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Comparability Issues in Historical Serbian Census  
Microdata: A Challenge for Cross-Cultural Analyses of  
Household Structures

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Fifty Years  
Southeast European History  
and Anthropology in Graz



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## Abstract:

Historical sources used for analyzing household structures are often imperfect, frequently incomplete or ambiguous. This paper addresses a unique challenge of servant and minor households which were enumerated separate from their main household in the case of the Serbian census of 1862/63. The census was conducted for tax purposes, and therefore the tax units of the census need to be adjusted to reflect actual household borders, a task that has not been properly addressed in earlier scholarly work. If not adequately addressed, these challenges may influence the results of the analysis by inaccurately suggesting patterns that did not occur in practice. The paper exemplifies and summarizes the challenges in comparison to other available Serbian population enumerations and discusses possible solutions for these issues while also identifying possible biases for comparative research. It takes into consideration the urban-rural differences and their impact on classification. By untangling complexities in defining households, this paper contributes to understanding the dynamics of households in historical research based on this census.

## Introduction<sup>1</sup>

It has now been fifty years since the publication of *Household and Family in Past Time* (Laslett and Wall, 1972/1974), a volume that has greatly influenced research on households and families. The subtitle reads “*Comparative studies in the size and structure of the domestic group over the last three centuries in England, France, Serbia, Japan and colonial North America, with further materials from Western Europe*”. In this volume Serbia is the representative of Eastern and Southeastern Europe and three chapters deal with the country. The last one is based on the census of 1863 (Halpern 1972/1974), which is also the source of this paper.

In the introduction Peter Laslett defines the subject of the book as the *coresident domestic group* and outlines three defining characteristics of this group: sleeping under the same roof (location), sharing of activities (function), and being related by blood or my marriage (kinship) (Laslett 1974: 25). He was well aware of the troubles in separating households in historical sources:

*“Even when spelt out in this way, the definition of the domestic groups is by no means sharp and unambiguous in all societies, as Jack Goody shows so plainly in Chapter 3. Apart from the problem of the actual boundaries of the household even in social situations which can now be observed, the great difficulty of the study of the domestic group in the past is that we ourselves cannot literally go back in time and examine any one such group or any number of them with the criterion of residence, or of shared activities, or of consumption, or of production, or of authority in mind.*

*All we have is some knowledge of the law and custom of our chosen areas and a few documents left behind by a handful of the myriads of communities which have consisted of such domestic groups. These documents consist of lists of inhabitants, and the task is to exploit them in such a way that the exactest possible comparisons can be made. For this purpose it is essential to lay it down who is to be included in the coresident domestic group and who excluded from it.”*

*“[...] If faced with the challenge to answer the question what exactly is meant here by the terms family and household the only appropriate response would be an appeal to the past persons who created that evidence. The lists they left behind them consist of series of names of individuals in blocks, with clear indications of where one block ended and the next began; unless they made out exactly such lists their evidence has not been admitted. It requires no great perspicuity to see that these blocks of names must have been families, or households, and we know that the men of the past called them by these titles.”* (Laslett 1974: 24).

In this paper we shall determine whether these “blocks of names” in the Serbian census of 1863 can qualify as households for comparative analyses as they are, or whether some adjustments have to be made. The issue is not about defining households but assessing whether existing blocks of names can be used as households in analyses.

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<sup>1</sup> This is an updated and enhanced version of a paper presented at the 5<sup>th</sup> Conference of The European Society of Historical Demography in 2023.

In a previous paper we tried a similar exercise, but with a different focus. The problem were the lists of persons without indications of household borders of any kind (household numbers, addresses, lines between households or similar marks). We tried to create an algorithm to construct households from individual person records according to a strictly defined set of rules and checked the outcome with a second census with existing household borders (Gruber, Scholz, Szoltysek 2011).

## The Serbian census of 1862/63

The first census taken by Serbian authorities was in 1834 and a series of censuses followed throughout the 19th century. The census of 1862/63 was the first to record the names of women; previously, they had been enumerated only numerically. Census taking started in the spring of 1862, but was interrupted because of a major conflict with the Ottoman Empire. Most of the population was enumerated in 1863, but some cities were enumerated only in 1864. The census collected information about the property and income of the population, too. This information was supposed to be the basis of a new taxation system. Therefore, from here on, we shall refer to the units in the census as “tax units” rather than “households”. Additional information can be obtained in Vuletić (2012).

The census enumerators used a printed form. The district, sub-district, local community, and place was written in the heading. The left page had the following columns:

- Ordinal number
- First name, last name, relationship to household head, occupation
- Health condition: physical and mental disabilities
- Age of males
- Age of females
- Property: real estate, investments and the overall value
- Monthly income and source of income

Figure 1: Census form 1862/63, left page

Третице Србиѣ	ИМЕНА ПРЕЗИМЕНА домашна и домоваца, дѣце, родителѣ и други средина и укућана, кои способно дѣлаѣ исплаћу, и иначе записани	Старь дарава лица, т. е. до ли оно и зашто за рад неспособно	Година старости		Велогретьно имаѣ састоје се у земља, кућама, движима и градама, док исто лице има у стору свое обиталице или владѣ тогъ стору у Србиѣ провинци у Дунавина гесарства	Мѣсечна прихода одъ землица по заслуги и плати, одъ пензи и одъ покретногъ имаѣ изъ ражни у талѣрици
			мужин	женщин		
	Милош Стојановић		50		Не има сѣмъ имѣња.	
	Милош Стојановић		47		Не има сѣмъ имѣња.	
	Милош Стојановић		24		Не има сѣмъ имѣња.	
	Милош Стојановић		17		Не има сѣмъ имѣња.	
	Милош Стојановић		11		Не има сѣмъ имѣња.	
	Милош Стојановић		6		Не има сѣмъ имѣња.	
	Милош Стојановић		4		Не има сѣмъ имѣња.	
	Милош Стојановић		14		Не има сѣмъ имѣња.	
	Милош Стојановић		20		Не има сѣмъ имѣња.	
	Милош Стојановић		15		Не има сѣмъ имѣња.	

The right page of the census form had columns for the tax classes: seven classes each for the value of the property and for the monthly income. In addition, there was a column for remarks.

Figure 2: Census form 1862/63, right page

Aggregate statistics at village level were published, especially about the property (DS 2: 12-17; 22-92). The census of 1863 is the one with the highest proportion of surviving census manuscripts: 84 census books containing microdata for 18 towns and 54 districts out of 61 districts are preserved (Vuletić 2012: 13f.). Despite its possible deficiencies it is therefore best suited to create a representative sample of the Serbian population for historical research. The surviving manuscripts of all other Serbian censuses up to WWI contain fewer than ten percent of the respective census population and are generally highly clustered, i.e. cover only a few administrative areas.

## The censuses of 1834 and 1884

The census of 1834 was the first census in Serbia, conducted soon after gaining autonomy within the Ottoman Empire in 1830 and enlarging the territory of the autonomy in 1833. Only men were enumerated individually, while women were enumerated only by their sum per household. The census manuscripts include information about owning fields, meadows, vineyards, and plum trees and therefore basic information about rural property (Vuletić 2012: 8-10). Surviving census manuscripts cover only 7 out of 61 districts, located mainly in the northeast (Vuletić 2012: 4;10). Statistical data on village level have been published only in the 20<sup>th</sup> century (Cvijetić 1984).

The census of 1884 was the first based on the recommendations of the statistical congress in St. Petersburg in 1872 and the new law on population and property census. It includes new information about literacy, mother tongue, nationality, place of birth, citizenship, and religion. Information about property was enumerated in a separate form and therefore not included in this sample (Vuletić 2012: 19). It is the last census with some surviving census manuscripts: The surviving census manuscripts cover 11 out of 81 districts (Vuletić 2012: 4;21f). The results of this census were published in a very detailed manner (DS 16).

## Samples used

The Serbian sample of 1862/63 consists of an urban and a rural sub-sample. The urban sub-sample consists of 16 cities with a combined population of more than 36,000 people which is more than half of the urban population with surviving census manuscripts. Unfortunately, these manuscripts do not exist for the capital city of Belgrade, which had a population of 14,760 inhabitants (DS 2: 68). The largest city in the sample is Požarevac with about 6,000 inhabitants, while there are 7 cities with fewer

than 1,000 inhabitants included in the sample. The rural sample consists of 124 villages with a combined population of more than 55,000 persons.

The censuses of 1834 and 1884 are used for comparative purposes. The sample of the census of 1834 consists of 32 villages with a combined population of 12,000 persons and the cities of Fetislam/Kladovo and Veliko Gradište with a combined population of almost 2,000 persons. This is only a preliminary sample, while the final sample will be about twice as large as the preliminary one. The sample of the census of 1884 consists of 68 villages (34,792 people) and the cities of Aleksinac, Tekija (Krajina), Kruševac, and Čuprija (11,606 persons).

Table 1: Samples used

	Census/tax units			Population		
	Rural	Urban	All	Rural	Urban	All
1834	1,863	439	2,302	10,150	1,938	12,088
1863	9,372	11,769	21,141	55,251	36,582	91,833
1884	5,489	2,799	8,288	34,792	11,606	46,398
Overall	16,724	15,007	31,731	100,193	50,126	150,319

Source: Gruber and Đumić 2023, Gruber and Đumić 2024a, Gruber and Đumić 2024b.

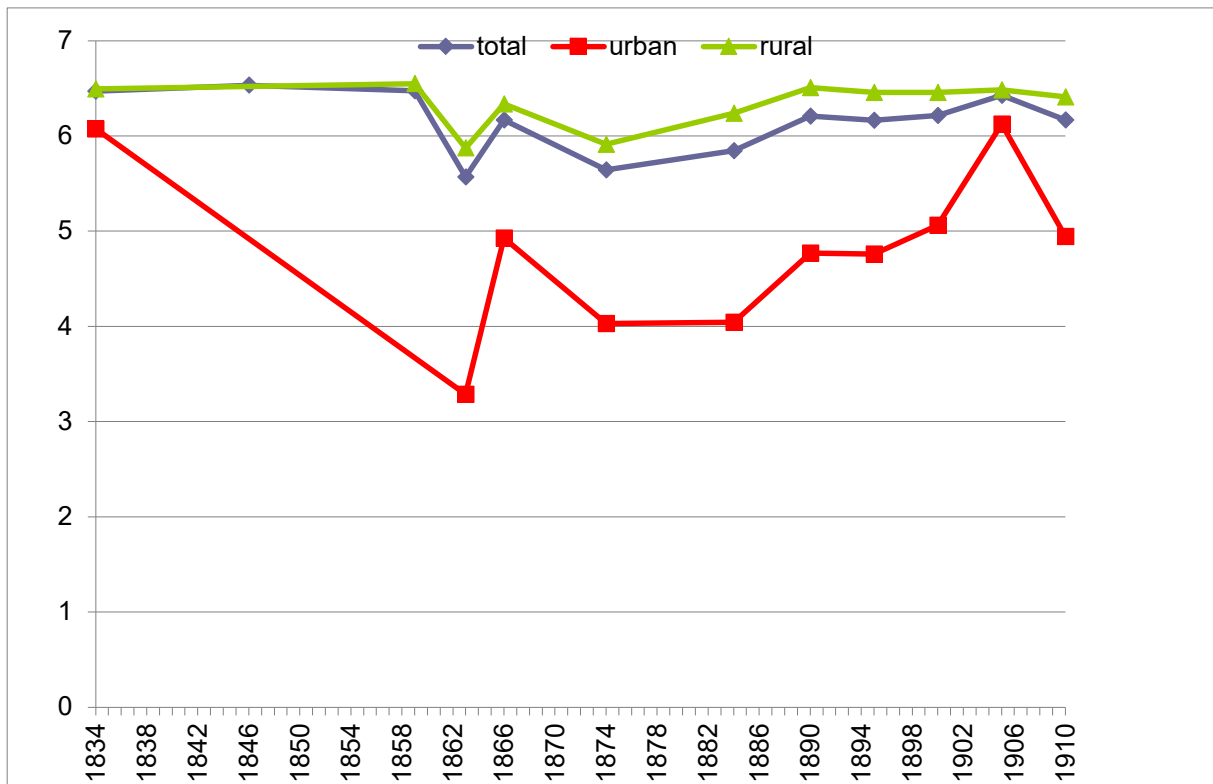
## Comparison of household sizes in Serbian censuses

The published results of Serbian censuses from 1834 to 1910 allow for checking whether the figures for 1863 align with the overall trend. The results are not completely comparable, because until 1866 only the unit “house” was used, while in 1874 the term “household” was used for the first time in addition to “house” in the published results.

The number of houses/households was not published for the 1863 census, the figures are based on a manuscript listing the surviving census manuscripts of this census in the central archives (Popis 1970). Therefore, the results refer only to the surviving census manuscripts and not to the overall population, but the bias will be acceptable for the rural population, because it covers 88.2 percent of it. The bias might be larger for the urban population, because only two thirds of the manuscripts have been preserved (68.1 percent of the urban population). The manuscripts of Belgrade are missing, too, which means that the average household size should have been even smaller, because Belgrade was by far the largest city with the smallest households on the other side.

In Figure 3 we can see that the average number of persons per household/house in 1863 is an outlier of the general trend and actually the lowest of the time period 1834-1910. The deviation from the general trend is most pronounced for the urban population with an average of only 3.3 persons per household, while in all other years until 1910 the average was 4.0 or more. The much higher average in 1834 is caused by the unit of house, which can be the home of more than one household. The values for 1863 are an indication that the number of households might have been inflated in this year.

Figure 3: Household size in Serbia, 1834-1910



Source: Cvijetić 1984; GDSS 3: 188f.; DeS 1: 86-97; Popis 1970; DS 3: 47-115; DS 9: 138-145; DS 16: 238-241, 244-247, 250f; SKS 1: 1, 44f, 60, 86, 88, 112; SKS 12: XLIII, LXX; SKS 23; Predhodni rezultati 1905: 122f.; Predhodni rezultati 1910: 4f., 74f.

## Earlier research

It is useful to have a look at earlier research using the 1863 census and check whether there is any reference to this possible bias. In “Household and family in past time” the paper by Joel M. Halpern, five villages and a recently founded market town were analyzed based on data of the census of 1863. There is no discussion about whether the units in the census are actually households. (Halpern 1972).

However, at about the same time several additional settlements of this census were transcribed, including urban populations. During the coding the members of the research team developed a variable for amalgamating tax units into households. The following categories were used:

- 1 non-viable solitaires
- 2 two or more units are actually one
- 3 father and son separated on list due to sons earning separate income
- 4 servant separated around a listing which contains no males 15-45 years
- 5 servant separated around a listing which contains males 15-45 years
- 6 journeyman listed separately, belongs in a listing with same trade
- 7 apprentice listed separately, belongs in a listing with same trade
- 8 heir or other minor who has property, but no viability
- 9 snaja (female in-law) of another listing head retains property in her own name
- 10 wife of another listing head retains property in her own name

Unfortunately, to date, the data from none of these settlements has ever been used in a conference paper or publication. Thus, the work about turning tax units of the census of 1863 into households was not finished and never published. Unfortunately, applications for follow-up projects were not funded and finally Joel M. Halpern’s focus shifted to 20<sup>th</sup> century census lists.

Bojana Katić published two papers about three cities based on the same census in the 1980ies. She calculated proportions of one-person-households of 27.3 percent for Veliko Gradište and even 32.4 percent for Majdanpek (Katić 1988: 124). Her numbers of households correspond to the number of tax units in the census manuscripts. Michael Palairret stated in his analysis of the census “The basic unit of the census was the household, which was given a sequential number in the first column.” (Palairret 1995: 44). Bojana Miljković-Katić increased the database of her analysis of the urban population in Serbia in mid-19th century and presented a graph with one-person-households being about half of all households in Valjevo (Miljković-Katić 2002: 60). Aleksandra Vuletić classified rural households for 13 districts and included a category “children without parents” which were not included in the overall sum of households (Vuletić 2002: 35). In a recent analysis of household structure, property and income in the region of Smederevo in 1863, the unit of household is not discussed, either (Djurdjev, Lukic, Cvetanovic 2012). In my PhD thesis I have also not discussed this problem (Gruber 2004). The Mosaic project includes a sample of nine rural places and the city of Kruševac.

This leads to the conclusion that, even though there has been work done in addressing the difference between the two terms, in general, tax units in the 1863 census are treated as households, with the sole exception of one-person units in Kruševac, which are flagged as incomplete households.

## Classification of tax units

Our classification of these tax units is based on the following criteria:

- Number of persons in the tax unit
- Whether the tax unit has an income or not
- Whether the tax unit owns property or not
- Whether the tax unit includes at least one adult member
- Whether the head of the tax unit has a dependent occupation or not

We apply the following definitions: an adult is defined here as someone at least 15 years old. While this is a relatively low age to be considered an adult, the data shows a sharp increase in the age distribution of the oldest person in tax units between ages 14 and 15. As a result, the number of tax units without any adult members is estimated to be quite low.

As dependent occupations we define those occupations which are subordinate to another person and which are generally employed by the same employer for longer periods of time. These occupations include servants, apprentices, and journeymen.

## Institutions

The first group of tax units without any person consists of institutions. These are listings of property and income of local communities, churches, or other funds. Here is an example of such a tax unit, the property and income of the city of Čuprija (Mišković and Tanić 2019: 41):

51. Обштина Ћупријска. – Имање: 10 дана земље под дућанима вандровским, 10 дана земље до (нечитко), плац на коме су обштински кошеви, плац на коме су дућани приватниј лица, числом 13 – у вредности 584 дуката. – Приход по капиталу и приходу 29 талира. - И по имању и по приходима спада у IV класу.

These tax units are clearly no households and have been excluded from any analyses in research using this source.

## Inheritances:

The second group of tax units without any persons consists of inheritances. Here is an example, the property of the deceased Stojan Spasić from the city of Smederevo (Pavlović 1969: 182):

1 кл.  
254. Маса почившег Стојана Спасића: кућа од слабог материјала и празан  
плац у укупној вредности 210 дуката.

No heir or heirs is mentioned in these tax units and these tax units are clearly no households and have been excluded from any analyses in research using this source.

### **1-person-households:**

These are households consisting of only one person having an occupation which is not a dependent one. In addition, they have property and/or income. Here you can see such an example, the household of Todor Stojković, a merchant from the city of Ćuprija (Mišković and Tanić 2019: 63):

245. Тодор Стојковић, дућанџија, стар 26 година. – Имање: по плаца и по куће у мали од слабог материјала, 1/2 плаца у мали, по баште, по меане, ½ дана шљивара, део врбака, ливада од по дана, дан ораће земље и 7 мотика винограда – у вредности 193 дуката. – Приход по привреди и капиталу 14 талира. - По имању спада у I класу, а по приходима у III класу.

These tax units can be treated as households, there are more than 1,800 of them in this sample.

### **1-person-units with dependent occupations:**

These are households consisting of only one person having a dependent occupation (servant, apprentice, journeyman). Generally, they have no property, but an income from their occupation. Here you can see the census entry of Stojan Jovanović, a servant of 15 years without property, but a monthly income (Mišković and Tanić 2019: 35):

3. Стојан Јовановић, слуга, стар 15 година. – Имање: нема. – Приход од заслуге 2 талира. – По приходима спада у I класу.

There are 2,500 such tax units, almost exclusively located in urban places. These people should be residing with their employers and therefore they do not constitute independent households. This problem will be elaborated in more detail below under “Problem 1”.

### **1-person-units of minors**

These are children whose parents have died, but they have inherited something from their parents. Here you can see the example of Perka, a 10-year-old girl, the heiress of Sava Branković (Mišković and Tanić 2019: 72):

334. Маса поч. Саве Бранковића, наследница Перка, стара 10 година. – Имање: 3 дана ораће земље у 3 парчета, 1 дан под гором, ливада од 2 дана и 1 мотика винограда – у вредности 25 дуката. – Приход: нема. - По имању спада у I класу.

It is quite unlikely that such a 10-year-old girl lived on her own, is much more likely that she was part of another household. This problem will be elaborated in more detail below under “Problem 2”.

### **1-person-units without income and property**

Here you can see the example of Andreja Bunke, a joiner of 35 years. In the census entry no property and no income is mentioned (Mišković and Tanić 2019: 88):

497. Андреја Бунке, тишлер, стар 35 година. – Имање: нема. – Приход: нема. Приметба: подајник Прајски.

We do not know how these people earned their living: whether they were supported by somebody, whether they were beggars, or whether they joined the household of somebody else for a longer or shorter period. This problem will be elaborated in more detail below under “Problem 3”.



### **1-person-units with income or property, but belonging to another household**

These are generally women, who have property or income of their own, but live in the household of their husbands. Here you see the example of Joka, the wife of Kosta Petrović, where it is mentioned that she lives with her husband (Peruničić 1967: 268).

95. Јока жена Косте Петровића, 32 године. — Имање: 1 меана у Шабцу — 306 дуката цесарски. — Месечни приход од (с мужем живи). — По имању спада у III класу.

These are clearly no households, because it is mentioned that these persons live in another household.

### **Family households**

This is the most common category of tax units: two or more persons, at least one member is an adult, there is either property or income (or both of them) registered in the census. Here is the example of the rich merchant Milovan Ristić from the city of Čuprija, who heads a household containing two married younger brothers (Mišković and Tanić 2019: 36):

10. Милован Ристић, трговац, стар 40 година, жена Стана 36 година, синови Милија 12 година, Димитрије 8 година, кћери Милојка 14 година, Катарина 5 година, отац Риста 65 година, браћа Милосав 36 година, Милисав 32 године, снаје Стамена 32 године, Јованка 26 година, синовац Никола 4 године, синовнице: Драга 8 година, Дафина 5 година, Љубица 3 године, Милица 1 година, сестра Фемија 18 година. — Имање: 1 кућа, два дућана, једна меана, 1 башта, 1 шљивар, 10 њива од 24 дана орања, две три ливаде од 15 дана коса траве, 5 забрана, два винограда од 11 мотика — у вредности 959 дуката. — Приход од трговачке радње и капитала и привреде 91 талир. — По имању спада у V класу, а по приходима у VI класу.

These are clearly households and make up are three quarters of all tax units and contain more than 90 percent of the population of the sample.

### **Family households without property and income**

These are family households with at least two members and at least one adult member, but there is no property and no income registered in the census. You see here the example of Sima Milovanović and his wife Mara. He is a peasant and his left leg is crippled, which might explain why he has no income (Mišković and Tanić 2019: 71):

320. Сима Миловановић, земљеделац, сакат у ногу леву, стар 30 година, жена Мара 35 година. — Имање: нема. - Приход: нема.

Such households will be elaborated in more detail below under “Problem 3”.

### **Family households with head having a dependent occupation**

These are family households with at least two members and at least one adult member. The household head was enumerated with a dependent occupation, which generally does mean that this person was not able to afford a household. Nevertheless such households did exist. Here you can see the example of Mladen Prelčić with his family from the city of Smederevo. He was the servant of a butcher with a modest income, but owned in addition a house with a coffeehouse in it (Pavlović 1969: 198).

402. Младен Прелчић, слуга касапски (45), жена Века, ћерке: Милица (12), Стана (7) и Перса (2), свастика Љубица (17).  
Некретнина: кућа са кафаном од слабог материјала, ковачница, празан плац, 2 винограда и њива у укупној вредности 209 дуката. Месечни приход 5 талира. По имању II, а по приходима, I кл.

Almost all of these family households lived in cities.

### Tax units of minors

These are tax units containing only minors, but having some property. These are generally children whose parents have died, but they have inherited something from their parents. Here you can see the example of Stojana and Stanija Ristić, the heiresses of their father Mijail (Mišković and Tanić 2019: 60):

218. Маса поч. Мијаила Ристића: наследнице Стојана, стара 10 година, Станија 7 година. – Имање: ½ дућана с целим плацом, 5 дана ораће земље у 6 комада, 2 косе ливаде, 6 мотика винограда – у вредности 104 дуката. – Приход од капитала 2 талира. – И по имању и по приходима спада у I класу.

It is quite unlikely that girls of 10 and 7 years lived on their own. It is much more likely that they were part of another household. This problem will be elaborated in more detail below under “Problem 2”.

### Multiple-person-units with income or property, but belonging to another household

These are the same tax units as the previous ones, but it is clearly mentioned that they lived in another household. Here you can see the example of Ljuba and Anka Manojlović (9 and 6 years old), the heiresses of their father Bogdan. The census taker noted that they lived as step-children in tax unit no. 194 (Mišković and Tanić 2019: 58):

196. Љуба, кћи поч. Богдана Манојловића, а пасторка под числом 194. именованог, стара 9 година, сестра Анка 6 година. – Имање: плац кућни, 5 дана ораће земље – у вредности 22 дуката. – Приход: нема. – По имању спада у I класу.

Such tax units are therefore clearly no independent households.

### Households enumerated twice

One household in Šabac was obviously enumerated twice with consecutive numbers: you see here the household of Stepan Krsmanović and his mother Jelena. Income and property are different in both tax units (Peruničić 1967: 314f.).

1675. Степан Крсмановић, ћурчија, 24 године, мати Јелема. — Месечни приход од службе 8 талира. — По приходу спада у II класу.

1676. Степан Крсмановић, чурчија, 24 године, мати Јелена 60 година. — Имање: 1 кућа с плацем у Шабцу — 60 дуката цесарски. — Месечни приход од рада 13 талира. — По имању спада у I класу, по приходу у III класу.

These tax units have to be combined for useful analyses.

## **Proportions of problematic units**

Table 2 gives an overview of the classification of tax units. Tax units of two and more persons are generally family households, while tax units of only one person had according to our research a proportion of less than 40 percent of households. A similar difference can be observed between the countryside and the cities: 94.2 percent of all rural tax units can be termed as households, which contain 98.3 percent of the rural population. Therefore, no major problems arise from previous analyses of this census which have not taken this problem into account. In cities the situation is different: only 74.3 percent of tax units are actually households according to our analyses. They nevertheless contain almost 90 percent of the urban population.

Some settlements were more affected by this problem than others: especially low was the proportion of tax units as households in the following cities: Šabac (65.0 percent), Ub (65.3 percent), Gornji Milanovac (67.5 percent), and Obrenovac (68.2 percent). Only two villages were affected to a larger degree: Rajkova reka (55.7 percent) and especially Jovanovac-Šupeljak with only 35.7 percent. Eight servants with their own tax units lived in this village with only 14 tax units.

Table 2: Classification of tax units, census of 1863

	Tax units			Entries			households?
	rural	urban	overall	rural	urban	overall	
<b>No person:</b>							
institutions	60	25	85	60	25	85	No
inheritance	24	6	30	25	6	31	No
transcription error	3	0	3	3	0	3	No
<b>One person:</b>							
Adult, no dependent occupation, income and/or property	337	1,524	1,861	346	1,524	1,870	Yes
Adult, dependent occupation	162	2,338	2,500	163	2,338	2,501	No
Minor	92	127	219	100	131	231	No
Adult, no dependent occupation, no income, no property	19	53	72	19	53	72	??
Income and/or property, but belongs to another tax unit	14	59	73	15	60	75	No
<b>Two or more persons:</b>							
At least one adult person, income and/or property	8,488	7,222	15,710	54,311	31,110	85,421	Yes
At least one adult person, no income, no property	32	162	194	144	573	717	??
Minors	111	43	154	326	106	432	No
Head has a dependent occupation	22	202	224	68	701	769	??
Income and/or property, but belongs to another tax unit	7	7	14	16	14	30	No
Tax unit enumerated twice	1	1	2	6	2	8	No
N	9,372	11,769	21,141	55,602	36,643	92,245	

Source: Gruber and Đumić 2023.

Table 3: Tax units as households, in percentages, census of 1863

	Tax units			Entries		
	rural	urban	overall	rural	urban	overall
Yes	94.2	74.3	83.1	98.3	89.1	94.6
No	5.1	22.1	14.6	1.3	7.3	3.7
??	0.8	3.5	2.3	0.4	3.6	1.7

Source: Gruber and Đumić 2023.

Table 4: Tax units as households among 1-person-tax-units, in percentages, census of 1863

	Tax units		
	rural	urban	overall
Yes	54.0	37.2	39.4
No	42.9	61.5	59.1
??	3.0	1.3	1.5

Source: Gruber and Đumić 2023.

## What difference does it make?

In a next step we shall check the effect of the different classification of tax units on mean household size. In Table 4 you can see a comparison of rural and urban populations and the cities in the sample. There are three values for mean household sizes:

- Maximum: the number of households refers only to the tax units classified as households (see table 2)
- Medium: the number of households includes also the tax units classified as unknown (see table 2)
- Minimum: the number of households is the number of all tax units

We see clear differences between the maximum and the minimum values of household sizes for the urban population. On average the difference is one person (4.2 versus 3.1 persons per household). In some cities the difference is even larger, which means that the question whether these tax units constitute households or not is of great relevance for an analysis of the urban population with this data.

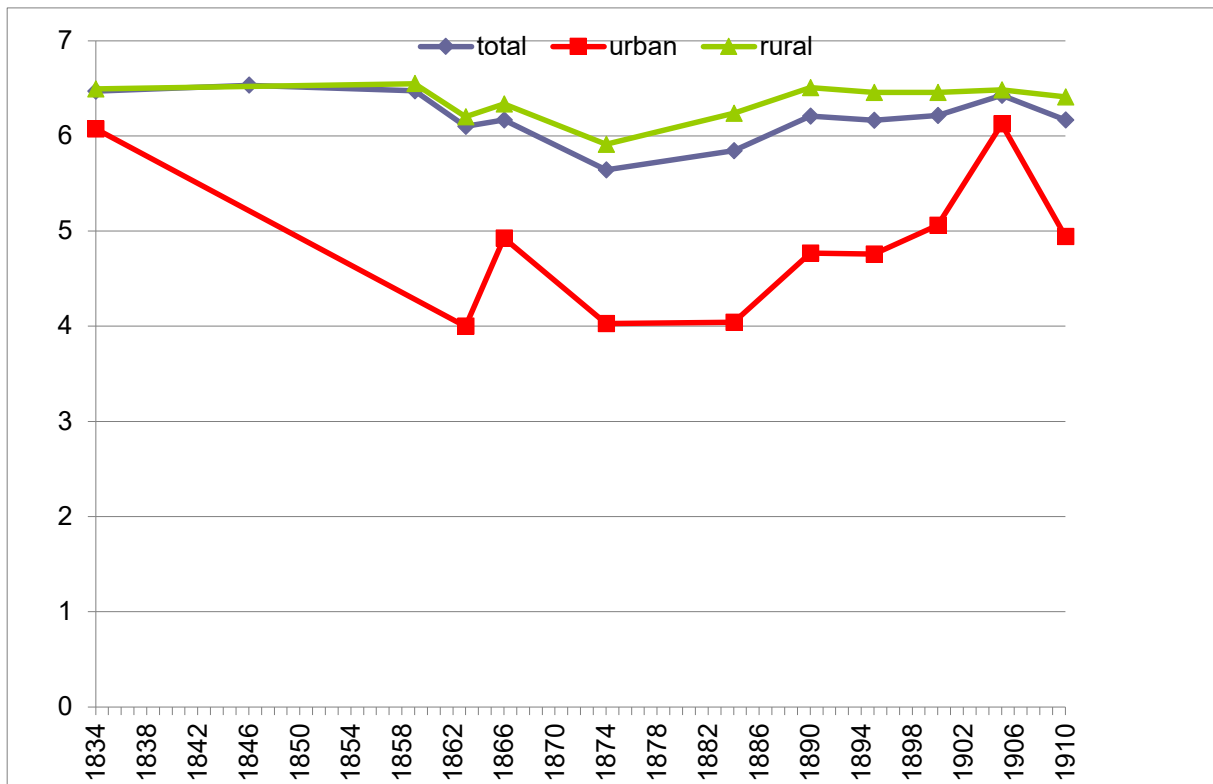
Table 5: Mean household size in Serbia in 1863

	Sample size	Mean household size		
		maximum	medium	minimum
Serbia	91,833	6.1	6.1	5.7
Rural Serbia	55,251	6.3	6.2	5.9
Urban Serbia	36,582	4.2	4.0	3.1
Požarevac	6,072	4.6	4.5	3.2
Šabac	5,376	4.1	3.7	2.7
Jagodina	3,942	4.3	4.2	3.7
Smederevo	3,882	4.1	3.9	3.1
Aleksinac	3,666	4.4	4.2	3.3
Negotin	3,606	4.1	4.1	3.1
Kruševac	2,618	3.9	3.6	3.1
Čuprija	2,201	4.5	4.4	3.9
Obrenovac	828	3.5	3.4	2.4
Ub	785	3.4	3.2	2.2
Gornji Milanovac	773	3.6	3.4	2.5
Majdanpek	731	3.4	3.0	2.9
Batočina	720	4.7	4.6	4.1
Ražanj	583	4.7	4.6	3.9
Krupanj	574	4.1	3.7	2.7
Mitrovica	225	3.5	3.3	2.7

Source: Gruber and Đumić 2023.

Figure 4 is a copy of figure 3, only the data for 1863 has been adjusted to the medium mean household size of table 4. The values from 1863 now fit much better into the overall trend, confirming that our assumptions about the relationship between tax units and households are valid.

Figure 4: Household size in Serbia, 1834-1910



Source: Cvijetić 1984; GDSS 3: 188f.; DeS 1: 86-97; DS 3: 47-115; DS 9: 138-145; DS 16: 238-241, 244-247, 250f; SKS 1: 1, 44f, 60, 86, 88, 112; SKS 12: XLIII, LXX; SKS 23; Predhodni rezultati 1905: 122f.; Predhodni rezultati 1910: 4f., 74f.

Note: Adjusted data for 1863.

## Problem 1: servants and the like

This problem concerns 2,500 tax units of one person each. Overall, we have 3,635 persons with dependent occupations in our sample of this census. In addition to the 1-person-tax-units, there are 77 households of minors and more than 800 family households with at least one dependent occupation reported. They lived therefore in different household constellations.

The first group are servants (we shall use servants for brevity reasons for servants, apprentices, and journeymen), who were able to head family households. Overall, there were 224 servants who headed their own households. Here you can see the example of Mita Golubov, who lived with his wife and son in Čuprija and had at least some property (Mišković and Tanić 2019: 81):

421. Мита Голубов, слуга, стар 33 године, жена Милојка 25 година, син Алекса 1 година. – Имање: кућни плац и два дана ораће земље – у вредности 17 дуката. – Приход по привреди 6 талира. – И по имању и по приходима спада у I класу.

The next category are servants who were registered within their family of origin. They account for 221 persons and most of them were sons of the household heads, while some of them were also younger brothers. Here you can see the example of Nastas Pelivanović, an apprentice of 16 years, who was registered together with his parents and siblings in Čuprija (Mišković and Tanić 2019: 35):

1. Станоје Пеливановић, кмет, стар 50 година, жена Неда 40 година, синови: Антоније, ученик, 21 година, Настас, шегрт, 16 година, Владимир, ђак, 10 година, кћи Живка 13 година. – Имање: 3 куће, од слабог материјала, једна меана и један дућан од слабог материјала, једна воденица, у селу Пањевцу, два винограда, 27 дана ораће земље, 12 ½ дана под гором, 14 коса ливаде у 4 комада, 1 воћњак – у вредности 900 дуката. – Приход од занимања као председатељ Обштинског Суда и од покретног имања 15 талира. – По имању спада у V класу, а по приходима у III класу.

There were inconsistencies in registering servants, because we find 607 of them being registered within their employer's households. In such cases, their income was not specified, as you can see in the example of the two servants Mićo Savić and Draga Pavlović, serving in the household of Kosta Cvetković (running a coffee-house) in Šabac (Peruničić 1967: 304):

472. Коста Цветковић, кафеџија, 27 година, жена Ката 28 година, син Милан 3 године, кћи Миљка 5 година, Мићо Савић, слуга, 22 године, Драга Павловић, слушкиња 19 година. — Имање: нема. — Месечни приход од кафане 15 талира — По приходу спада у III класу. — Приметба: Мића Савић у месецу фебруару 1862. год. без пасоша из Босне у Србију прешао; Драга Павловић, с пасошем у месецу мају 1862. године из Аустрије у Србију прешла.

In contrast to it, in the village of Osipaonica (population 1,634), situated in the district of Smederevo, about 10 kilometres south of the Danube, 40 servants were enumerated as part of the peasant household where they were employed, and the income was reported for each of them.

10 servants were enumerated as a member of other categories in family households: as roomers/boarders/lodgers or orphans. 70 servants were enumerated as part of households of minors (see problem 2). And finally, there were more than 2,400 servants enumerated as 1-person-tax-units. This category will be dealt with in more detail below.

The proportion of servants and the categories of their enumeration were not evenly distributed within Serbia. Overall, the proportion was less than one percent in the rural areas and until now we have identified only 21 villages in our sample with a proportion exceeding one percent. Exceptional was the village of Kneževac with 11.1 percent of servants in its population. The reason for the much higher proportion of servants in this village is that it was situated in the vicinity of Belgrade. Almost all of the servants were enumerated as members of peasant households. The highest proportion was 40 percent in Jovanovac (see above) with only 20 inhabitants.

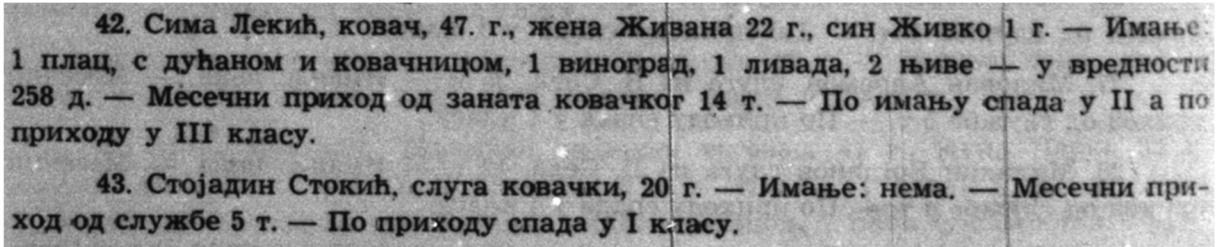
The servant population in the urban areas was on average 8.3 percent with a range from 1.7 percent in Batočina to 15.1 percent in Šabac. 1-person-tax-units were the majority in all of the cities. Servants enumerated as part of a family household were of some significance only in Obrenovac and Šabac. Servants still living with their family of origin were most common in Smederevo and Šabac while servants heading own households were most common in Kruševac.

Servants enumerated as separate tax units can be only partly linked to their employers. Information about the employer is only partly given, as can be seen in the following example of Pavle Krstić, who was a servant of Petko Nikolić (enumerated as no. 180) who ran a pub in Ćuprija (Mišković and Tanić 2019: 86):

472. Павле Крстић, слуга Петка Николића, меанџије, стар 30 година. – Имање: нема. – Приход по привреди 4 талира. – По приходу спада у I класу. Приметба: из Турске.

There are also cases where the servant was obviously enumerated just after his employer. We can therefore be quite sure that the first tax unit was the employer, and the second tax unit was the

employee. In the city of Požarevac no. 42 is Sima Lekić, a smith and no. 43 is Stojadin Stokić, a smith's servant (Peruničić 1977: 1560).



42. Сима Лекић, ковач, 47. г., жена Живана 22 г., син Живко 1 г. — Имање: 1 плац, с дућаном и ковачницом, 1 виноград, 1 ливада, 2 њиве — у вредности 258 д. — Месечни приход од заната ковачког 14 т. — По имању спада у II а по приходу у III класу.

43. Стојадин Стокић, слуга ковачки, 20 г. — Имање: нема. — Месечни приход од службе 5 т. — По приходу спада у I класу.

Unfortunately, there are also cities where there are long lists of servants with no additional information, in Kruševac there was a block of 89 tax units which were almost exclusively servants towards the end of the census enumeration and in Negotin there was even a block of 218 servants almost at the end of the census enumeration. Below you can see one page of the census publication for Kruševac (Peruničić 1971: 746): Such servants cannot be linked to their employers, we have the possibility to code them as incomplete households (as in the Mosaic project) or to assign them randomly to a possible employer.



737. Никола Миленковић, терзија, 22 г. — Имање: нема. — Месечни приход од привреде 5 т. — По приходу спада у I класу.

738. Коста Ранђеловић, слуга, 15 г. — Имање: нема. — Месечни приход од привреде 3 т. — По приходу спада у I класу.

739. Вилип Петровић, слуга, 25 г. — Имање: нема. — Месечни приход од привреде 4 т. — По приходу спада у I класу.

740. Сава Недељковић, слуга, 22 г. — Имање: нема. — Месечни приход од привреде 4 т. — По приходу спада у I класу.

741. Радован Цветковић, слуга, 21. г. — Имање: нема. — Месечни приход од привреде 3 т. — По приходу спада у I класу.

742. Сава Панић, слуга, 20 г. — Имање: нема. — Месечни приход од привреде 6 т. — По приходу спада у I класу.

743. Илија Стојановић, слуга, 22 г. — Имање: нема. — Месечни приход од привреде 5 т. — По приходу спада у I класу.

744. Аврам Илиј, слуга, 16 г. — Имање: нема. — Месечни приход од привреде 4 т. — По приходу спада у I класу.

745. Милан Станковић, слуга, 16 г. — Имање: нема. — Месечни приход од привреде 3 т. — По приходу спада у I класу.

746. Тома Здравковић, слуга, 27 г. — Имање: нема. — Месечни приход од привреде 4 т. — По приходу спада у I класу.

747. Риста Стојановић, слуга, 20 г. — Имање: нема. — Месечни приход од привреде 5 т. — По приходу спада у I класу.

748. Милија Савић, слуга, 18 г. — Имање: нема. — Месечни приход од привреде 5 т. — По приходу спада у I класу.

749. Милен Веселиновић, слуга, 20 г. — Имање: нема. — Месечни приход од привреде 3 т. — По приходу спада у I класу.

750. Таса Пејковић, слуга, 25 г. — Имање: нема. — Месечни приход од привреде 4 т. — По приходу спада у I класу.

751. Станко Јовановић, слуга, 30 г. — Имање: нема. — Месечни приход од привреде 5 т. — По приходу спада у I класу.

752. Милош Марковић, слуга, 25 г. — Имање: нема. — Месечни приход од привреде 6 т. — По приходу спада у I класу.

753. Лазар Протић, слуга, 22 г. — Имање: нема. — Месечни приход од привреде 10 т. — По приходу спада у II класу.

754. Веселин Ђирић, абација, 30 г. — Имање: нема. — Месечни приход од привреде 10 т. — По приходу спада у II класу.

755. Мијаило Коцић, слуга, 23 г. — Имање: нема. — Месечни приход од привреде 6 т. — По приходу спада у I класу.

## **Problem 2: households of minors**

This problem concerns 373 tax units with 606 children, residing in cities and the countryside. We can be sure that these children were not living on their own. At first, we look at children living without parents, but not living in households of minors. There are 1,744 of them in our sample. 41.1 percent of them lived with an older sibling, 27.7 percent lived with an uncle, 8.6 percent lived as servants or apprentices, 7.4 percent lived as orphans in a household, and the rest with other relatives. The option of living with an older sibling was obviously not possible for households of minors, otherwise they would be listed in the same tax unit and not fall into this category.

Another possibility is living with an employer, and actually a third of these households have a head with an occupation listed. The majority of them were servants and apprentices. The third option is living with a relative. Most obviously these households of minors would be registered in the census right after the relative with whom they lived. We use last names as proxies for kin relationships.

This happened more often in the countryside: 9.8 percent of minors living alone and 12.6 percent of groups of minors were enumerated after a household with the same last name, which is only slightly higher than the average of 8.9 percent. In cities groups of minors had a chance of 4.7 percent to be enumerated after a household with the same last name, which is the same as the average for all tax units. Single minors had a higher chance of 8.7 percent. This is a disappointing result.

A fourth option is that a guardian was installed to take care of these children. In the meantime we have identified 30 legal guardians for such households, but they are concentrated in a few villages. Generally, these guardians have a different last name, their household is not adjacent to the household of minors and no relationship to the children is reported. In addition, most of the guardians were supported by a second guardian having a different last name.

An easy and straightforward solution to problem 2 is not possible according to these results. At the moment we have the following options in order to be used:

1. Add these households to mentioned guardians
2. Add these households to their employers (see problem 1)
3. Add these households to the previous household (as no relationships between tax units/households are registered in the census we could assign them to a random household, but at least the previous household is a straightforward solution)

## **Problem 3: households without income or property**

This problem concerns 266 households with 791 members, almost all of them residing in cities, especially in Šabac. About half of the household heads have an occupation recorded, all different kinds of occupations are mentioned, the only one with higher proportions are day labourers. We do not know how they financed their lives, but maybe the time without income was only temporary. The other half has no occupation reported, so we can only speculate about the source of livelihood: support by others, begging, or maybe illegal activities.

It needs to be mentioned that women's occupations are generally not reported in the census as well as women's income. So maybe women's work was important for these households. Another possibility would be that these households were temporarily incorporated into other households. But from the point of view of a census taker it does not make sense to report them separately because they had no property or income, i.e. they would pay no taxes. Therefore, the most obvious reason is that they were actually independent households.

## **Comparison with other censuses**

Finally, here is a comparison of the results of the 1863 census with the results of the censuses of 1834 and 1884. There are two obstacles to this comparison: the census of 1834 contains only information about rural property and no information about urban property, as e.g. houses or shops, and no information about income and the sample of the 1884 census does not contain information about income or property. In addition, the census of 1834 does not provide any information about women's ages, therefore tax or household units consisting of only minors could contain adult women.

Units without persons (institutions) do occur only in the 1863 census, in the other two censuses such units were not enumerated. One-person-households of adult persons with a non-dependent occupation and income or property were enumerated to a similar extent in 1863 and 1884, while there were fewer of them in 1834, because no income and no specific urban property was reported. They were therefore more prevalent in the category of one-person-households without income or property. If we combine these two categories, we shall have similar results for all three censuses. Urban one-person-households seem to have been a common phenomenon in Serbia during the 19th century.

One-person-households of persons with dependent occupations (servants etc.) were quite common in cities in the 1863 census, but only very few of them were reported in the other two censuses. This category is the main factor distinguishing the 1863 census from other Serbian censuses and it is responsible for smaller average household sizes when the different enumeration practices in this census are not accounted for. One-person-households of minors were reported in all three censuses, but with slightly lower percentages in the 1884 census. One-person-units belonging to another household were a characteristic of the 1863 census.

Family households with at least one adult person and income or property were the overwhelming majority in all three censuses, although with much smaller proportions in the urban populations in both earlier censuses. Family households without income or property were quite common in the 1834 census, because no houses were reported there. Therefore, we can assume that many of these households owned a house or had an income and would actually belong to the previous category. Family households without any adult persons had a decreasing trend in these three censuses, which can be attributed especially to the missing ages of women in the first census. In the latest census we can assume that these children were reported in the household where they actually lived. Family households headed by someone with a dependent occupation (servants etc.) were not reported in the 1834 census, which can be attributed to the different reporting of occupations. There were six columns with the most important categories to be checked, but servants and the like were not among them. The 1884 census includes fewer of them than the 1863 census, which could be an effect of a more precise enumeration in 1884 or a change towards a more diversified occupational structure.

Table 6: Tax units/census units compared: 1834, 1863, 1884, in percentages

	1834			1863			1884		
	rural	urban	overall	rural	urban	overall	rural	urban	overall
<b>No person:</b>									
institutions	0.0	0.0	0.0	0.6	0.2	0.4	0.0	0.0	0.0
inheritance	0.0	0.0	0.0	0.3	0.1	0.1	0.0	0.0	0.0
transcription error	0.0	0.0	0.0	0.03	0.0	0.01	0.0	0.0	0.0
<b>One person:</b>									
Adult, no dependent occupation, income and/or property	1.2	1.4	1.2	3.6	12.9	8.8	3.5	11.5	6.2
Adult, dependent occupation	0.2	0.0	0.2	1.7	19.9	11.8	0.1	0.7	0.3
Minor	0.3	1.6	0.6	1.0	1.1	1.0	0.6	0.3	0.5
Adult, no dependent occupation, no income, no property	1.6	13.9	4.0	0.2	0.5	0.3	0.0	0.0	0.0
Income and/or property, but belongs to another tax unit	0.0	0.0	0.0	0.1	0.5	0.3	0.0	0.0	0.0
<b>Two or more persons:</b>									
At least one adult person, income and/or property	92.9	66.1	87.8	90.6	61.4	74.3	95.5	86.5	92.5
At least one adult person, no income, no property	2.1	14.8	4.5	0.3	1.4	0.9	0.0	0.0	0.0
Minors	1.7	2.1	1.7	1.2	0.4	0.7	0.3	0.2	0.2
Income and/or property, but belongs to another tax unit	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
Tax unit enumerated twice	0.0	0.0	0.0	0.01	0.01	0.01	0.0	0.0	0.0
Head has dependent occupation	0.0	0.2	0.0	0.2	1.7	1.1	0.1	0.8	0.3
N	1,863	439	2,302	9,372	11,769	21,141	5,489	2,799	8,288

Source: Gruber and Đumić 2023, Gruber and Đumić 2024a, Gruber and Đumić 2024b.

Note: No information about income available in 1834, no information about income or property available in 1884.

Note: No information about women's ages available in 1834.

Table 7: Population in tax units/census units compared: 1834, 1863, 1884, in percentages

	1834			1863			1884		
	rural	urban	overall	rural	urban	overall	rural	urban	overall
<b>One person:</b>									
Adult, no dependent occupation, income and/or property	0.2	0.3	0.2	0.6	4.2	0.9	0.5	2.8	0.8
Adult, dependent occupation	0.04	0.0	0.04	0.3	6.4	0.8	0,01	0.2	0.1
Minor	0.1	0.4	0.1	0.2	0.3	0.2	0.1	0.1	0.1
Adult, no dependent occupation, no income, no property	0.3	3.1	0.5	0.01	0.1	0.02	-	-	-
Income and/or property, but belongs to another tax unit	-	-	-	0.003	0.0	0.003			
<b>Two or more persons:</b>									
At least one adult person, income and/or property	96.6	81.8	95.8	98.1	85.1	97.1	99.2	96.2	98.8
At least one adult person, no income, no property	1.6	12.3	2.2	0.2	1.6	0.3	-	-	-
Minors	1.2	1.8	1.2	0.5	0.3	0.5	0.1	0.1	0.1
Income and/or property, but belongs to another tax unit	-	-	-	0.01	0.02	0.01	-	-	-
Head has dependent occupation	0.0	0.2	0.01	0.1	1.9	0.3	0.03	0.7	0.1
N (unweighted)	10,150	1,938	12,088	55,251	36,582	91,833	34,792	11,608	46,398

Source: Gruber and Đumić 2023, Gruber and Đumić 2024a, Gruber and Đumić 2024b.

Note: Weighted data to account for the proportion of urban population.

## Conclusions

The Serbian census of 1862/63 is a valuable source for research into household structures in Serbia in the 19<sup>th</sup> century, because it is the only census containing enough preserved material to create a representative sample for the whole country.

This paper demonstrates that the tax units in the 1863 census should not be directly equated with actual households. Analysing the tax units as households without additional scrutiny will result in considerably smaller average household sizes, particularly in urban areas.

Servants/apprentices/journeymen being enumerated as independent tax units and tax units consisting only of children are creating two major problems. These units need to be linked to another household within the census where these people lived. Linking these tax units is not an easy task, since the information about these hosting households is only partly available in the census. We were not able to link all the problematic tax units, because of missing information. The remaining unlinked tax units will be flagged as “incomplete households” – the solution we have already used in the data for the city of Kruševac.

The data of the 1838 and the 1884 census were used to check if the new results fall in line with the other data. Once recalibrated, the revised unit sizes closely resemble those recorded in the subsequent 1866 census and align with the broader trend observed in 19<sup>th</sup> century Serbia.

Units of servants remain the major difference in reporting between the census of 1863 and other Serbian censuses, because only few of them can be found in other censuses. This contrasts with units of minors, which can be found in 1834 and 1884, too. The question about a possible actual residence of these children is therefore not restricted to one census, and the research into this topic can rely on more data.

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