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OTHER BUSINESS SERVICES IN THE CZECH STATISTICS

Invited paper submitted by Czech Statistical Office*

I. INTRODUCTION

1. The issue of my paper is estimation and reconciliation of “other business services” at current and constant prices in the Czech National Accounts. Measurement of the value, volume and price development of other business services needs special attention but the Czech statisticians and also economists do not pay much attention to it in spite of its important role in the Czech economy. Other business services constitute more than 5% of GDP. They generate bigger value added than agriculture and forestry together or more than food and beverages industries or electricity, gas and water supply or public administration, defence and social security as a whole.

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2. Other business services cover a variety of activities: 741- Legal, accounting, book-keeping and auditing services; tax consultancy services; market research and public opinion polling services; business and management consultancy services; holdings services, 742- Architectural, engineering and related technical consultancy services, 743 - Technical testing and analysis services, 744 – Advertising services, 745 - Labour recruitment and provision of personnel services, 746 - Investigation and security services, 747 - Industrial cleaning services and 748- Miscellaneous business services n.e.c.

3. In spite of their heterogeneity, they are grouped in one two-digit level of NACE, mainly due to their common direction of usage. They serve mainly to businesses. Their huge variety and heterogeneity causes many problems at measurement in current and constant prices.

II. CURRENT PRICES ESTIMATION

4. Business services are provided by legal and natural persons as their main or secondary activity. The distinction between main and secondary activities is important for evaluation of activities from the NACE classification point of view and for evaluation of services from the CPA classification point of view.

5. First, let's have a look at the providers who provide business services as their main activity. Secondly, we will analyse the commodity structure of their production (main and secondary separately) and in the end we will quantify the scope of business services provided by other units as their secondary activity. We will also analyse the balance between sources and their uses.

Who are the providers of business services?

6. They are large and small enterprises, small entrepreneurs and natural persons. Considerable amount of business services is imported. The size and legal status of the domestic providers of business services are shown in Table 1.

Table 1. Data sources of other business activities

	Non-financial corporations			Natural persons	Other units	Adjustments	TOTAL
	large	medium	small				
<i>Number of units</i>	231	1 899	13 597	120 748	70		136 545
Gross output (CZK mil.)	42 287	70 227	47 148	54 277	6 981	1 098	222 018
74 Other business activities (%)	19%	32%	21%	24%	3%	0%	100%
741 Legal, accounting, auditing activities,...	17%	29%	24%	29%	0%	0%	100%
742 Architectural and engineering activities...	25%	32%	21%	17%	4%	1%	100%
743 Technical testing and analysis	23%	22%	18%	24%	10%	3%	100%
744 Advertising	6%	62%	18%	14%	0%	0%	100%
745 Labour recruitment and ...	52%	29%	9%	9%	1%	0%	100%
746 Investigation and security activities	54%	12%	8%	26%	0%	1%	100%
747 Industrial cleaning	31%	12%	11%	45%	1%	0%	100%
748 Miscellaneous business activities n.e.c.	11%	16%	28%	37%	8%	0%	100%

7. The share of large enterprises (over 100 employees) in total gross output of other business activities is relatively high (19%), especially in labour recruitment, investigation and security activities. Nevertheless, the share of business activities in the overall output volume of all large enterprises is insignificant (2%).

8. Medium enterprises engaged in other business activities play important role both in the total volume of other business activities provided (32%) and in their share in the total output of all medium enterprises (10%). It is possible to say that the typical provider of advertising, architectural and engineering activities is a medium enterprise.

9. Small enterprises (up to 20 employees) are important providers namely of legal, accounting, book-keeping and auditing services and tax consultancy and other miscellaneous business services. Since the statistical survey of small enterprises is based on a random sample, the quality of estimation of the volume of services provided depends much on the selection of representatives. With regard to heterogeneity of business services and differences in labour productivity, our estimates can be considerably different when using different representatives. In Table 2, the average gross output per unit indicates small reliability of estimations in details but sufficient reliability at NACE two-digit level.

Table 2. Average gross output of small business services providers

	Small non-financial corporations			Entrepreneurs-natural persons		
	1998	1999	2000	1998	1999	2000
<i>Number of units</i>	14 308	13 596	17 576	131 456	120 748	125 475

<i>Sample (number of answers)</i>	4 281	5 181	5 471	697	679	656
<i>%</i>	30%	38%	31%	1%	1%	1%

Average gross output per unit (in CZK thousand):

74	Other business activities	3 269	3 468	3 793	370	368	394
741	Legal, accounting, auditing activities,..	3 749	2 354	2 962	316	297	430
742	Architectural and engineering activities...	3 408	5 034	5 026	382	423	422
743	Technical testing and analysis	5 560	4 490	4 664	541	253	348
744	Advertising	3 771	5 879	4 916	481	592	446
745	Labour recruitment and ...	3 167	4 050	1 784	544	325	426
746	Investigation and security activities	21 042	3 686	3 528	1 218	1 633	1 095
747	Industrial cleaning	2 122	663	831	494	603	592
748	Miscellaneous business activities n.e.c.	2 156	4 185	4 152	329	271	217

10. Small entrepreneurs - natural persons are another important group of business services providers. Their share in the total volume of business services provided is 24%. They have a significant share mainly in industrial cleaning activities, in legal, accounting, book-keeping and auditing activities and tax consultancy and in other miscellaneous business activities. As with small enterprises, estimation quality depends on the selection of representatives (see Table 2).

11. Other types of organisations (especially semi-budgetary organisations) provide only insignificant part of business services (3%). The main part of the volume is provided by governmental and non-profit institutions. They are primarily services in the area of meteorological and technical measurement and other business services. Part of the services provided by them are of non-market character (75%) because they provide services for economically insignificant prices or free of charge. On the use side, the services provided for free are recorded in the consumption of the government and non-profit institutions (see Table 4).

Commodity structure of output of business services

12. The commodity structure of output of business services providers that carry out this activity as their main activity is usually broader. They carry out many other activities along with their main activity because the activity of units is not homogeneous. The Czech statistics does not use the homogeneous industry approach. Thus, there is some inaccuracy in the above evaluation of data sources and their importance. Secondary activities carried out by individual types of business services providers account for 6 to 35% of their total output (see Table 3).

13. The same is valid also vice versa. Many companies, the main activity of which is not to provide business services, do provide these services as their secondary activity (15% of all

business services provided). Thus, when evaluating business services, the Czech statistics has to make strict differentiation between the provider of business services (CZ-NACE) and business services provided (CZ-CPA). If we add import of business services, the share of the providers that provide business services as their main activity in the total of business services provided is only 60%.

14. Imports account for 24% of total business services provided. Most of them are among miscellaneous business services (59%). However, a big share of imported services (but also of exported ones) is primarily due to insufficient breakdown of services in the balance of payments. It can be assumed that it includes also some amount of fictitious services provided to related companies to transfer profit due to tax optimisation. The export/import figure we consider to be one of the weakest points at balancing of commodity flow.

15. The supply-use balance of individual types of other business services presented in Table 4 was compiled, of course, after some adjustments both to the supply side and mainly on the use side. In spite of shortcomings in data sources mentioned above, we consider the gross output of other business services to be the most reliable item. Thus, our adjustments to the gross output were relatively small and the initial unbalance was solved by adjustments to other items.

16. Information on uses of business services is far less complete and of worse quality than information about supplies. Since the uses are concentrated in intermediate consumption, the main adjustments were made precisely to this item. The commodity structure of intermediate consumption belongs to the weaker side of our data sources. Basically, it is measured only for large and medium non-financial corporations. For other organisations we have information only on total purchase of services with a breakdown to 3 up to 5 groups of services.

17. Expenditures of households, government and on capital formation are small, however, we have to pay attention to them when estimating their amount and calculating them in constant prices. Legal services and photographic services are part of expenditure of households. Meteorological and technical testing services consumed collectively are part of government consumption expenditure; gross capital formation includes acquisitions of other non-tangible assets (in GFCF) and audits, architectural, engineering and other projects in progress (in changes in inventories).

Table 3. Extract from the make matrix

NACE	CZK mil.										
	TOTAL economy	<i>Other activities</i>	Other business activities	Legal, account audit activities	Architect engineer activities	Technic testing and analysis	Adver- tising	Labour recruit- ment	Investi- gation security activities	Industrial cleaning	Miscellaneous business activities n.e.c.
CPA		%	74	741	742	743	744	745	746	747	748
TOTAL economy	x	x	222 018	51 131	64 573	6 429	39 170	1 737	11 149	7 588	40 241
<i>Other goods and services</i>	x	x	14%	3%	19%	17%	5%	37%	31%	11%	22%
74 Other business services	235 890	19%	202 102	49 809	56 144	5 507	37 969	1 690	10 382	7 308	33 293
741 Legal, accounting.. services	64 273	23%	51 188	49 606	263	21	94	7	17	7	1 173
742 Architectural and engineering	55 236	6%	54 027	16	52 039	108	50	58	1 509	215	31
743 Technical testing and analysis	6 296	15%	5 624		138	5 343	10	10	123	0	
744 Advertising services	60 431	38%	43 169	69	3 496	33	37 377	494	989	239	471
745 Labour recruitment, person serv	1 212	10%	1 135	6	5		1	1 088			35
746 Investigation and security serv	7 883	3%	7 830	0	52			9	7 677	92	
747 Industrial cleaning services	7 041	4%	6 930	2	96	2		17	61	6 751	
748 Miscellaneous busin serv n.e.c	33 519	6%	32 200	109	54		436	7	6	3	31 584

Table 4. Supply and use of other business services

CZK mil.

CPA	SUPPLIES				USE					
	Gross output	Imports	Net taxes	TOTAL	Inter mediate consumption	House hold consumption	Government consumption	Gross capital formation	Exports	TOTAL
74 Other business services	235 890	71 347	4 807	312 044	266 881	2 489	4 229	1 211	37 234	312 044
741 Legal, accounting services	64 273	11 294	748	76 315	69 772	245	124	240	5 934	76 315
742 Architectural and engineering serv.	55 236	8 678	105	64 019	56 958		2 371	-780	5 470	64 019
743 Technical testing and analysis serv.	6 296		36	6 332	5 571	158	603			6 332
744 Advertising services	60 431	3 410	3 479	67 320	64 617	430	9		2 264	67 320
745 Labour recruitment, person serv.	1 212		41	1 253	1 094	150	9			1 253
746 Investigation and security services	7 883		65	7 948	7 948					7 948
747 Industrial cleaning services	7 041		14	7 055	6 638	378	39			7 055
748 Miscellaneous business serv. n.e.c	33 519	47 965	319	81 803	54 284	1 128	1 074	1 751	23 566	81 803

18. Besides the intermediate consumption, only export of services is another important type of the usage of business services. However, information on exports of business services has the same insufficient reliability as information on their imports. Therefore, some small adjustments were made also to the initial export and import data. In this field, we expect considerable improvement. A question about commodity structure of imported services was included in the statistical survey for 2000.

19. The initial unbalance was also negatively affected by inaccurate information about payers and non-payers of value added tax. Our adjustments were thus also related to the vector and matrix of VAT.

III. CONSTANT PRICES ESTIMATION

20. Volume and price measurements of other business services are based on the same principles as those used for the other commodities in the Czech statistics. Flows of commodities are balanced in the supply and use tables at current prices only. However, we have compiled some shadow matrices which allow achieving consistent deflation using all price indices available.

21. We keep consistency in each type of valuation using the same price indices on both the supply and use sides. That is why the make matrix is divided into 4 types or methods of revaluation:

- (a) Gross output for export matrix = export on the use side (export price indices are used);
- (b) Gross output for final consumption expenditure of households matrix = final consumption expenditure of households on the use side (consumer price indices are used);
- (c) Other non-market production matrix = final consumption expenditure of government and NPISH on the use side (input method);
- (d) Gross output for other domestic usage matrix = intermediate consumption and gross capital formation from domestic origin on the use side (producer price indices are used).

22. The intermediate consumption matrix (minus VAT matrix) is divided by type of price valuation as follows:

- (a) Intermediate consumption from exports matrix = imports on the supply side (import price indices are used);
 - (b) Intermediate consumption from domestic market matrix = gross market output matrix on the supply side (producer price indices are used).
23. The VAT vector and also the matrix of VAT uses are converted by deflating the volume of taxable services to which average rates of services taxable in the previous year are applied.
24. The vector of households consumption expenditure, consumer price indices and the deflation are made in the framework of the COICOP classification first and then the results are converted to suit the CPA classification.
25. The quality of our deflation depends much on complete and good price indices. The most important are producer price indices, import price indices and export price indices. The deflation of non-market services and final consumption expenditures of households has a small effect on total results only.
26. The calculation of producer price indices for other business services is based on 43 representatives of individual services. With respect to heterogeneity of other business services, this number is not high. However, the main problem is that these representatives do not cover all the 8 groups of services and, moreover, the weights are from 1994. Fortunately, now we are in transition to new 2000-based weighing schemes.
27. Import and export price indices for services the Czech statistics does not compile at all. We use for the time being average import and export price indices of goods instead. Due to the big amount of imported and exported services, this issue would deserve more attention.
28. Regarding the breakdown of resources by type of use and due to consistent application of price indices, our final results at constant prices as well as at current ones are balanced on both sides.

IV. CONCLUSION – OUTSTANDING ISSUES

29. Improvements in the deflation approach depend on improvements in quality of the estimations at current prices and on improvements in completeness and quality of price indices. Heterogeneity of other business services plays an important role in both factors. This requires increasing the number of representatives in the statistical sample surveys of small enterprises and entrepreneurs involved in other business activities and also the number of price representatives in calculation of producer price indices. It is also essential to include imports and exports of services into the calculations of import and export price indices.

30. The following also has to be improved: the commodity structure of import and export of services; the estimation of households consumption expenditure on other business services; and the identification of payers and non-payers of value added tax.
