COMBINIG DATA FROM ADMINISTRATIVE AND STATISTICAL SOURCES IN PRODUCING LABOUR MARKET STATISTICS

Ljiljana Gavrić

Data Integration division

Lisbon, September 2018th

Surveys on employees and their salaries and wages

- **The Monthly survey** on employees and their salaries and wages (**RAD1**) has been carried out for decades on a purposive sample of legal entities (enterprises, institutions, cooperatives and other organisations), as well as their local units.

The data collected at the level of observation units, were aggregated data on the total number of employees and the total mass of paid wages. The sample provided a data representativeness on municipality level (municipality of work)

- **The Semi-annual survey** on employees and their salaries and wages (RAD1/P), carried out on enlarged sample. This survey provided the data on the level of education and gender.

  Surveys, supplementing the semi-annual survey :
  - (ARAD1/P) Sami-annual survey on the number of employees in small legal entities;
  - (RAD15) Semi-annual survey on entrepreneurs and their employees;

Surveys on employees and their salaries and wages

The calculation of average wages:

- average wages and salaries were calculated by dividing the payroll paid during the reporting month (regardless of the month in which they were realized) by the number of employees from the human resources records at the end of the reporting month
- Sample did not include
- wages of employees in the Ministry of the Interior and the Ministry of Defence,
- salaries of employees under temporary employment contracts

Formal employment statistics:

- employees - the persons who had a formal employment contracts with an employer for a fixed or indefinite time.
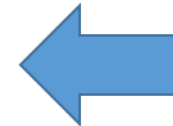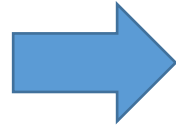
Collection of monthly and semi-annual data :
- *response burden on Serbian businesses;*
- *engagement of a significant number of employees in SORS;*
- *substantial financial resources;*

Registered employment

Since 2015. - Administrative data of Central Register of Compulsory Social Insurance (**CROSO**) became source for calculated registered employment

Benefits:

• better coverage of employees,

• including new the modalities of employment (temporary and occasional employment" and farmers)

• employees by categories in The Public Sector

Shortcomings of CRCSI source: (two important information are not available)

• municipality of working place

• NACE activity code.

Registered employment - Combining data CROSO and SBR

Solution is in **combining data** from the **CROSO** and Statistical Business Register (**SBR**).

SBR creates two consultation databases every month .

- The first comprises of **all active enterprises**; this database is matched with the CROSO database.
 Employees from CROSO, belonging to these matched enterprises, represents the base population for calculation.
- The second consultation database is a set of **all local units,** where the number of employees are segmented by activities.

Structure file *is created based on this consultation database of local units .*
 Finally, that structure file is applied to the number of the employees from CROSO at the level of enterprise,
in order to get the number the employees from CROSO broken down by municipalities and NACE activities

Registered employment - Combining data CROSO and SBR

1. Survey data from SBR				2.Preparing the data for making the final structure for distribution				Structure of the employees		4. Final number of employees by L-KAU level	
Municipality	Nace Activity Rev.2	Empl. Long T.	Empl. T.O	Municipality	Nace Activity Rev.2	Empl. Long T.	Empl. T.O	Empl. Long T. %	Empl. T.O %	Empl. long-term	Empl. T.O
70033	10.81	500	10	70033	10.81	700	10	55.1	25.0	772	30
70033	10.81	200	0								
70033	10.82	300	0	70033	10.82	300	0	23.6	0	331	0
70181	10.03	70	0	70181	10.03	70	0	5.5	0	77	0
70483	10.81	100	30	70483	10.81	100	30	7.9	75.0	110	90
70085	46.36	100	0	70085	10.81	100	0	7.9	0	110	0
		1270	**40**					100 %	100 %	**1400**	**120**

ID of enterprise 9999999
Predominant activity (NACE rev.2) 10.81

Total number of employees in the enterprise from **SBR**

Total number of employees in the enterprise from **CROSO**

Calculation of average salaries and wages

From **January 2018**, the SORS has started using the **Tax Administration (TA)** to calculate *average wages and salaries.*

average wages and salaries:
- payments to employees to which the corresponding taxes and social security contributions are paid;
- covers all the earnings for which an employer has submitted a tax form;

Number of **employees** for calculated average earnings are calculated for **the full-time equivalent**

Each employee is assigned a coefficient (between 0-1.5), and there is no multiplication if the employee works for several employers. The earnings are calculated for the NACE activity and in ownership type in which it had been realized.

TA data **lack** important **information** needed for earnings statistics:

NACE activities of the local unit (LKAU), municipality of working place, educational level etc.

New annual survey on employees and their salaries and wages **RAD-1/G** aiming to obtain:
- average salary due to NACE activities and educational level,
- data needed for distribution of earnings and employees by units of observation, by the NACE activities.

Average salaries and wages - Major differences (comparison between RAD-1 and TA) :

| Till 2018	From 2018
included wages paid **during the reporting month** (regardless of the month in which they were realized)	included all calculated wages **for the reporting month**
average wages was available at the level of the **municipality of work** of employees.	average wages by municipalities relates to the **municipality of residence** of employees.
payroll paid was divided by the number of **employees from the human resources records (**regardless of being remunerated**)**	payroll paid now is divided by the number of **employees calculated for the full-time equivalent**
average monthly wages reports were vailable **25 days after** the end of the reference month.	average wages will be available **55 days after** expiration of the reference month
⊖	include wages of employees in **the Ministry of the Interior and the Ministry of Defence**
⊖	include salaries of employees **under temporary and ocasionaly employment contracts**
⊖	**new statistical indicators**: median wage, wage distribution, gender pay gap, average earnings by age, average earnings in public sector, etc.

Major difference comparison between TA and RAD-1:

Average net wages by municipality of work, 2017 (RAD-1 survey)
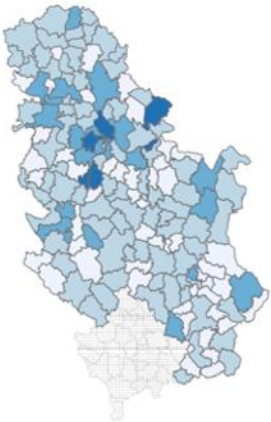
Average net wages by municipality of residence, 2017 (Tax Authority Register)

RSD

	Less than 35,000
	35,000 - 45,000
	45,000 - 55,000
	More than 55,000
	No data
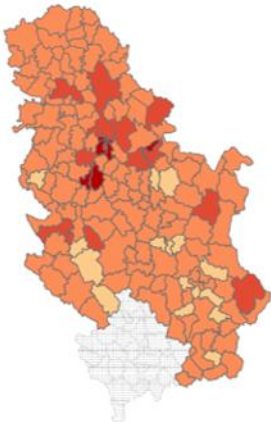
The largest change in the values of average wages, due to changes in data source and methodology, was noted in the following municipalities:

Surčin	Trgovište	Ub	Crveni Krst - Niš	Pećinci	Ljig
83,797	25,309	32,573	49,417	52,990	32,543
41,481	38,225	43,476	37,875	41,460	43,048

Average net wages – comparison between TA and RAD-1 data, 2017

	Average net wages		
	TA (RSD)	RAD-1 (RSD)	TA/RAD-1 (%)
2017	**46,600**	**47,893**	**-2.7**
January	46,667	41,508	12.4
February	45,116	46,990	-4.0
March	47,789	47,814	-0.1
April	46,036	49,635	-7.3
May	47,147	47,136	0.0
June	46,540	49,238	-5.5
July	45,614	48,101	-5.2
August	46,618	47,220	-1.3
September	45,435	48,212	-5.8
October	46,208	46,879	-1.4
November	47,247	47,575	-0.7
December	48,743	54,344	-10.3

Gender Pay Gap

Average net wages by age and sex, November 2017
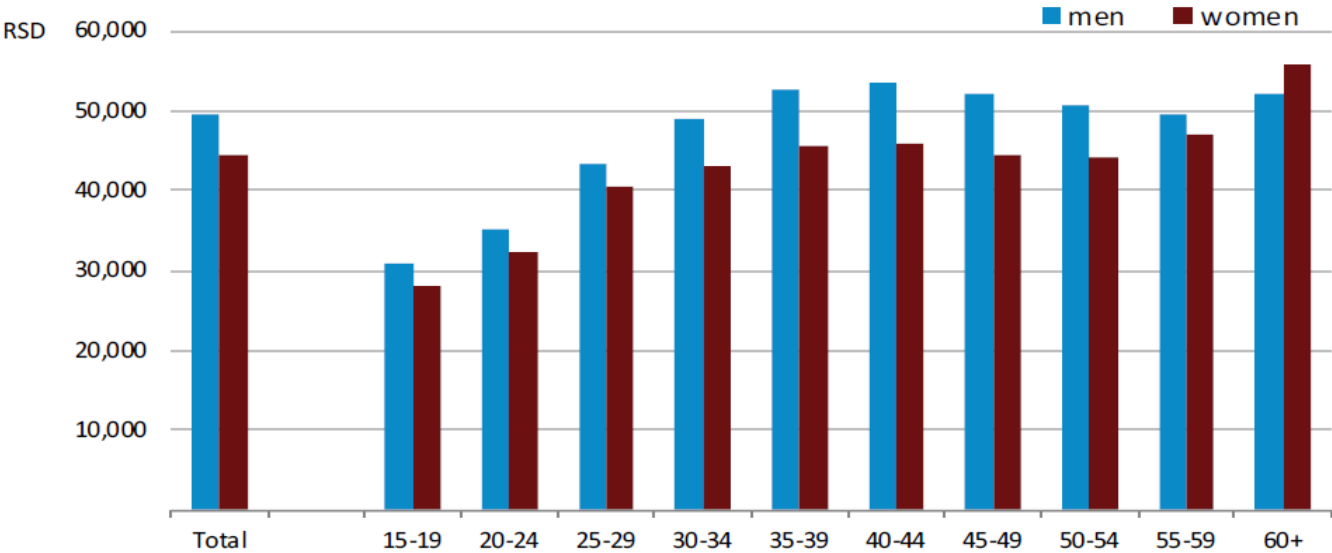
[Average hourly net pay for men **281.7 RSD** − Average hourly net pay for women **252.4 RSD**] ÷ Average hourly net pay for men **281.7 RSD**] x 100 = Gender Pay Gap **10.4%**
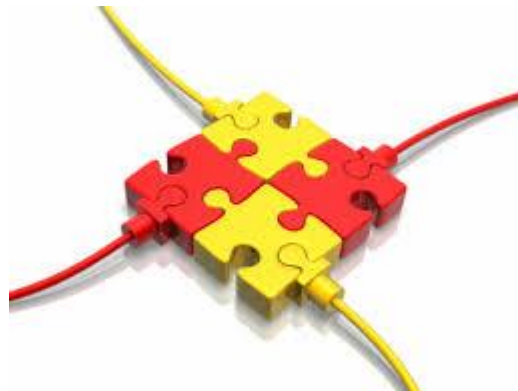
Future plans

Establish the Activity Register.

This Register would be a link between the Business Registers and the Statistical Population Register.

The main types of activity registers are job registers.

The personal information on an employed person (gender, age, place of residence, education etc.) as well as the basic information of an establishment (industry, location etc.) will be a part of the job register that would greatly facilitate the work of the labour market statistic producers.

THE END