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##### Measuring time use and valuing unpaid work

## Time Use Surveys in Serbia

Note by Statistical Office of the Republic of Serbia \*

### *Abstract*

The Statistical Office of the Republic of Serbia carried out two Time Use surveys in the territory of the Republic of Serbia. The first Time Use survey was carried out in 2010, covering the whole year and including weekdays, weekend days and holidays. In 2015, the Light Time Use Survey covered four selected months, i.e. representing a season. The key differences between these two surveys is the way in which the diaries were completed by the interviewed persons aged 15 years and over; the number of interviewed households; and the way the data were collected and stored.

This paper focuses on differences in behaviour and daily activities of women and men in the Republic of Serbia in this five year period. Special emphasis is on the type of settlement where the respondent lives, the age of the person, their level of education, professional status etc. Moreover, we emphasize a wider social context and usage of the time use data for analysis. For example, through the employment and unemployment rate, or through the eventual payment of unpaid work through the amounts of minimum labour costs. The possibilities for using the time use data in some future survey could be reflected in the assessments of the subjective well-being in connection to the specific activities like paid or unpaid work, leisure or study.

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## I. Time Use Surveys in Serbia

1. The Statistical Office of the Republic of Serbia carried out two Time Use Surveys in the territory of the Republic of Serbia in 2010 and 2015.
2. The target group for both surveys in the Republic of Serbia was population aged 15 years and over who live in households. The persons living in institutions were not interviewed in the surveys. The sample unit was household and its members aged 15 years and over.
3. The sample size for the Time Use Survey (TUS) 2010 covered 2,340 households in 234 enumeration areas. For the 2015 Light Time Use Survey (LTUS) 1,280 households in 128 enumeration areas were covered. In total, 1866 households and 4,495 persons aged 15 and over were interviewed in TUS 2010. In LTUS, 860 households and 2367 persons were interviewed.
4. For both surveys, the two-stage stratified sample was applied. The stratification of enumeration areas was carried out by type of settlement (urban and other) and territory (Belgrade, central Serbia without Belgrade and Vojvodina in TUS, i.e. Beogradski region, Region Vojvodine, Region Šumadije i Zapadne Srbije, i Region Južne i Istočne Srbije in LTUS).
5. The TUS was covering the whole calendar year, including weekdays, weekend days and holidays. In 2015, the LTUS covered four selected months – February, May, August and November i.e. representing a season.
6. After finishing interviews for household and individuals, the interviewer was leaving two diaries to each household member aged 15 and over to fill in. First of those two diaries was intended to be used for a working day (Monday to Friday) and the other for a non-working day (Saturday or Sunday). The key difference between two surveys was the way in which the diaries were completed. Thus, the first survey had a diary that a member of the household was supposed to write in with his own words the activities that were carrying out during the selected day. The TUS diary was covering 24 hours and was broken down into ten-minute intervals. The LTUS diary, so-called light diary, offers pre-coded activities which respondents marked on the timeline when they were being implemented.
7. There were also a difference in the number of interviewed households and response rates. The TUS response rate was 79.7 per cent, and for LTUS was 68.7 per cent.
8. Finally, surveys differ in the way in which the data were collected and stored. Since in the TUS dairy the respondents were asked to enter in their own words the activities they did during the day, these activities needed to be coded for further data entry and processing purposes. Based on the text provided, the coding of activities was carried out pursuant to the coding list that was made in compliance with the EU recommendations. For the LTUS diary coding was not envisaged, since respondents were expected to mark/cross one of the 22 activities for the time spent. Not to forget to mention that the LTUS was the first survey for which an android application was used for the diary entry purposes.
9. Activities from both surveys were grouped into six main groups of activities: paid work, unpaid work, study, personal care, free time and other activities referring to the unspecified activities.
10. We find that a main advantage of both surveys is the opportunity to have information, calculation or estimation of the paid and unpaid work in the Serbian household and among members.
11. There are many ways one can present daily activities of the population and show the differences between the two surveys. Those activities should refer to the work, leisure or study and they could be broken by many different variables like sex, age, professional status, and level of education or the

type of the settlement. In this article, the focus is on the working age population, i.e. population between 15 and 64 years of age.

### **A. Daily working activities by age groups and sex**

12. When looking at the paid work of the working-age population in Serbia in five years period 2010-2015, we note that it has been decreased by three minutes for women, and nine minutes for men. But a group of young women aged 15-29 spent 17 minutes less on paid jobs in 2015, while young men worked as much as 36 minutes less (Table 1 and Table 2).
13. It is interesting that data from the National Employment Service shows that there has been a slight increase in unemployment among young women, and a reduction in the rate from 45 to 40 among young men in five years period 2010-2015 (Table 3).
14. Women aged 30-64 years worked a couple of minutes longer on paid jobs than in 2010, while men recorded a slight increase in seven minutes.
15. As for the unpaid work, working-age women worked 10 minutes shorter in 2015, while men recorded a reduction of 4 minutes. But, when looking at unpaid work by age groups, young women 15-29 years of age spent 12 minutes more time on unpaid jobs than five years ago, while time on unpaid work for young men grew by 24 minutes.

### **B. Daily activities by type of settlement and sex**

16. When speaking about the paid work of women in urban and other settlements, there are no major differences between two surveys, since women in urban areas worked only three minutes less in 2015 than five years earlier (Table 4), and in other settlements even less (only two minutes).
17. The difference in paid work between women in urban and other settlements, in both surveys, was about 8 minutes in favor of urban women. However, the time spent on unpaid work in 2015 was less than 16 minutes in urban areas, while in other settlements the average time was slightly reduced.
18. The difference in unpaid work between women in urban and other settlements is more than one school class period in favor of women from other settlements and it has increased in time for more than an hour. Namely, women from other settlements worked on unpaid jobs 47 minutes longer than women from urban areas in 2010, and this difference increased by a one-third within five years - to 63 minutes.
19. The total work done by women from urban areas during the day differs from women living in other settlements. Thus, 37% of the total work of women from urban settlements are carried out in paid employment, while this percentage is slightly lower for women in other areas and amounts to 32% according to the 2010 survey data. Five years later, the percentage of paid in total work also increased slightly for women from urban areas, while the percentage of paid employment from other settlements remained almost the same.

### **C. Daily activities by type of the day and sex**

20. It is expected that paid work lasts longer on working days. Thus, women of working age (15-64 years) spent in 2010 almost the same time on paid jobs on working days compared to 2015 (2 minutes longer), but the time spent in paid jobs on non-working days decreased by a quarter of an hour (Table 5 and Table 6).

21. On the other hand, women unpaid work has been reduced by 16 minutes in these 5 years on weekdays, and for non-working days it is even slightly extended (for 3 minutes).
22. It is interesting that men in Serbia worked 10 minutes less in 2015, then in 2010 on paid jobs on weekdays, and on weekend days 7 minutes shorter, which may indicate changes in male work engagement.
23. When it comes to unpaid work, men worked 11 minutes less on a working day compared to a survey conducted five years ago, while weekend work lasted 13 minutes longer.

#### **D. Daily activities by professional status and sex**

24. The structure of employed persons of working age has decreased by 5 index points in the period 2010-2015, since 4 index points refer to self-employed persons (Graph 1). Regarding other categories, the percentage of unemployed persons surveyed remained almost the same, while the number of inactive rose by 5 index points.
25. Looking at changes in the professional status by sex, the participation of self-employed persons decreased slightly more for men than for women, but the indicative growth of inactive persons was also higher among men (4.1, to 5.9 index points).
26. As for the paid job, employed women worked 13 minutes shorter in a repeated survey in 2015, but paid job for self-employed women was 38 minutes shorter (Table 7 and Table 8). When observing these categories for men, the duration of the paid job remained unchanged.
27. But in 2015, the paid job was increased for persons who had the status of unemployed and inactive. Thus, unemployed women worked longer in paid jobs for more than 40 minutes, and inactive for more than 10 minutes. On the other hand, unemployed men spent more than 50 minutes on paid jobs than in 2010, and inactive men 36 minutes longer.
28. As for women, unpaid job has increased in 2015 only in the category of employed women, a little less than a quarter of an hour, while the other three categories show a decrease of time, highest being for unemployed women - more than 50 minutes.
29. When speaking about the men, only unemployed men recorded a slightly longer duration of unpaid activities (about 20 minutes), while inactive persons had a half an hour reduction.
30. The economic crisis has affected the changes in employment in Serbia. Thus, the employment rate of the population aged 15-64, after a long period of decline, has seen an increase between 2010 and 2015, and this is somewhat little higher for women than men (Table 9). On the other hand, the unemployment rate is decreasing, and this is slightly higher for men than for women.
31. Overall, the amount of paid and unpaid work by categories of professional status remains almost the same, except for categories of self-employed women and unemployed men (Graph 1). Self-employed women worked longer in total work for almost an hour in 2010, mostly on paid jobs. On the other hand, unemployed men worked 70 minutes less in total work in 2010, mostly for paid jobs, too.

#### **E. Daily activities by educational level and sex**

32. Observing the paid work of working-age persons by level of education, in five years, women with elementary or lower education had a reduction in paid work for 24 minutes, while men spent 55 minutes less on paid jobs (Table 10 and Table 11).

33. Women with secondary education spent almost the same time on paid activities, while men had 20 minutes less than in the previous survey in 2010.
34. Women with high and higher education spent on average ten minutes less on paid work, while for men this survey confirmed that education was worthwhile and they have recorded an hour and a half more time in paid work than five years earlier.
35. As for the unpaid work, only women with higher and high educational level had an increase in time spent in these activities for a symbolic 3 minutes. All other respondents, no matter of the level of education or sex, had a decrease in time in unpaid work and the highest was for women with the lowest education, and the least for men with secondary education.

## F. Paying the unpaid work

36. Let us consider the possibility of paying the unpaid work of household members. If the housework should be paid at the minimum hourly wage for Serbia, women aged 15 years or more in 2010 could earn €116 per month, and in 2015, €138. That means that women could earn annually €1,390 in 2010, or €1,650 in 2015.
37. If we calculate for the economically active population, for women this amount could be raised up to €127 per month, and to €1,526 per year in 2010. Five years later, the monthly amount was €143, and yearly €1,714.
38. There is a wide range of possible uses of time use data in the future, and there are many ways to calculate and project time use for different activities. If one can calculate the time spent on an activity then, given that “time is money”, one can also calculate the money.
39. During the summer of 2017, one Serbian mother put on the paper calculation for her work for her own children with the final conclusion “If you think I like being a servant, you are mistaken”. Photo 1 shows her very modest ‘charges’. Notice her lovely signature (<http://www.yumama.com/vesti/zanimljivosti/23643-cenovnik-mame-nasmejao-region-ako-ste-mislili-da-volim-da-budem.html>)!

Table 1 – Average time spent on activities by age groups and sex, all days, Republic of Serbia, 2010 (hours and minutes)

	15-29 years		30-64 years		65+ years		Total		15-64 years	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Paid work	01:27	03:10	02:57	04:52	00:27	01:07	02:09	03:47	02:36	04:30
Unpaid work	02:49	00:50	05:29	02:22	04:50	03:10	04:51	02:16	04:51	02:02
Study	02:15	01:44	00:01	00:01	00:00	00:00	00:25	00:19	00:32	00:24
Personal care	11:24	10:57	10:48	10:45	12:16	12:10	11:13	11:05	10:56	10:48
Free time	06:02	07:16	04:42	05:55	06:23	07:29	05:18	06:29	05:01	06:13
Other travelling and activities	00:00	00:00	00:01	00:01	00:00	00:02	00:01	00:01	00:01	00:01

Table 2 – Average time spent on activities by age groups and sex, all days, Republic of Serbia, 2015 (hours and minutes)

	15-29 years		30-64 years		65+ years		Total		15-64 years	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Paid work	01:10	02:34	03:00	04:59	00:30	01:15	02:04	03:46	02:33	04:21
Unpaid work	03:01	01:14	05:14	02:13	04:18	02:34	04:36	02:05	04:41	01:58
Study	02:31	01:54	00:01	00:00	00:00	00:00	00:29	00:24	00:38	00:30
Personal care	10:47	10:38	10:18	10:06	11:33	11:28	10:41	10:28	10:25	10:15
Free time	06:13	07:18	05:14	06:26	07:24	08:23	05:56	06:59	05:29	06:40
Other travelling and activities	00:14	00:19	00:09	00:12	00:12	00:18	00:11	00:15	00:11	00:14

Table 3 – Unemployment rate by age and sex, Republic of Serbia, 2010 and 2015

	15-24 years		15-64 years	
	Women	Men	Women	Men
2010	47.5	45.4	21	19.2
2015	48.2	40.1	19.3	17.4

Table 4 – Difference in time and average time spent in activities of total work by type of settlement and sex, population aged 15-64 years, total work, Republic of Serbia, 2010 and 2015 (in minutes)

2010.	Difference between urban and other settlements		Total work			
			<i>Urban settlements</i>		<i>Other settlements</i>	
	Women	Men	Women	Men	Women	Men
Paid work	7.4	-47.4	433.5	364.4	473.6	430.3
Unpaid work	-47.5	-18.5	310.3	145.7	348.6	147.6

2015.	Difference between urban and other settlements		Total work			
			<i>Urban settlements</i>		<i>Other settlements</i>	
	Women	Men	Women	Women	Men	Women
Paid work	7.2	-40.6	414.5	359.5	469.8	407.8
Unpaid work	-62.4	-7.7	309.1	145.1	339.6	154.1

Table 5 – Average time spent on activities by type of the day and sex, 15-64, Republic of Serbia, 2010 (in minutes)

	Weekday		Weekend day	
	Women	Men	Women	Men
Paid work	03:08	05:15	01:16	02:37
Unpaid work	04:49	02:00	04:57	02:07
Study	00:39	00:30	00:15	00:09
Personal care	10:41	10:29	11:33	11:37
Free time	04:38	05:43	05:56	07:28
Other travelling and activities	00:01	00:01	00:01	00:01

Table 6 – Average time spent on activities by type of the day and sex, population aged 15-64 years, Republic of Serbia, 2015 (in minutes)

	Weekday		Weekend day	
	Women	Men	Women	Men
Paid work	03:10	05:05	01:02	02:30
Unpaid work	04:33	01:49	05:00	02:20
Study	00:44	00:36	00:24	00:14
Personal care	10:13	10:02	10:54	10:45
Free time	05:07	06:11	06:25	07:51
Other travelling and activities	00:10	00:13	00:12	00:16

Graph 1 – Professional status by sex, population 15-64 years, Republic of Serbia, 2010 and 2015 (%)

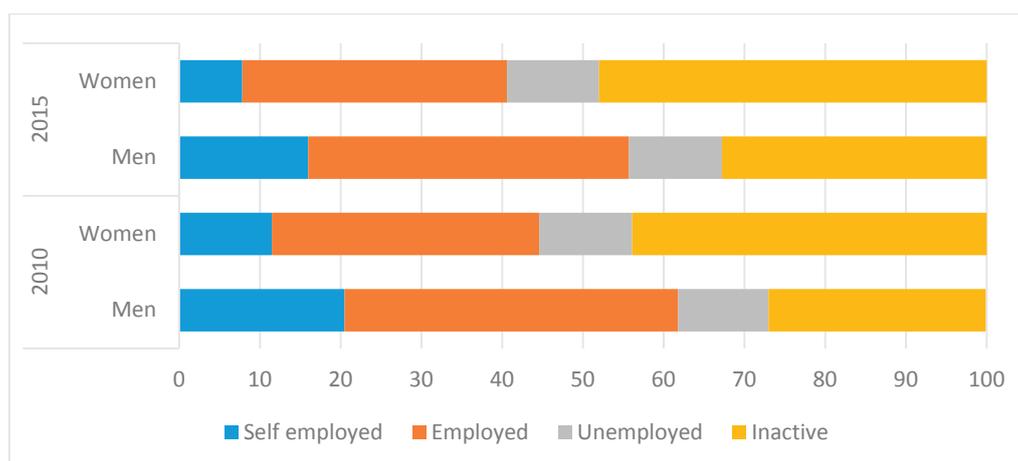


Table 7 – Average time spent in paid and unpaid work, population aged 15-64 years, by professional status and sex, Republic of Serbia, 2010 (hours and minutes)

	Self employed		Employed		Unemployed		Inactive		Total	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Paid work	4:34	6:04	5:54	7:12	0:11	0:41	0:12	0:15	2:36	4:30
Unpaid work	5:06	1:51	3:54	1:33	6:02	2:55	5:12	2:35	4:51	2:02
<b>Total work</b>	9:40	7:56	9:49	8:46	6:13	3:36	5:25	2:51	7:28	6:32

Table 8 – Average time spent in paid and unpaid work, population aged 15-64 years, by professional status and sex, Republic of Serbia, 2015 (hours and minutes)

	Self employed		Employed		Unemployed		Inactive		Total	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Paid work	03:56	06:04	05:41	07:12	00:55	01:32	00:23	00:51	02:33	04:21
Unpaid work	04:47	01:58	04:08	01:32	05:10	03:14	04:57	02:02	04:41	01:58
<b>Total work</b>	8:44	8:03	9:49	8:45	6:05	4:47	5:21	2:54	7:15	6:19

Table 9 - Employment and unemployment, population aged 15-64 years, by sex, Republic of Serbia, 2010 and 2015 (rate)

Time Period	Employment		Unemployment	
	Women	Men	Women	Men
2010	40.1	54.4	21	19.2
2015	44.9	59.1	19.3	17.4

Table 10 – Average time spent in paid and unpaid work, population aged 15-64 years, by highest completed level of education and sex, Republic of Serbia, 2010 (hours and minutes)

	Primary or less		Secondary school		Higher/high	
	Women	Men	Women	Men	Women	Men
Paid work	1:42	3:37	2:46	4:51	3:37	4:19
Unpaid work	5:02	2:07	4:54	2:01	4:23	1:55

Table 11 – Average time spent in paid and unpaid work, population aged 15-64 years, by highest completed level of education and sex, Republic of Serbia, 2015 (hours and minutes)

	Primary or less		Secondary school		Higher/high	
	Women	Men	Women	Men	Women	Men
Paid work	1:18	2:41	2:46	4:31	3:27	5:51
Unpaid work	4:42	2:02	4:45	1:58	4:26	1:52

Photo 1

