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Cross cutting Topics

Linking Services Turnover/Output Prices to the National Macroeconomic Framework

Country issues: Hungary

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1. INTRODUCTION

Because of the worldwide increasing role of the services industry, the development of the main macroeconomic indicators and the availability of the statistical information for this area are of primary importance in European countries including Hungary.

Beside the improvements of gross value added (GDP) the European plans for the future – according to the Framework Regulation for the Integration of Business Statistics, FRIBS) – also include the introduction of a new volume indicator for services (index of services production, ISP), based on turnover data and related deflators. Taking into account the proposals of the international handbooks and guidelines, as the most appropriate deflators for services output, the industry-specified services producer price indices (SPPIs) are considered. However, the consistency between turnover/output data and deflators must be ensured. On the other hand, the producing of comparable statistics harmonized with international standards and requirements, is an obvious necessity of the single market.

In Hungary the turnover data – concerning the short-term statistics (STS) as well as the structural business statistics (SBS) – are available almost for the whole services industry.

The production of services producer price indices (SPPIs) is actually required by the Regulation of the European Council on short-term statistics (STS Regulation) for determined services activities (see Appendix). Although the price indices calculated in national currencies should reflect both domestic and export price developments, the separate publication of domestic and export price indices has not been compulsory so far.

Price statistical observations – as a result of which the SPPI indices of 14 groups of services are published in Hungary – affect four sections.[1] From the 1st quarter of 2013, beside the producer price indices of services provided to businesses (business to business, B-B) the indices of services provided to all customers (business to all, B-All) are disclosed.

The average rate of price change of the observed groups of services is influenced by the specific features of the different service activities, the differing market environment, the effort of companies to follow inflation, the exchange rate of foreign currency, and the special needs of contractors as well as several other factors.

The overall objective of this paper is to summarize the most important county issues to be discussed for the further improvements.

2. THE MAIN DATA USERS

The principal macroeconomic indicators for services are primarily required for national accounts purposes. As other main users of this data could be mention the National Bank, the government, analysts, market operators and European Union (according to the statutory requirements).

Because the different users may require different type of indicators, the improvement and applying of services statistics, especially of producer price indices

[1] According to NACE Rev.2: Transportation and storage (H); Information and communication (J); Professional, scientific and technical activities (M) and Administrative and support service activities (N).

may depend on several criteria. To be able to provide users with correct indicators on the one hand it is important to collect these criteria and study the key issues associated with this subject, on the other hand internationally harmonize the development of methodology to be proposed for particular countries.

3. STANDARD CLASSIFICATION STRUCTURE

Hungary – as a member of the European Union (EU) – for System of National accounts (SNA), and for STS and SBS statistics including producer price observation system concerning industrial products and services, 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'08 / TESZOR'08** (the European/ Hungarian Classification of Products by Activity).

The structure of the above mentioned classifications is the following:

CPA 2008 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. The hierarchical structure of the CPA ensures to aggregate relatively homogenous services groups from the lowest level of the CPA.

4. AVAILABILITY OF DATA

In Hungary, the main sources of SBS and STS statistics, as well as of data required for other purposes, are **statistical surveys** and using of the **administrative data** (mainly tax and VAT data).

As observations unit the **enterprise** is considered.

4.1. Turnover data

The turnover data – taking into account the structure of the total turnover – are available as follows:

Industry-based data:

- **yearly** structural business statistics (SBS);
- **quarterly** short term statistics (STS).

Product-based data:

- **monthly** industry specified statistics, including quantitative data.

4.2. Services producer price indices, SPPIs

In Hungary, the publication of services producer price indices required by the European STS-regulation started in 2010 with the product-based, B-B indices, followed by dissemination of B-All indices in 2013. The main parameters of available SPPIs are listed below.

SPPI's time series are available for 2007Q1- (with various base periods), published since 2010.

Industry-based data:

- **The methodology is under development,** experimental calculations are carried out.

Product-based data:

- **B-B are available** according to the current European STS regulation (time series are available for 2007Q1-), published since 2010;
- **B-All are available** to fulfil the needs of data users, for example SNA or Eurostat – (time series are actually available for 2012Q1-), published since 2013.

5. THE SIZE OF THE SERVICES INDUSTRY IN HUNGARY

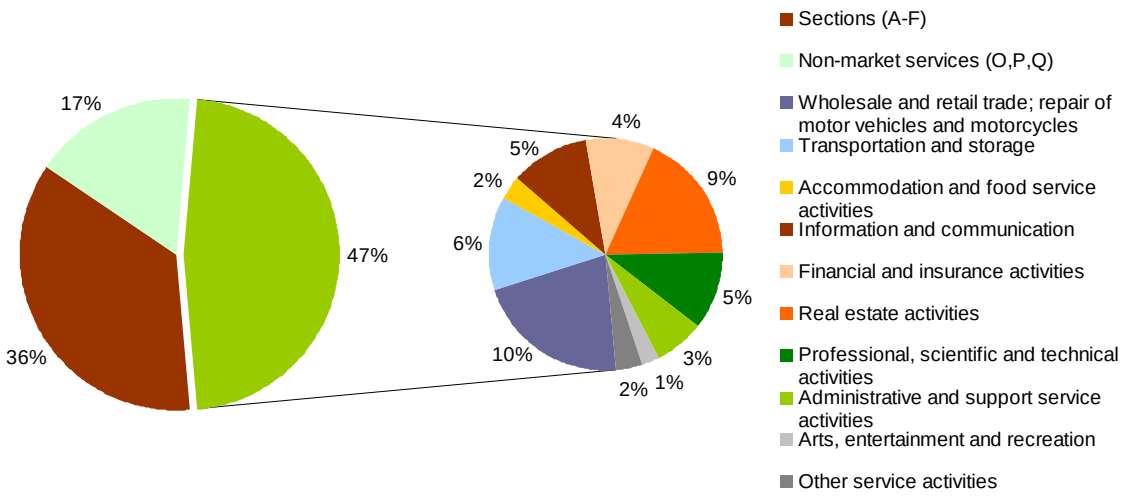
In Hungary, as in advanced industrial countries, the GDP share of services is about two-thirds related to the total national economy.

In 2011 within the broadly defined services sectors the largest proportion, almost half of the total gross value added is represented by the performances of market services providers (47%), while the share of the non-market services[2] is 17%.

The remaining sections of economy (A-F) [3] cover around 36% of gross value added.

Figure 1

Gross domestic product (at basic prices) in Hungary, 2011
(based on statistics of National Accounts)



Source: HCSO website

[2] O: Public administration and defence; compulsory social security; P: Education; Q: Human health and social work activities

[3] A: Agriculture, Forestry and Fishing; B: Mining and quarrying; C: Manufacturing ; D: Electricity, gas, steam and air conditioning supply; E : Water supply, sewerage, waste management and remediation activities; F: Construction

6. COVERAGE OF THE SERVICES SECTORS BY TURNOVER AND SPPIs

To elaborate the required volume indicators of an appropriate quality, the consistency regarding the coverage of turnover and SPPIs data is also indispensable.

6.1. Turnover data

As mentioned above, in Hungary the turnover data – both the short-term statistics (STS) and the structural business statistics (SBS) – are available almost for the whole services industry as follows:

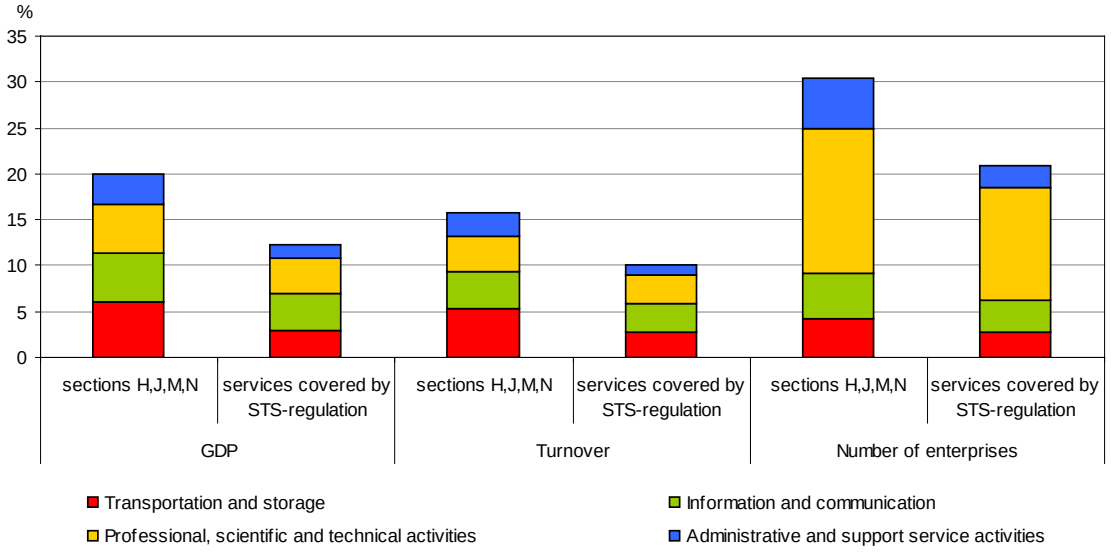
- **Full coverage** of industry-based data**;**
- **Limited coverage** of product-based data (e.g. retail trade, transportation, postal services, accommodation and food services, telecommunication, IT services).

6.2. Services producer price indices, SPPIs

Similarly to other European countries in Hungary – at the level of the total national economy – the four sections concerned by price statistical observations accounted altogether[4] for 20% of gross value added and 16% of net sales in 2010, while services included in the STS Regulation covered 12% and 10% respectively. The presented price indices' aggregate share of total GDP and net sales figures at basic prices of the four sections concerned by observations is around 60%.

Figure 2

The main economic indicators of services covered by STS-regulation in Hungary compared to the total national economy, 2010



[4] According to the STS Regulation the four sections concerned in the NACE Rev.2 classification: H – Transportation and storage, J – Information and communication, M –Professional, scientific and technical activities, N – Administrative and support service activities.

The **coverage by industry** (compared to the total national GDP and Turnover data) could be summarized as follows:

- **Full coverage** of the European STS requirement (12% of the GDP, 10% of the turnover);
- **Limited coverage** of the relevant four sections according to the NACE Rev. 2*: H, J, M, N* (20% of the total GDP, 16% of the total turnover).

Outlook in the European Union

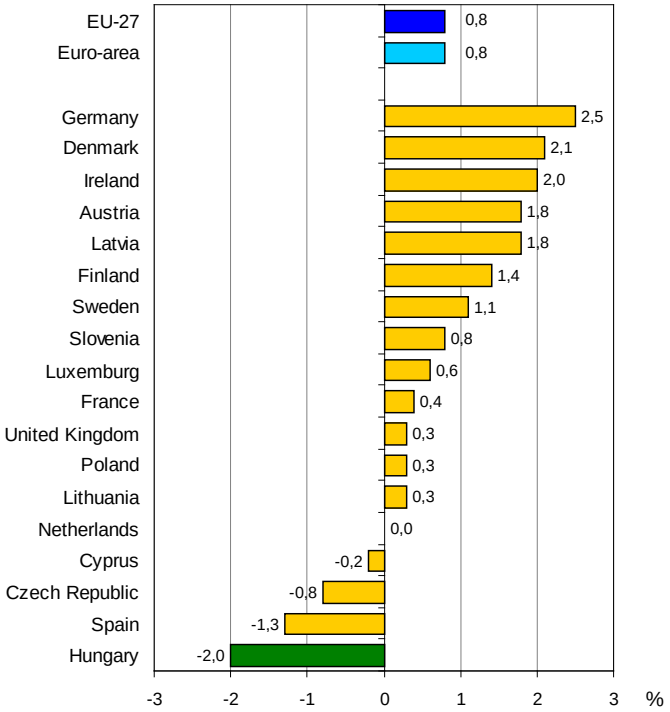
Eurostat (the statistical office of the European Union) publishes price index aggregates for the EU and the euro area only in case of an appropriate[5] coverage. Beside the aggregated SPPIs at the community and euro area level the SPPIs at the national level are also disseminated.

The basic goal of the continuous developments of services price statistics is that the different countries should observe the prices of as many new areas as possible, allowing the calculation of a services producer price index aggregate with an increasing coverage (of at least the most important branches). As a result of availability of section-level SPPIs it would be produced a general services producer price index aggregate – for both the EU and the particular member countries. To this end, Eurostat has made pilot calculations from spring 2012 and in parallel started to disclose the – preliminary and estimated – SPPI index aggregated at the level of the services groups covered by the STS Regulation.

In Hungary – the aggregate services price index is also calculated and published.

Figure 3

Yearly SPPIs for services covered by STS-regulation in EU, 2012



5) No less than 60% share of sales of member countries where the price index is available, relevant to the particular services area.

From other points of view the coverage of the turnover by SPPIs could be describe in the following way:

Coverage by type of the client:

- **B-B:** full coverage of EU STS requirements (time-series are available for 2012Q1-)
- **B-All:**
  - for STS coverage the calculation is made using **mixed approach**: as weighting average of B-B and B-C indices (actually for passenger transport, post and telecommunication activities, time-series are available for 2012Q1- since 2013; time-series for 2007-2011 are under development).
  - **for other areas** the methodology is under development (following the **industry-specified** approach).

Coverage by residency of the client (based on survey of relevant data):

- **Domestic prices** (equal to the coverage and quality of the overall SPPI);
- **Non-domestic/Export prices** (limited coverage and quality, further development is needed).

7. THE STRUCTURE OF THE TOTAL TURNOVER/OUTPUT

The Hungarian STS and SBS aggregates are based on the data received from enterprises, taking into account the industry-based approach. The administrative sources of data are also industry-based. Due to this fact, the **structure of the total turnover** (B-All) could be characterized as follows:

- **Main activity** and **secondary activities** (in most of areas) – based on data of enterprises with more than 19 employees;
- **Domestic** and **non-domestic/export** (by residency) – based on data of enterprises performing dual accounting;
- **B-B** (business to business: total industrial turnover except households**)** and **B-C** (business to consumer) – based on data of enterprises with more than 19 employees for limited number of industries;
- **Data from survey + administrative data** (e.g. for enterprises with less than 5 employees) **+ imputation of data** (concerning missing data).

It should be noted however, that the coverage and quality of the particular elements of the total turnover is limited.

8. CONSISTENSY BETWEEN SERVICES TURNOVER AND SPPIs

To produce correct value data, the necessary consistency between turnover and price indices should be ensured. However, the intelligent, cost-efficient use of the available information, taking into account cost and burden of data collectors as well as of data suppliers is also very important.

8.1. The main issues to be discussed

The **main country issues** to be discussed – aiming the further development of an internationally harmonized volume indicator for services industry – are listed as follows:

Availability of Turnover and SPPI data (based on previous description):

- different **deadlines** for dissemination of results (Turnover, SPPI, GDP and future ISP);

- limited quality of the **structure of the total turnover/output** (by products: main activity, secondary activities; employment size: sample, other data sources; type of client: B-B, B-All; by residency: domestic, non-domestic client);
- limited **coverage** of SPPI's (by observed areas, B-All, industry-based index, residency);
- Use of appropriate **CPI's** (constant tax) **as proxies for SPPI's** (for which areas, questions on coverage);
- Use of **other relevant indicators for deflation** of missing SPPI's (e.g. volume output measures, input measures, for which areas, questions on coverage).

How to use deflators other than SPPI' as proxies, e. g. CPI's?

Differences could be observed concerning the next issues:

- Overall methodology used;
- Classification (NACE / COICOP);
- Periodicity (Quarterly, monthly);
- Prices observed (output(basic) prices / consumer prices);
- Questions on industry- or product-based type of the volume indicator;
- Questions on domestic/non-domestic share of the volume indicator ;
- Questions on methodology to be used: industry-specific or other approach?
- Questions on approaches to be followed: Mixed approach (combination of B-B with B-C or with other deflators) or separately using of CPI's or other deflators?

Weights

In consistency with the type of the observation unit: enterprise, kind of unit (KAU), other

- ***Industry-type*** *(weights are based on the total turnover data of the enterprise): used for aggregation of an industry-type of volume index (e.g. ISP);*
- ***Product-type*** *(weights are based on the total turnover of the KAU or of other similar unit): used e.g. for aggregation of GDP by products;*
- ***Mixed approach****: (e. g. in case of limited coverage of product-based weights in general or at the needed level).*

In consistency with the type of the client

- ***B-B:*** *weights are based on the sales to business clients (the total turnover of the enterprises expect sales to households);*
- ***B-C:*** *weights are based on the sales to households;*
- ***B-All:*** *weights are based on the total turnover data of the enterprises.*

To obtain the appropriate turnover share for calculation of an B-All index as weighted average of B-B and B-C indices, the special part of the structured business statistics survey (SBS, Annex VIII) has been expanded (beside the total turnover the turnover of sales to consumers is also collected for selected areas).

In consistency with the type of the volume indicator:

- ***gross data*** *(for the ISP, with exception of some areas (trade, agencies, other?);*
- ***net data*** *(for GDP, and for ISP concerning some areas (trade, agencies, other?).*

In consistency with the domestic/non-domestic approach

- **Residency approach vs. international services** concerning export part of the turnover/output;
- **Availability** of data in general;
- **Quality** of data in general.

Index formula for the aggregation of the total volume index

It would be also important to discuss the issue on which index formula could be proposed for aggregation of the particular lower level (e.g. division level) volume indices to the higher level indicators (Laspeyres, Paasche, Fisher, or other)?

9. CURRENT DEVELOPMENTS AND PLANS FOR THE FUTURE

In Hungary the main areas of the future improvements regarding the turnover/output indicators, SPPIs and the volume indices are as follows:

Turnover/output statistics

- **All relevant aspects** (e.g. coverage and structure of the total turnover/output, see above**);**
- **Overall quality** of micro data and results.

Producer price indices, SPPIs

- **Shorten the deadlines** according to the SNA requirements;
- **Improvement of the quality** (methodology, observation system, results, publications) concerning the observed areas;
- **Extend of the coverage by industries** with observation of **new services areas** (methodological development, pilot survey, experimental calculations).

Volume indicators

Hungary has started to introduce the services producer price indices to the SNA recently. The methodology concerning the all relevant aspects is under continuous development.

Otherwise Hungary is member of the Eurostat's Task Force "Index of services production (ISP)".

The participation in the work of this Task Force regarding the new service statistics indicator means first of all voluntary contribution to the ISP manual to be developed by providing drafts on selected industries and methodological issues:

Hungary has undertaken the preparation of the drafts for the next industries:

- Computer programming, consultancy (NACE Rev.2: **J62**);
- Information service activities (NACE Rev.2: **J63**);

The general methodological issues to be drafted by Hungary are as follows:

- Using CPI's as proxies for SPPI's;
- How to identify B-B and B-C trade.

10. SUMMARY

In Hungary the services industry regarding the turnover indicator for related areas is almost fully covered.

Within the frame of the Hungarian SPPI observation system actually the services areas required by the European Short Term Statistics Regulation are covered by producer price indices. Primarily the product-based B-B price indices are calculated, however, the general industry-specified frame allows the producing of industry-based indices as well. On the other hand it ensures the computation of both B-B and B-All indices.

In general, the Hungarian macroeconomics indicators are based on the data received from enterprises. Regarding the services statistics, to ensure the necessary

consistency between turnover data, price data and other deflators could be considered as one of the most important fields to be improved.

Hungary has started to introduce the services producer price indices to the SNA recently. On the other hand HCSO takes part in the development work of the European Task Force aiming to define a new service volume indicator (ISP) and to develop an internationally harmonized ISP manual for the potential users.

APPENDIX

Observed service activities according to the European STS-regulation

NACE Rev.2	**Services groups** (ANNEX D)
49.4	Freight transport by road and removal services
50.1 + 50.2	Sea and coastal passenger and freight water transport
51	Air transport
52.1	Warehousing and storage
52.24	Cargo handling
53.1	Posta activities
53.2	Other postal and courier activities
61	Telecommunications
62	Computer programming, consultancy and related activities
63	Information service activities
69_702	Legal and accounting activities; management consultancy activities
71	Architectural and engineering activities; technical testing and analysis
73	Advertising and market research
78	Employment activities