years. The research applied data from the National Spatial Development and Spatial Planning Information System from the period until 2016. The national amounts of local tax revenues originate from theSTADAT table of the Central Statistical Office. Municipal tax revenue numbers are from the Ministry of Interior, claimed via the Public Data Request Fulfilment. The STADAT table system of the Central Statistical Office contains the prime indicators collected and calculated by the Office or other organisations. These datasets assisted in getting further information for the research, for example to determine the number of population in each county and the contribution of the counties to the national GDP. Moreover, population and legal status of municipalities were collected from Statinfo Dissemination Database of the Office. Its economic statistics by branches provided data about tourism demand, accommodation services and the number of guest nights from 2000 to 2019. This proved to be exceemingly suitable for spatial and temporal analyses,.

The author achieved primary research in order to justify her hypotheses and to complete and improve the knowledge and experience gained during secondary research work.. Primary research was performed as a preplanned qualitative empirical data collection, in the form of an in-depth interview. The author dissected its results through qualitative analysis.

2.3. Methodology

Secondary research focused mainly on d the process of international and Hungarian literature about the operation, structure and methods of local tax systems. Acts, rules and other sources of law regulating local governments play an integral part of the public finance system; therefore, comprehensive analysis of the legislative framework has to be a priority. The aim to summarize and compare attributes of local government financing and local taxation urged me to study thet international and Hungarian research results. It provided a basis for formulating the hypotheses, as well. Datasets from secondary sources have been processed with Microsoft® Excel 2013 spreadsheet software and IBM® SPSS®

Statistics 25.0, Statistical Package for the Social Sciences software. After the import of datas into Excel and SPSS, firsly essential transcoding and data cleansing had to be accomplished in different files. Afterwords, introduction of methods used during the research follows the order of the dissertaion structure.

Cluster analysis

Cluster analysis ensured the classification of European countries and Hungarian counties from the aspect of local tourist taxation. Hierarchical and non-hierarchical clustering techniques have beencombined during the tests. Because of the small number of items, hierarchical clustering, specifically agglomerative procedures have played an important role in determining the ideal number of clusters. After establishing the necessary quantitative indicators for the tests, their uncorrelation have been verified with the calculation of Pearson's linear correlation coefficient. The analysis used squared euclidean distance as the main unit of measurements. Since the clustering variables were from different units of measure, the impact of differences had to be neutralized by standardization before running tests, in the hope of the improvement of better rating. The analysis preferred Ward's hierarchical clustering method, which is widespread in economic applications. Scientific literature and its reviews verify that this method provides the most good devision results. Single linkage method helped to filter out the outliers from the databases. Subsequently, the author applied non-hierarchical method, specifically k-means clustering in favour of establishing final the clusters. K-means cluster is the most widespread non-hierarchical method that employs standard euclidean distance from the measurement of distances between cluster centers. Examinations have beenperformed with other distances, with other units of measurement, with other clustering methods, and in case of k-means clustering, in other item order as well, in support of increasing the reliability of cluster analysis results.

Cross tablulation analysis

Tourist tax concentration index of local governments have become a grouping variable during the research. Its consistency with nominal variables was analysed with cross tabulation method. Cross tabulation analysis is an essential technique for the examination of two categorical (nominal or ordinal scale) variables, in this case namely the municipal tourist tax concentration index and the territorial location of municipalities. Pearson's chi-squered (χ^2) test demonstrates the statistical significance of the consistency between the

two variables. Cramer's V association coefficient measures the strenght of the relationship, because the consistency of one nominal and one ordinal scale variable forms the subject of the analysis.

Indexing

The research have selected three indicators for the purpose of establishing the ranking list of Hungarian local governments based on their tourism performance and the effectiveness of their tourist taxation. The author standardised the indicator values and calculated subsidiary indexes from them, and finally generated a municipal tourist tax concentration index from the sub-indexes. The three sub-indexes are the following:

1. *Tourist tax revenue index*, whose calculation is based on the tourist tax revenue per capita;

2. *Guest night index*, which applies the number of guest nightsispent in both public and private accomodation establishments;

3. *Tourist tax share indexe*, which indicates the share of tourist tax revenue in total budgetary revenues of local governments.

The main index is the simple arithmetic mean of the sub-indexes. It helps to establish the ranking of Hungarian local governments according to their tourist tax concentration. As a conclusion, it turned out that it alsoprovided a basis for further analyses of the research as the emerging TOP50 local governments formed the sample of further tests.

Interview

Primary research served the complement of theoretical infromations gained during secondary analyses and the verification of the related (H5) hypothesis. Empirical research was realized by a qualitative scientific method, namely with an in-depth interview. Arising from the nature of the topic (taxing, municipal finance), a quantitative method such as a survey would have been proved insufficient and unattainable. Purposive sampling, a non-propability sampling method, determined what local governments are to be involved in the analysis. The TOP10 municipalities with the highest tourist tax concentration index provided the sample, together with four other local governments, in order to ensure studying the activities of more local tax authorities with a decisive tourist tax . Employees, typically leaders of local government tax departments were interviewees in order to obtain professionally relevant opinions. The author conducted semi-structured in-depth interviews for collecting extensive, relevant and objective information. The researcher have asked

predefined questions during a semi-structured interview, but it was also allowed to have informal conversation and intermediate questions,as well. The personal interviews took place in a pre-organised structure of questions. Finally, datas were summarized, texts were condensed, information were categorized with the goal of searching for similarities and differences in tax control activities, thus tourist tax control methods and procedures became comparable.

3. Statements and new scientific results

The research work have been based on the comprehensive study of international and Hungarian literature, secondary data processing and data analysis, and primary research. The dissertation argues based on the studied literature and the conducted secondary and empirical analyses that it is ascertainable that not only local tax systems but also local tourist tax processes are various in Europe. Furthermoret, practical experiences of tourist taxation are also diversified in the Hungarian local tax system.

The table below summarizes how the results of different analyses supported either the approval or the rejection of the hypotheses

Hypotheses	Results
H1	confirmed
H2	confirmed
H3	confirmed
H4	confirmed
H5	partially confirmed

The author formulated the following statements and theses conformed to the hypotheses and based on literature and analyses,

1. Hungary belongs to the mixed local tax systems in the European classification of local tax models, since various historical and cultural impacts have contributed to the conformation of the Hungarian local tax structure, where the characteristics of the European model have been mixed. Different groups from classic European local tax models can be formed concerning specifical tourist taxation: the first group consists of countries,

which are uninterested in local taxation of tourism; this tax has a much more significant importance in the second group of countries; while countries that belong to the third group taxe tourism moderately.

T1: With regard to local tourist taxation, three different groups can be distinguished, from which Visegrad Group including Hungary belongs to countries that tax tourism moderatliy at local level.

2. According to the indicators applied in the classification of European countries, Hungarian counties can be classified by factors affecting their local tourist tax performance,. Altogether the thesis argues for the establishment of four groups. Firstly, the most decisive counties have to be analyzed together, which are from Transdanubia except from Heves county, and the capital city belongs here as a single item, as well.. Then counties concentrating on local business tax shall be viewed as a group. Counties where tourist tax is not emphasized in local finance constitute an other group, including four counties from the Great Plain. Last, but not least, four counties from Northern Hungary belong together as they are not interested in disinterested in tourism.

T2: Four different groups can be established between Hungarian counties on the basis of local tourist taxation: touristically most decisive counties, counties concentrating on local business tax, touristically disinterested counties and counties where tourist tax is not emphasized.

3. Tourist taxation is influenced by the spatial location of not only countries, but also municipalities. In terms of tourist tax, differences can be displayed among Hungarian regions and counties concerning both tourist tax revenues and the number of guest nights. Besides, the share of tourist tax in local budgetary revenues also vary significantly among certain territorial entities of the country. However, the municipal tourist tax concentration index including the three previous indicators shows weak association with the connection co to regions or counties.

T3: Spatial location determines the municipal tourist tax concentration index weakly.

4. Further to that spatial inequality of tourist tax, revenues differ significantly even between neighbouring municipalities, and that tourism needs to be developed at the level of local areas. Therefore, the research has established a model in favour of the

accomplishment of the touristic cooperation of local governments. Tourism development in the areas succeed in the establishment of associations. The model reviews the finance of touristic associations through a similar manner to the resort duty grant: an amount of 0.50 HUF aid after every 1.00 HUF tourist tax revenue at the municipalities of the association. In complience with the economic feasibility requirement, this financial operation may cause a minimal increase in the principle amount of local government grants within the central budget, and it may provide opportunity for local governments to withdraw their own recources, as well. Furthermore, the model suggests that resort duty grant emerges from the compensation system of local governments in order to enable offering quality tourism services at the location of guest traffic with the disbursement of the whole amount of grant.

T4: Tourism development in local areas is feasible, once it is financed with government grant and disbursed based on the amount of tourist tax revenue.

5. The control activities by local governments of local tourist tax are very diverse in Hungary.Differences arise from the size of municipalities and their population, and the size of local government offices., Moreover, local circumstances, customs and specificities are also determinant. The efficiency of control of tourist tax can hardly be evaluated. In other words, it is partly confirmed that inefficiency of thecontrol procedure of tourist tax at local governments derives primarily from different organizational barriers. The analysis of interview results made definable that along with organizational limits, two more factors also affect the efficiency of tourist taxation, namely barriers laid by municipal uniqueness, such as characteristics of tourist resorts and accommodation providers, and the barriers of tax control methods, such as reasonableness or following changes due to digitalization. Although, it can be ascertained that the aspects and barriers arised from these three main factors are overlapping each other influencint the efficiency of tourist tax control.

T5: The inefficiency of the control procedure of tourist tax at local governments derives not only from different organizational barriers, but also from municipal circumstances and barriers of using various control mechanisms.

4. Conclusions and recommendations

As this thesis particularly shows, the throrough, all-encompassing examination of local tourist taxation ensured to formulate deductions and recommendations, which are utilizable in tourist taxation relation decision-making processes. Through the analysis and processing of international and Hungarian literature, the thesis managed to support the clarification of the main objectives of the research.Thanks to th extensive methodological procedures used during the secondary data analysis and the primary data collecting process the thesis managed to offer a comprehensive and complex analysis of tourist taxation.

The research pointed out that although local tourist taxation is very diverse in Europe, countries can be classified according to the extent of their tourist tax and the share of their local tax revenues, which determines their belonging to local tax models.Instead of local tourist taxation, Northern European countries prefer other methods for utilizing tourism. Tourist tax plays an important role especially in the Mediterranean and in Germanic countries. The rest of European countries, including the Visegrad Group and within that also Hungary, handlesthe taxing of tourism moderately at local level. Members of this third group apply lower tax rates, and the number of their guest nights per capita is even lower than in Northern Europe on average, nevertheless, they levy preferentially this tax. The reason for that can be found in the fact that local tax systems in Scandinavian states based on income taxation provide higher revenues for local governments, but tourist tax can be more important in local tax systems in Central and Easter Europe within local budgets even if it generates only lower incomes for municipalities.

The in-depth analysis of the Hungarian local tourist tax has revealed experience and consistencies of taxation among territorial units. The reviews have outlined that different territorial entities vary considerably in relation to variables determining tourist taxation. Since significant differences exist between attributes of tourist taxation in certain counties, the author also materialized the classification of Hungarian counties similar to the typing of European countries. Four categories arised according to the variables used in the analysis of European countries: the share of local tax revenues in the national GDP, the average rate of tourist tax and tourist tax revenue per capita. Based on the accomplished classification, tourism is the most determinant in the capital city, in four Transdanubian counties and in Heves county, while it is the least determinant in three Northern Hungarian counties.. There are counties between these two clusters which are more interested in local business

tax and the group including the most counties where tourism is not the primary economic sector.

The result of the analysis revealed that despite the fact that significant differences are proved in Hungary in relation to tourist tax, geographical location has only weak impact on municipal tourist tax concentration, which includes the amount of tax revenue, the share of tourist tax in budgetary revenues and the number of guest nights. In spite of moderate consistencies established at regional and county level, vigorous differnces can exist among certain (even neighbouring) municipalities concerning tourist tax revenues. It argued therefore here that alleviating these differences is necessary for the development of tourism as it would enhance the accomplishment of tourism purposed developments at local areas along with point-like projects.

The compensation system of local governments is an appropriate way for the alleviation of local (mainly business) tax revenue imbalances among different territiorial units of Hungary. In case of tourist tax, however, the reduction of tax revenue differences should be achieved at the level of tourist destination, among municipalities, particulary in the area of municipalities which collect tourist tax. The aim is to make local governments urge developments realized with common, coherent methods and marketing, exploiting the numerous advantages of cooperation. To achive this, municipal associations. the most widespread form of municipal partnerships should be prioritized. As a consequence, tenders and programs can be accomplished with the help of local regional tourism development t can be accomplished, for which single municipalities have no capacity or potential. The activity of tourist associations has to be financed at the same time. The research established a model, which suits the budgetary regulation of local governments, and generates a slight increase in state expenditures. Meanwhile bearing in mind that the development of tourism, as a determinant economic sector is a national interest , opportunity should be created for municipalities to achieve that not only compulsory tasks consume their tourist tax revenues, but these revenues can be rotated back into tourism development. Conditions and limits of this concept can be described through further continuation of the research in the future.

The analysis of literature and the evaluation of primary research results confirmed that the pursuit of increasing tourist tax revenues significantly prevails, despite the fact that the tourist resort grant of local governments is for a few of the municipalities reduced in the financial compensation system depending on local business tax capacity. The aim to

accumulate tourist tax revenues is especially induced by the stability of these incomes. However, the main reason would be the recovery and the substitute of foregone revenues due to relapsed tourism. Local governments have several opportunities to increase tourist tax revenues. The most common and obvious method is tax control. Tourist tax control processes of municipalities are diverse andthe efficiency of the control is determined by similar factors at certain local governments. The synthesis of these factors have been established in this research, arguing that beside organizational barriers, the availability of financial and human resources, and even local circumstances and barriers of using control methods have the same effect on control efficiency.

Increase of efficiency can be achieved, once the conscious gradation of tax controls is implemented aligned to local facilities and taking profitability into account. Furthermore, it is also important to apply sanctions prudentially and complete tax control methods with the available online platforms. Moreover, benchmarking between local governments is recommended, as well. The future continuation of the research can be the extension of the interviews on a widerange of municipalities taxing tourism in order to enable the quantitatively extensive tax control experience to confirm or reject qualitative results.

The achievements of the research highlight how various local tourist taxation exist internationally and in Hungary in relation to its regulation and to the practical results of its application, as well. Consistencies and deductible conclusions provide a base for further analyses and practical utility in the future.

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