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Prices for Short term accommodation activities
(ISIC/NACE 5510)

In Hungary

Hungarian Central Statistical Office

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1. INTRODUCTION

There is a long history of tourism in Hungary. Hungary's tourist season is basically from April through October and July and August are the best tourist months. The capital Budapest is the country's most popular tourist destination. Lake Balaton in western Hungary is the largest freshwater lake in Central Europe and it is treated as the second most important tourist destination in Hungary. Hungary's other tourist attractions include spas, excellent facilities for activity holidays, sport and cultural events. In our country different types of accommodation are available from the cheaper to the luxury category, taking into account the increasing number of tourists and the diverse needs.

The new European legislation, the Framework regulation integrating business statistics (FRIBS), entering into force in 2021, will involve several additional service activities of whom service producer price indices for Accommodation services also have to be reported quarterly by the member states.

In order to comply these requirements, the Hungarian Central Statistical Office (HCSO) have started the development of appropriate SPPIs basically for deflation purposes in close cooperation with the experts of tourism statistics.

The Hungarian contribution to methodological and practical developments on STS statistics in accordance with the expected requirements under FRIBS aims at setting up the process for a regular and maintained production and transmission of new indices of services production (hereinafter ISP) as well as new services producer prices indices (hereinafter SPPI) at NACE Rev. 2 division (I55) and section (I) level based on experimental calculations. The new service indicators will increase the coverage of related principal national and European macro-economic indicators.

Accommodation (I55) is fully covered by turnover data, however SPPI for this area is missing. In order to satisfy the various data request of European and national data users, we plan to develop methodology for B2All price indices (with a split into B2B and B2others) which can be disseminated at 2-digit NACE level.

In order to meet these objectives, we plan to choose an adequate sample in terms of data providers and price representative items with establishing the detailed weighting structure to produce deflators for value indicators with intelligent use of existing data and information. The other aim is to develop usable quality adjustment methods to handle the quality changes and other specific aspects.

Services classified to the class Hotels and similar accommodation (I5510) include the provision of accommodation, typically on a daily or weekly basis, principally for short stays by visitors. This includes the provision of furnished accommodation in guest rooms and suites. Services include daily cleaning and bed-making. A range of additional services may be provided such as food and beverage services, parking, laundry services, swimming pools and exercise rooms, recreational facilities as well as conference and convention facilities.

It means that companies beside the main activity may offer secondary activities, primarily food and beverage services and travel agency, tour operator and other reservation service and related activities (N79) linked to the accommodation.

Services are provided for individuals as well as for business clients.

Hungary started to develop SPPIs for accommodation services within the frame of the European Grant project "Setting up the production and dissemination process for new indices of services production" including the development of a methodological basis for new SPPIs and deflators for value data – according to the expected requirements of the FRIBS.

In the HCSO for the methodological development and producing of SPPIs is responsible the Sectoral Statistics Department/Industrial and Services Price Section staff. According the current plans, the related price indices will be published quarterly at the division level – as parts of the total SPPI for Accommodation.

## 2. MARKET CONDITIONS AND CONSTRAINTS

According to the available data on hotels and similar accommodation activities the most important European countries in this industry are presented by Figure 1.

Figure 1

Hotels and similar accommodation
The turnover share of European countries compared to the total community turnover
EU-28 Turnover=100,0 (Source: Eurostat database)
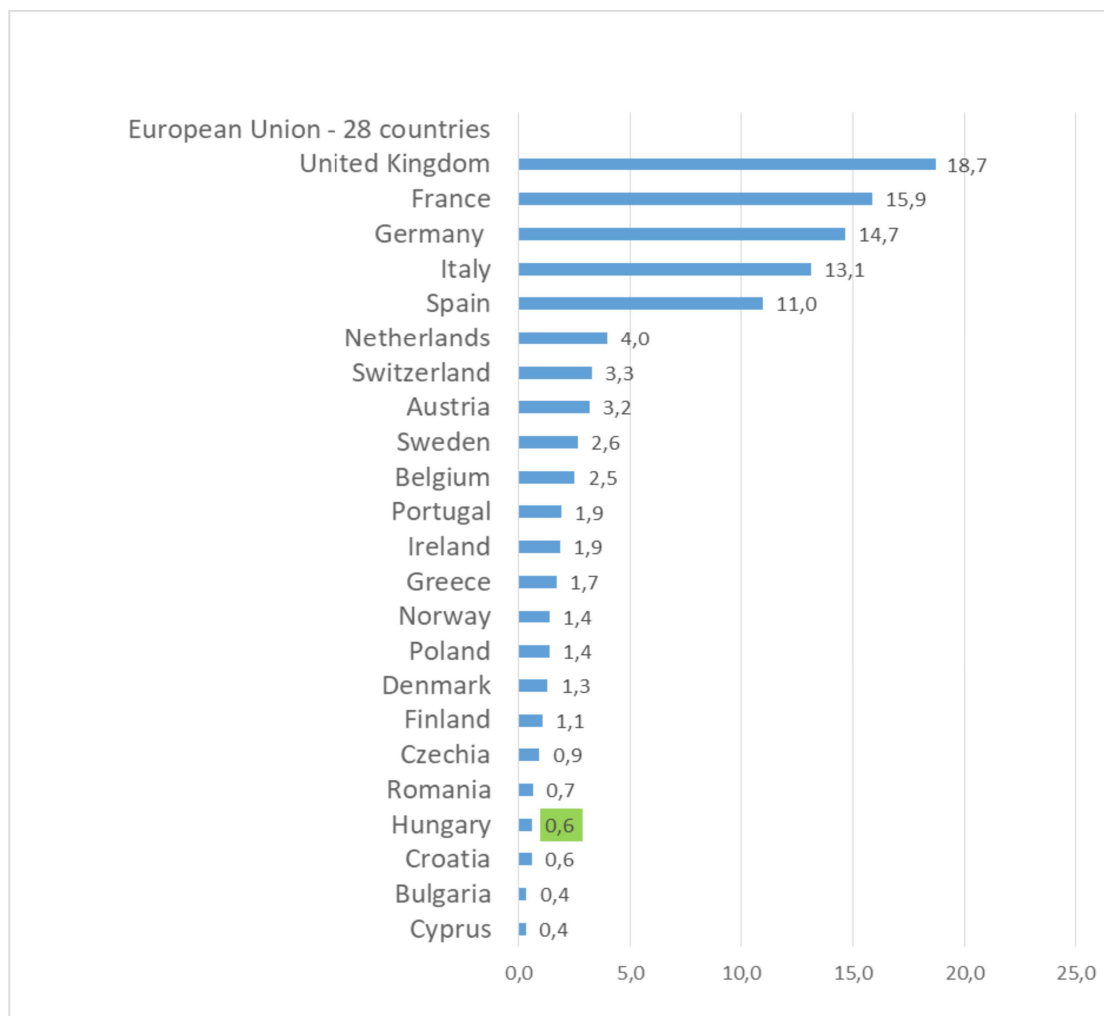
Source: Eurostat database

To establish a cost efficient sample for producing of SPPIs with sufficient share from the total turnover of the related division, we have analyzed the Hungarian Business Register as well as the current statistical and administrative information systems of Hungarian service enterprises to select the most important businesses.

The division Accommodation is dominated by operations only of one class: Hotels and similar accommodation (5510) covering 90% from the total turnover, the latter of 10% having less importance concerning the performance indicators.

As already mentioned, in Hungary the survey frame is based on the national Business Register and the reporting units are enterprises.

The Figure 2 illustrates the net turnover structure for I55 in Hungary by the SBS (industry-based) statistics.

Figure 2

Net Turnover Structure in Hungary by the SBS statistics
Accommodation, 2016
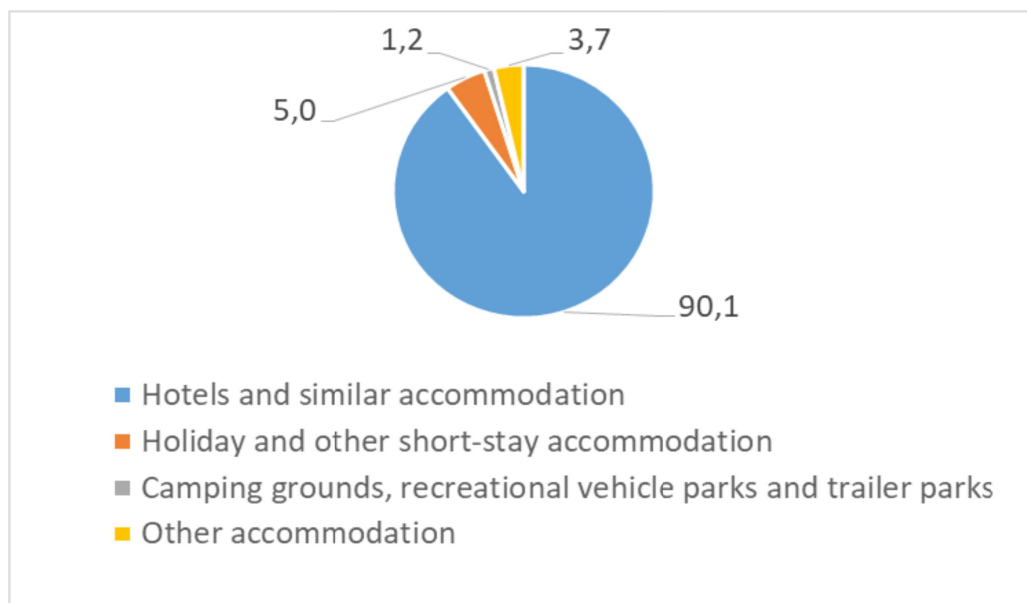
Source: website of the HCSO

3. STANDARD CLASSIFICATION STRUCTURE AND DETAILS

Hungary, as a member of the European Union (EU), for producer price observation system applies harmonized national versions of the following main economic classification systems:

➢ **NACE Rev 2 / TEÁOR'08 (the statistical classification of economic activities in the European Communities / in Hungary).**

➢ **CPA'2015 / TESZOR'2015** (the European/ Hungarian Classification of Products by Activity).

The structure of the above mentioned classifications is the following:

CPA 2015 is fully harmonized with NACE Rev.2. Namely, from the 6 digits (XXXX.YY) the first four are the same as those for the NACE Rev. 2. This consistency and the hierarchical structure of the CPA make easier the calculation of higher level indicators from the lowest level of CPA.

4. EVALUATION OF STANDARD VS. DEFINITION AND MARKET CONDITIONS

The Hungarian national versions of the classification systems NACE Rev 2 and CPA 2015 are fully harmonized with the European classification systems.

It should be noted that enterprises, beside the primary activity also provide secondary activities or bundled services for their clients. On the other hand companies classified beyond the industry Hotels and similar accommodation services may also offer services related to this class. One of the main challenges seems to be the clarifying the relationship with travel agency, tour operator and other reservation service and related activities (N79) and handle the international transactions of services.

5. DEFINICION OF THE SERVICE

According to the European classifications (NACE Rev.2, CPA 2008), activities related to the Accommodation and food service activities in section "I" division "55", which includes four classes for classification of several kind of services including Hotels and similar accommodation activities (see Annex).

Industry classification

NACE Rev.2

I ACCOMMODATION AND FOOD SERVICE ACTIVITIES

55 Accommodation

55.10 Hotels and similar accommodation activities

This class includes the provision of accommodation, typically on a daily or weekly basis, principally for short stays by visitors. This includes the provision of furnished accommodation in guest rooms and suites. Services include daily cleaning and bed-making. A range of additional services may be provided such as food and beverage services, parking, laundry services, swimming pools and exercise rooms, recreational facilities as well as conference and convention facilities.

This class includes accommodation provided by:

- hotels
- resort hotels
- suite/apartment hotels
- motels

Product Classification

The central product classification CPC (Rev. 2) is the main product classification system applicable to this industry.

The CPA 2008 (Statistical Classification of Products by Activity in the European Economic Community) for Hotels and similar accommodation services includes only one subcategory with a direct link to the NACE industry classification (details see in Annex).

55.10.10 Room or unit accommodation services for visitors, with daily housekeeping (except time-share)

5.1. Size of the industry

The main macroeconomic statistics for aggregations section NACE "I", "and class "55.10" are presented in Table 1.

<div align="right">Table 1</div>

Number of enterprises and performance indicators, 2016
**Hotels and similar accommodation (I5510)**

NACE Rev.2	Indicators					
	EU28			HU		
	Accommodation and food service activities	Hotels and similar accommodation	%	Accommodation and food service activities	Hotels and similar accommodation	%
Number of enterprises	1 998 320	154 627	**7,7**	29 976	1 665	**5,6**
Turnover (mio EUR)	605 601	150 930	**24,9**	3 772	998	**26,5**
Value added at factor cost (mio EUR)	264 371	74 159	**28,1**	1 104	436	**39,6**
Number of persons employed	-	-	-	101 289	21 846	**21,6**

Source: Eurostat database

The net turnover and value added data for Hotels and similar accommodation services are presented by the Figure 3.

<div align="right">*Figure 3*</div>

Turnover and Value added in Hungary

Hotels and similar accommodation services
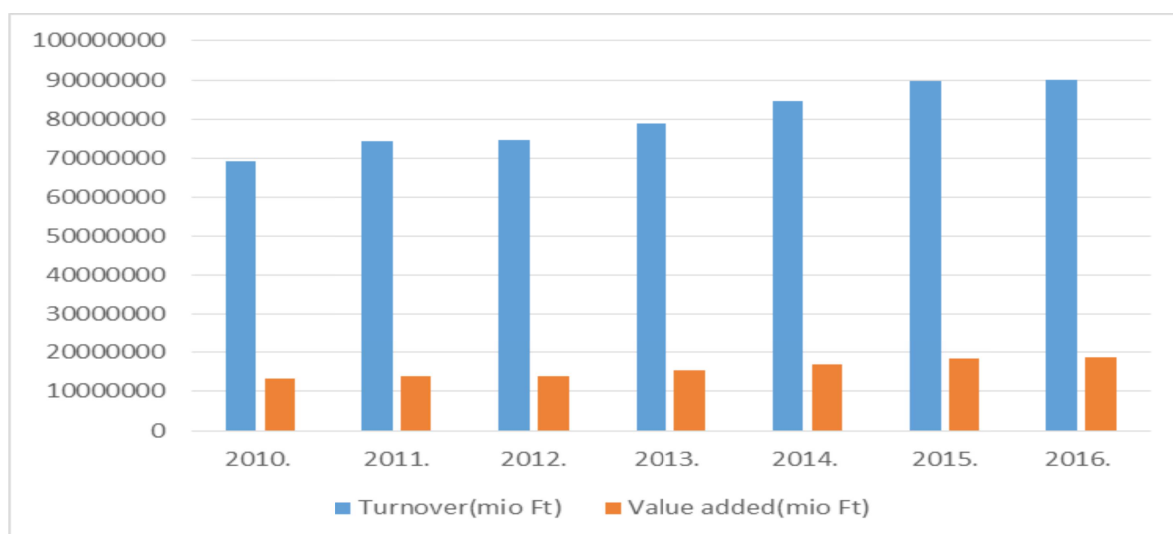
Source: website of the HCSO

6.   Prices

Industry-based vs. product-based SPPI (deflator) data

Many data suppliers classified to the division 55 (as well as to the class 55.10) account a relevant turnover share regarding secondary activities.

For national accounts purposes it is more appropriate using of product-based SPPIs. However, when the total turnover is dominated by the share of primary activity, a product-based SPPI could be used as proxy for the industry-based SPPI.

Business to business vs. business to all SPPI

According to the current European STS Regulation for SPPIs B-B indices, however by the FRIBS B-All indices are required. In addition for deflation of the total output, B-All indices are needed.

Hungary plans the production of all types of indices: B-All and sub-indices B-B and B-C using already available data sources.

Methodological development of SPPIs

Taking into account cost and burden of NSIs and data providers, for a short time the already available data are used:

- ✓ The accommodation services data presently collected by the Tourism Unit;
- ✓ Harmonised indices of consumer prices (*CPI/HICP-CT);*
- ✓ Data based on information obtained from the trade association and tourism agency;
- ✓ Information received from the market leader companies.

The cooperation between experts of the related units and exchange of views aimed at assessing the existing databases.

FRIBS requires the production and transmission of B-All type indices of prices and services production, covering the whole customer base, however if the business partners proportion is considerable, it is needed to calculate B-B type indices, as well.

B-All index can be calculated as a weighted arithmetic mean of B-B and B-C, where B-C can also be estimated by the consumer price index (CPI/HICP).

Application of unit value type of price indices (the total revenue divided by the total number of rooms sold or the total revenue divided by the total number of guest night spent) is recommended – on the conditions that sample is homogeneous and the number of cases is large enough. If these conditions cannot be ensured, representative survey by questionnaire is required. Concerning our task, service providers should be appointed/designated and properly specified accommodation and room types have to be set.

Proposals for calculation the SPPIs for shorter term

- ✓ access to data collected by the Tourism Unit;
- ✓ designation of representative sample of the hotel service providers;
- ✓ setting up a list of registration numbers based on the SBS turnover data (by Price Unit). To define the entities, Tourism Unit adds relevant information.

- ✓ Price Unit performs test calculations to B-All indices, from the filtered data. The expected results will be the unit price for a night/room, or unit price for a night/person (guest), in HUF. The timeline starts with 2015, but the experimental calculations will be made on the basis of 2017 data.

- ✓ Tourism Unit defines the weight ratio between the B-B and B-C markets according to the Travelling habits of the population survey (or on basis of the booking sites reservation, and hotel check in data).

- ✓ Estimation of the B-C data: with the CPI/HIPC data transferred from the Consumer Price Unit;

- ✓ Calculating of the B-B indices (using the B-All, B-C indices and the ratios).

Concerning the possibility of using a newly established administrative data base, it has been finalised a cooperation agreement between the HCSO and the Hungarian Tourism Agency[1] (MTÜ) recently, which is based on the State role at the development of tourist areas Act of 2016. This act provides legal basis to collect anonymized travellers traffic and turnover data through an online governmental channel at the service provider side and directly transmitted on a daily basis to the National Data Supply Centre[2] (NTAK). (The implementing rules are laid down in the Government Regulation No 237 of 10 December 2018.)

It is worth noting that MTÜ gives high priority also to MICE Tourism. The 2017 year publication on data and analysis are available on their official website (https://mtu.gov.hu/documents/prod/MICE_statisztika_2017.pdf).

HCSO will be able to access data of NTAK through the administrative transmission system (by the means of data transfer between the members of the National Statistical System). The responsible Unit for the cooperation is the Tourism Unit at the HCSO side.

Most of these data are already collected by the questionnaire through the HCSO electronic system, on a monthly basis, and published another month delay.

Proposals for calculation the SPPIs for longer term

The recently started data collection by NTAK/MTÜ have to be completed by the information on guest-type (business or private), in order to get accurate information to whom the invoice is issued. In addition the aggregates from NTAK (namely guest number, room night, guest

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[1] The Hungarian Tourism Agency is the governmental organization responsible for the development and public administration of tourism in Hungary. Defining the tourism development strategy, supervising the utilization of EU funds and domestic budgetary sources dedicated for tourism development and managing the tourism brand of Hungary are all belonging to the Agency's scope of duties. Its main mission is to gain competitiveness of Hungary as a tourism destination and to promote the country in order to be more attractive for international, domestic and business travellers.

[2] The aim of the National Tourism Data Supply Centre (NTAK) is to help tourism development and enhance competitiveness through the digitisation of the accommodation services industry.

The system is able to digitally manage data aimed at statistics and classified as statistical data; it does not register or accept any personal data related to guests.

NTAK supports the real and up-to-date measurement of the traffic data of the entire accommodation services industry; the planning and measurement of efficiency of better targeted strategy, developments and campaigns; as well as guest traffic projections based on occupancy data.

night, total revenue, revenue (without not for business purposes) should be completed by data with respect to B-B guests and also export destination/inbound tourism/. (It is necessary for more precisely deflating the performant indicators for export.)

The following steps are planned:

✓ Data transfer from the forthcoming new administrative database;

✓ Defining the weight ratio between the B-B and B-C markets from the NTAK data;

✓ Estimation of B-C indices with using the HIPC data, transferred from the Consumer Price Unit

✓ Calculation of B-B and B-C indices from the NTAK data;

✓ Aggregation of B-B and B-C to B-All;

✓ Comparing our B-C data with the Consumer price unit data as a reference data.

In order to carry out test calculations, the following data should be selected:

✓ operator's
  - registration number;
  - statistical main activity.

✓ the selected accommodation
  - identification number;
  - name;
  - address;
  - the nature of the operation;
  - the type of the accommodation;
  - accepting Cafeteria card or not;
  - operational form, preselection of code;
  - not entitled to holiday right.

✓ Capacity data of the entity
  - maximum number of rooms available;
  - maximum number of beds available;
  - the total number of rooms daily sold during the month;
    thereof the sum of not for business purposes rooms.

✓ Guest traffic data (during a month's period)
  - the total number of foreign guests;
  - the total number of nights spent by foreign guests;
  - the total number of domestic guests;
  - the total number of nights spent by domestic guests;

✓ Sales data during a month's period

  o Total revenue of accommodation fee, without breakfast;

  thereof total revenue of foreign guests sales

(Note: The revenues include 18 % VAT)

Background information

Concerning the hotels there can be huge differences in the quality of services provided. In Hungary, there is no compulsory classification for different types of accommodation, though special rules exist for the operating conditions. Furthermore flexible pricing is typical, (discounts, package prices), and within a day time a room can be sold for different prices through different channels or hourly rates can variate, depending on availability or occupancy.

In Tourism Unit's opinion, it would be more appropriate that turnover correlates to room night, not guest night (as room price is frequently not depending the number of guests stayed in). Geographical location and situation also are important price determining factors. Rooms can vary in one hotel that causes further problems of price monitoring. The services compared are not as homogeneous as methodologically requested.

In this regard, price indices for the activities of 55.10 would also be suitable for setting of SPPIs for Accommodation booking services (CPA 79.11.21), as a substitute index. There is a high ratio of the booking service providers who perform on percentage fee basis. In this case the fee/the price depends and varies upon the price/value of the accommodation invoiced.

6.1. PRICING UNIT OF MEASURE

In Hungary for the selected price representative items as the pricing unit of measure the price for night/room or night/person (guest) are considered.

Concerning the model pricing, the price for a model (with precisely defined parameters) would be appropriate.

6.2. DISCUSSION OF PRICING METHODS

Basically prices should be available for a detailed set of price specifications of services, for which the prices refers to a level of detail, where there are no further varieties of the products.

The choice of an adequate pricing method is based mainly on:

  ✓ pricing mechanism;
  ✓ easy identification of the service specification (e.g. in the business accounting system);
  ✓ repeatability of the price specification;
  ✓ response burden for businesses;
  ✓ resources in the NSI;

Recommended pricing methods for Hotels and similar accommodation services are as follows:

- The *most appropriate pricing methods* be may be the following:
    - Unit values/a*verage prices* for the strictly defined type of accommodation service (e.g. per/room, per/person, per service package);
    - Model pricing for unique or complex services;
- *Second best*:
    - *Averages prices per unit of measure* for the relatively openly defined type of service;
    - *Direct use of prices of repeated services (e.g. Web-scraping);*
    - Using available price indices as proxies (CPI, other).

    The price of provided service basically depends on transaction partners, length of stay, seasonality and on additional criteria.

Unit value method

The representative items have to be defined precisely for each service and should be as homogenous as possible (e.g. accommodation classified by type of hotel, geography, length of the stay, season, etc.). In defining the unit, detailed information about the turnover and quantity of sold units have to be available.

If the services are homogeneous and can be quality adjusted if any changes occur, then the unit value method is an optimum choice. A drawback is that information about the quantity of products sold is often not available at the required homogenous level. Otherwise the unit value method should not be used.

Direct use of prices of repeated services

List prices are often available via web sites. However, transaction prices reflect the relatively abundant on-line information. List prices can only be used if it is known that a sufficient quantity of services is actually sold at the list price.

Weighting and aggregation

In general, turnover data from two years prior is obtained at the 4-digit and higher levels from the Structure Business Statistics (SBS) survey. Weights are updated annually.

Concerning the accommodation services, turnover data at lower level based on the tourism databases would be most appropriate.

7. QUALITY ADJUSTMENT AND METHODOLOGY

In Hungary, generally the recommendations of international organizations and methodological guidelines are followed – taking into account the nature of the service and the circumstances of data access.

Further possibility to ensure appropriate quality of obtained data can be to compare product-level average price of a service provider with the average price at the national level.

8.   EVALUATION OF COMPARABILITY REGARDING TURNOVER/OUTPUT MEASURES

For estimation of the real productions of services as well as of the GDP at constant prices – as the most appropriate deflators – the producer price indices (SPPIs) are recommended.

In Hungary the product-based SPPIs for this industry are under development.

Regarding export (non-domestic) and international services, Hungary follows the residency approach. The non-domestic (export) part of the SPPI indicator is also under development.

9. SUMMARY

Budapest is one of the most popular tourist destinations in Central Europe, but Lake Balaton and other tourist attractions are also well known among the visitors. In the capital city as well as in other regions of the country many different types of accommodation are available for tourists to meet their needs.

However, In Hungary, there is no compulsory classification for different types of accommodation, though special rules exist for the operating conditions Furthermore flexible pricing is typical, (discounts, package prices), and within a day time a room can be sold for different prices through different channels or hourly rates can variate, depending on availability or occupancy – which means difficulties for setting up statistics, especially price indices.

The development of SPPIs and deflators for value data is currently under development.

In the short run already existing data collected by the Tourism Unit are used, however, within the longer time a new administrative data source is expected to be used taking into account the cost and burden to the NSIs and data suppliers.

According to our plans all type of indices (B-All, B-B and B-C) will be calculated in close cooperation with the related units of HCSO. Because services are provided for domestic as well as for non-resident companies, beside the total SPPIs indices for domestic and for export services will also be available.

The proposed prising method is the unit value (price night/room, price night /person (guest), price for a model service package) in the national currency HUF.

Data are expected to be used also for estimation of related activities (N79) linked to the accommodation.

As far as the statisticians are concerned, first and foremost, a flexible approach to the challenges (new methods, new data sources …) is necessary.

10. ANNEX

Classification

NACE Rev. 2 - Structure and explanatory notes
Statistical Classification of Economic Activities in the European Community

I ACCOMMODATION AND FOOD SERVICE ACTIVITIES

Nace (Rev.2(/CPA20015	Division/Class
55	Accommodation
55.10	Hotels and similar accommodation
55.20	Holiday and short-stay accommodation
5530	Camping grounds, recreational vehicle parks and trailer parks
5590	Other accommodation

55.1 Hotels and similar accommodation

55.10 Hotels and similar accommodation

This item includes the provision of accommodation, typically on a daily or weekly basis, principally for short stays by visitors. This includes the provision of furnished accommodation in guest rooms and suites. Services include daily cleaning and bed-making. A range of additional services may be provided such as food and beverage services, parking, laundry services, swimming pools and exercise rooms, recreational facilities as well as conference and convention facilities.

This class includes accommodation provided by:
- hotels
- resort hotels
- suite/apartment hotels
- motels

Rulings: Bed and breakfast units, with daily room cleaning and bed making

This item excludes:

- provision of homes and furnished or unfurnished flats or apartments for more permanent use, typically on a monthly or annual basis, see division 68

Reference to ISIC Rev. 4: 5510

CPA 2008 - Structure and explanatory notes

Statistical Classification of Products by Activity in the European Economic Community

I ACCOMMODATION AND FOOD SERVICE ACTIVITIES

55 Accommodation

55.1 Hotels and similar accommodation

55.10 Hotels and similar accommodation

55.10.10   **Room or unit accommodation services for visitors, with daily housekeeping (except time-share)**

This item includes: This subcategory includes:

- accommodation services consisting of rooms or units with daily housekeeping and other services, for persons away from their place of residence, in for example hotels, resort hotels, motels, apartment hotels, spa or conference hotels and similar establishments, typically provided on a daily or weekly basis

This item excludes: This subcategory excludes:

- accommodation services in time-share properties for visitors away from their usual place of residence, see 55.20.12