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**MEASURING THE NON-OBSERVED ECONOMY IN NATIONAL ACCOUNTS**

**SERVICES PROVIDED BY PRIVATE ENTREPRENEURS: AD HOC SURVEYS**

**Ad-hoc surveys of non-observed economy**

Note by the Statistical Office of the Republic of Serbia<sup>1</sup>

*Summary*

The paper describes two ad-hoc surveys carried out in Serbia under the Eurostat-OECD project on measuring the non-observed economy in the Western Balkan countries. The first survey estimated household expenditures on health and education services and on tips. The second survey estimated the household income received from abroad and expenditures of residents travelling abroad.

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## I. INTRODUCTION

1. The ad hoc statistical surveys carried out under the Eurostat/OECD project on measuring the non-observed economy in Western Balkan countries had a dual purpose. On one hand, to obtain the information on the phenomena existing in the society for which we have not had any data so far, and on the other hand to examine and provide as detailed as possible information, especially for the private sector. Therefore we designed two ad-hoc surveys. The first survey contained three modules: the first on health services, the second regarding private teaching (teaching hours) and the third concerning the tips. The second survey contained two modules: the first module related to the household income from abroad, and the second one to the household expenditure on travelling abroad.

2. After the discussion within the team in charge of the non-observed economy issue, we decided that these surveys should be done with the regular Household budget survey, which is carried out in the whole territory of the Republic of Serbia. The interviews were carried out in October 2005 and in November 2007 and covered the previous twelve months.

3. The Household budget survey is carried out on a stratified sample. Serbia is divided into three strata (Belgrade, Vojvodina and the central Serbia with Belgrade excluded). Within each of them further stratification is done: urban and rural households. The frame for the household selection is the 2002 census. In order to avoid the burden for households when keeping long-term diaries and to reduce non-responsiveness, a rotating sample is applied in the subject survey. That means that households take part in the survey twice a month, after fifteen days the households are changed, i.e. rotated. The estimators are expected to visit each selected household three times.

4. In October, in addition to responses to regular questionnaires, on the occasion of the third visit the estimators obtained the data relative to the *ad hoc* survey. 406 households, which were in a sample for this month, were covered by the survey. Non-response was completely avoided, since the households refusing to cooperate were replaced. In November, the rate of non-response was 0.045 (18 non-respondents out of 400 sampled households).

## II. HOUSEHOLD EXPENDITURE FOR HEALTH SERVICES

5. Within the first module, we requested the data on the household expenditure for health services. Apart from overall expenditures, we estimated their structure regarding the sectors (private and public) and the kinds of services.

6. Out of 406 households of the sample in Serbia, 232 or 57.1% reported health expenditure, while in Belgrade the share is significantly larger (73.3%). The respondents mainly paid for diagnostic imaging (35.3%), dental services (34.5%), medical laboratories (32.8%) and medical specialist's services (31.5%). Observed by sectors, 36.9% of the overall expenditure relates to the public sector and 63.1% to the private sector. The private sector share is even larger relative to the services of paramedical professionals, medical specialists services rendered at home, dental services and alternative medicine. On the other hand, the share of public sector is dominant for hospital services (delivery, 100%) and rehabilitation care. 229 households or 56.4% had expenditure for direct payments (in cash or in kind) to medical professionals (in Belgrade, 73.3%), mainly in kind. 90.8% of direct payments relate to the public sector and their counter

value equals to 9.3% of the overall expenditure for health services. 9.2% of direct payments, valued at 0.6% of overall expenditure refer to the private sector. In the Republic of Serbia, a household allocates DIN 6447 on average for medical services expenditures: DIN 2520 for the public sector and 3957 for the private sector, plus DIN 236 for direct payments to health care workers.

### **III. EXPENDITURES FOR EDUCATION**

7. Within the second module we obtained the data on the expenditure for education, i.e. on the supplementary private tuition that households paid for their members (the number of teaching hours and the average price per hour). Only 10.8% of households had the expenditure of this kind and this amounted on average to about DIN 20000 for 56 teaching hours per year. Naturally, in urban areas the expenditure is higher and so is the average price per teaching hour.

### **IV. TIPS**

8. Within the third module, we asked for the information whether the households gave tips and how much approximately, for various services that were supposed to entail tips usually. The survey covered restaurants, taverns, cafes, taxi transport, hairdressers and beauty shops, craftsmen services, etc. For each kind we inquired about the amount of tips in dinars and in per cent relative to the service value. 42% of the surveyed households give tips when paying for certain services (in Belgrade, 62%); most often in hairdressers and beauty shops and restaurants and most rarely to taxi drivers. 70% of the tips amount up to DIN 50; only for craftsman services the tips amount up to DIN 100, while in Belgrade this is the respective tips amount for hairdressers and beautician services. Regarding the service price, the tips usually do not exceed 10%.

### **V. IMPACT OF THE RESULTS OF THE SURVEY ON GDP**

9. The data compiled were used to summarize certain elements of non-observed economy and also for the estimates and corrections of value added in the recommended tabular approach. For the section of health care, the corrections were done for the direct payments by the households. The wages and salaries of the employed were corrected: the direct payments were considered as receipts in kind and the gross value added of the section was increased by the respective amount. The expenditure for private tuition was firstly weighted, since the amounts are different by strata, and summarized relative to the number of potential users of these services (population between 10 and 25 years of age, families with children and the respective households they belong to). The result was included in the section of education by increasing the wages and salaries. Regarding the tips, the corrections of the gross value added for certain section was affected according to the average value of tips, i.e. percentage share. All corrections that have been made so far based on this survey are given in Table 1. They amount in total DIN 4638.5 million, i.e. 0.42% of the GDP.

**Table 1. Impact of the results of the survey on GDP, 2003**

NACE section	VA adjustment (mill. Din.)	% GDP
F	30.0	0.00
G	95.7	0.01
H	360.7	0.03
I	6.4	0.00
M	3506.6	0.32
N	480.5	0.04
O	152.3	0.01
P	6.3	0.00
<b>Total:</b>	<b>4638.5</b>	<b>0.42</b>

10. This survey showed that unregistered activities and income can be determined from the existing data sources. Furthermore, it provided additional indicators for surveying underreported elements, especially in the section of health care. In recent years, certain dynamic trends and the change of ownership in the favour of private sector can be noted. Within the private entrepreneurship, health services by kinds are not surveyed. Therefore the household expenditure structure (according to COICOP classification) may be used for the GDP estimations (both applying production and expenditure approach), for defining market and non-market output, for upgrading Household Budget Survey, for estimating of final consumption and for price statistics. All this fully justifies the implementation of the survey.

## V. SURVEY 2: MODULE ON HOUSEHOLD INCOME FROM ABROAD

11. Within the first module of the second survey, the first set of questions (from 1 to 4) should provide the information on the number of resident households having family members, relatives or close friends of Serbian origin living or working abroad for more than one year. We have been interested in where and how long they have lived abroad, indirectly showing their relationship with the mother country. From our point of view, they are non-residents having centre of economic interest on the territory of other country (job, dwelling or residency) but, due to connections with mother country, we have been interested in obtaining data on their number in order to estimate potential financial support provided to our residents, as well as final consumption expenditure of non-residents. According to the latest results of the Population census in 2002, the number amounts to 450.000 people, but there are greater estimates - approximately from 1.500.000 to 4.000.000.

12. The second set of questions of the first module follows household income from abroad in the preceding twelve months, regardless of the way of receiving money, and whether the income is regular or irregular, constant or occasional, as well as the purposes of spending.

13. Of the 382 sampled households, 148 or 38.7% reported that they had relatives or friends abroad. From the total number of 880 persons, 29.7% of their relatives are located in the former

Yugoslav Republics, 57.6% in the other European countries, while 12.7% live overseas. This means that every household, in average, has a little over 2 persons abroad, or, taking into account households with relatives or friends abroad, approximately 6 persons. 72% of persons of Serbian origin live abroad for more than 10 years, 15.2% from 5 to 10 years, and 12.9% less than 5 years.

14. Only 38 households or around 10% of total number of sampled households receive money from relatives or/and friends abroad, i.e. 26% of households having relatives or/and friends abroad reported that they receive money from them. In 88% of cases the money is brought by non-residents coming in Serbia or residents when visiting relatives/friends abroad or by the third party (friends, drivers, etc.). Of the households receiving money from abroad, 76% receive up to 1.000€ and spend it mostly (58%) for regular expenditure, i.e. food, beverage and regular monthly bills.

15. The frequency and number of emigrants coming to Serbia can be used as an indicator of non-registered part of remittances, brought by the emigrants themselves or sent through unofficial channels. Out of 880 persons living abroad, 19.4% came once in the preceding twelve months, around 12% came several times, while 569 persons or 64.7% never came in the previous year. Regarding registered income from abroad, our residents mainly receive pensions – 3% of the total number of households.

## **VI. SURVEY 2: MODULE ON TRAVELLING OF RESIDENTS ABROAD**

16. Within the second module of the second survey, we have obtained the data on residents travelling abroad. Data on number of persons travelling, destinations, purposes of travelling, travelling arrangements, number of spent days, number of travellers and their travelling expenditures have been collected.

17. In the previous twelve months 23.6% households reported travelling abroad. Total number of travelling amounted to 135, meaning that, in average, one household travelled 1.5 times annually. The total number of travellers was 260 persons, or, in average, almost 2 members of the household travelled together. Most frequent destinations were former Yugoslav Republics (43%), followed by Hungary (19.3%) and Greece (12.6%). The average duration of travel is almost 12 days, which is logical considering the fact that the most often the purpose has been vacation (32.6%) and visiting relatives (27.4%).

18. Most often, travelling was arranged by the traveller itself (about 64%). This can be connected with the previous conclusion that our residents most often travel to the ex-Yugoslav Republics to visit relatives. 29% of travel was organised by travel agencies/tour-operators. As to the means of transportation, bus or car was used in the 86% of cases. In total, 63.235€ was spent on travelling, that is 703€ per household or 243€ per traveller. The greatest expenditures were registered in Montenegro (about 20%) and in Greece (16%). Non-boarding consumption was 29.745€ in total or 114€ per person, which was 47% of total travelling expenses.

19. These survey results justify its implementation, considering that some interesting conclusions and necessary indicators are based on it. Those conclusions and indicators might/should be used in the future work for non-exhaustiveness adjustment, for estimation of non-registered remittances in Balance of Payments, estimation of net purchases abroad for the household final consumption calculation, as well as for tourism satellite accounts.

## ANNEX

## THE FIRST SURVEY: QUESTIONNAIRE

## I. Expenditure by households on health services

1. Did you have expenditure on health services during the previous 12 months? Yes ..... 1  
No ..... 2

## Expenditure was related to:

Kind of service	Code	Public sector	Private sector
		Dinars	Dinars
		1	2
2. Therapeutic appliances and equipment	06.1.1.3.		
3. Specialized medical services	06.2.1.1.		
a) in hospitals	06.2.1.1.A		
b) in other medical establishments	06.2.1.1.B		
c) at home	06.2.1.1.C		
4. Dental services	06.2.2.1.		
a) dentistry and extraction of teeth	06.2.2.1.A		
b) orthodontic services	06.2.2.1.B		
5. Medical laboratories	06.2.3.1.A		
6. Diagnostic imaging	06.2.3.1.B		
7. Services of paramedical personnel	06.2.3.2.A		
8. Hospital services	06.3.1.1.		
of which: a) accommodation and curative care	06.3.1.1.A		
b) operations	06.3.1.1.B		
c) delivery	06.3.1.1.C		
d) patient transport	06.3.1.1.D		
9. Rehabilitatee care (spas and rehabilitation centers)	06.3.1.1.2		
10. Alternative medicine	06.2.3.3.		
11. Long term health support to patients and old people	06.2.3.2.B		
<b>Total (2+3+4+5+6+7+8+9+10+11)</b>			

**How much did you spend on direct payment to the health personnel (doctors, dentists, nurses, physiotherapists...)?**

	Public sector	Private sector
	Dinars	Dinars
	1	2
12. In cash		
13. In kind <sup>1)</sup> Description: _____		
<b>Total (12+13)</b>		

1) If it is not possible to calculate approximate value, a descriptive answer could be given.

## II. Expenditure by households on education (additional private finition)

14. Did you have additional private tuition in the previous 12 months, excluding private schools, education centers, language schools? Yes ..... 1  
No ..... 2

### Expenditure were related to:

	Code	Nb. of classes	Price per class (in Dinars)
		1	2
15. Regular education	10.1.4.1.A		
16. Preparation for entrance exam	10.1.4.1.B		
a) for secondary school	10.1.4.1.C		
b) for higher and high education	10.1.4.1.D		
17. Foreign language classes	10.1.4.1.E		
18. Musical education	10.1.4.1.F		
19. Other <sup>1)</sup>	10.1.4.1.G		
<b>Total (15+16+17+18+19)</b>			

1) Typing, computer literacy, bookkeeping, dressmaking, preschool children education etc.

## III. Tips

20. On the occasion of paying services, do you give tips? Yes ..... 1  
No ..... 2

### If you have answered yes, tip is given:

	Code	Under 20 Dinars	21- 50 Dinars	51-100 Dinars	Over 100 Dinars	In % of service value
		a	b	c	d	e
21. In restaurants, bars and cafes	11.1.1.	1	2	3	4	
22. To hairdressers and beauticians	12.1.1.1.	1	2	3	4	
23. Taxi drivers	07.3.2.1.4.	1	2	3	4	
24. To craftsmen <sup>1)</sup>	12.6.1.1.A	1	2	3	4	
25. For other services <sup>2)</sup>	12.6.1.1.B	1	2	3	4	

1) Includes: auto mechanics, shoemakers, dressers, home installation craftsmen, household devices craftsmen and alike.

2) Tips given: for babysitting and child care, housework, at petrol stations, to the postmen etc.

**THE SECOND SURVEY****I. Household income from abroad**

1. Do you have family members, relatives or close friends living and working abroad more than a year? (several answers are possible)	No	1
	Yes, in the former Yugoslav Republics	2
	Yes, in Europe	3
	Yes, outside Europe	4

2. What is the number of the family members, relatives or close friends (including members of their families) living abroad?	Number
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3. How many years do they live abroad? (3 answers are possible)	I	II	III	
	1-5	1	1	1
	6-10	2	2	2
	Longer than 10	3	3	3

4. Did they send you or bring you money in the previous 12 months?	Yes	1
	No	2

5. How did you receive money (several answers are possible):	Through posts, banks, fast money transfer or like	1
	When they visit Serbia or when you visit them	2
	Some other way (friends, drivers, etc.)	3

6. What was the approximate amount of money you have received in the previous 12 months (in Euros or percentage):	1-200 EUR	201-1000	1001-5000	Over 5000 EUR	In relation to your regular annual income (in %)
	1	2	3	4	

7. Of the received money, how much did you use for:	In relation to the received money (in %)
Regular monthly spending (food, beverage, bills...)	
Household devices, PC, furniture...	
Vehicles	
Buying, building, enlargement or major improvements of flat or house	
Investments	
Savings	
Other	

8. How many times did your family member, relatives or friends visit Serbia in the previous 12 months? (number of persons)	Never	
	Several times	
	First time after 1 year	
	First time after 2-4 years	
	First time after 5 or more years	

9. Do you receive regular income from abroad?	Yes	1
	No	2



10. The regular income from  
abroad is (more answers are  
possible):

Pension	.....	1
Dividens	.....	2
Interest	.....	3
Rent	.....	4
Insurance premiums	.....	5
Other	.....	6



