

Global Collaboratory on the History of Labour Relations, 1500 - 2000

Dataset: Russia

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General Remarks

This data-set on labour relations in Russia (for exact description of territorial coverage see section below) has been compiled within the framework of the Global Collaboratory for the History of Labour Relations, a project of the International Institute of Social History (Amsterdam, The Netherlands) and the Institut für Wirtschafts- und Sozialgeschichte (Vienna, Austria), with financial support by the Gerda Henkel Stiftung (Düsseldorf) and the Netherlands Organisation for Scientific Research (NWO). Using a universally applicable taxonomy elaborated within the framework of this project (cf. Appendix I) it classifies the population of Russia for five historical cross-sections in terms of labour relations. Starting from the broadest possible definition of work as “any human effort adding use value to goods and services”¹, from hunting-gathering and independent production to household work and slavery, the term labour relation is used as a common denominator for the wide variety of hierarchical, non-hierarchical, familial, forced, voluntary, monetary, tributary and other social relations under which this work is performed.

Crucial in this approach and in the taxonomy used, is that there is a labour relation for each and every individual, varying from “no labour relation” for people classified as non-working due to age (too young or too old), physical disability, or the absence of any need to work (affluence) to a whole range of different possibilities for those employed, mobilised, assisting family members or otherwise engaged in the addition of use value to goods and services through the application of work effort. A second crucial principle underlying the taxonomy and the database produced is that it deliberately does not qualify the extent of work performed - full-time and part-time work are treated as equals, and the same applies to the systematic running of a household and repeated occasional help to in running the household. As a result of these two principals the sum of the different categories of labour relations in the database is therefore always equal to the total population.

The database has been compiled on the basis of population censuses and proto-censuses and consists of five individual data-sets for the following cross-sections: “1500” [1495], “1650” [1678], “1800” [1795], “1900” [1897], “2000” [2002]. The years indicated in square brackets are the exact years to which the sources used for their compilation relate. Detailed explanations on the sources used and the classification procedures applied are listed below for each historical cross-section.

The database is the work of two authors. Dmitry Khitrov is the author of the databases for the cross-sections 1500, 1650, and 1800 and Gijs Kessler has compiled the databases for the cross-sections 1900 and 2000. For more information on the authors and contact information users are referred to Appendix II, as well as to the web-site of the Global Collaboratory for the History of Labour Relations [<https://collab.iisg.nl/web/labourrelations/about>].

Use of the database is subject to the conditions of the Licence Agreement included in Appendix III.

¹ Tilly, Chris and Charles Tilly, *Work under capitalism* (Boulder, Colo, 1998), p. 23

Territorial Coverage

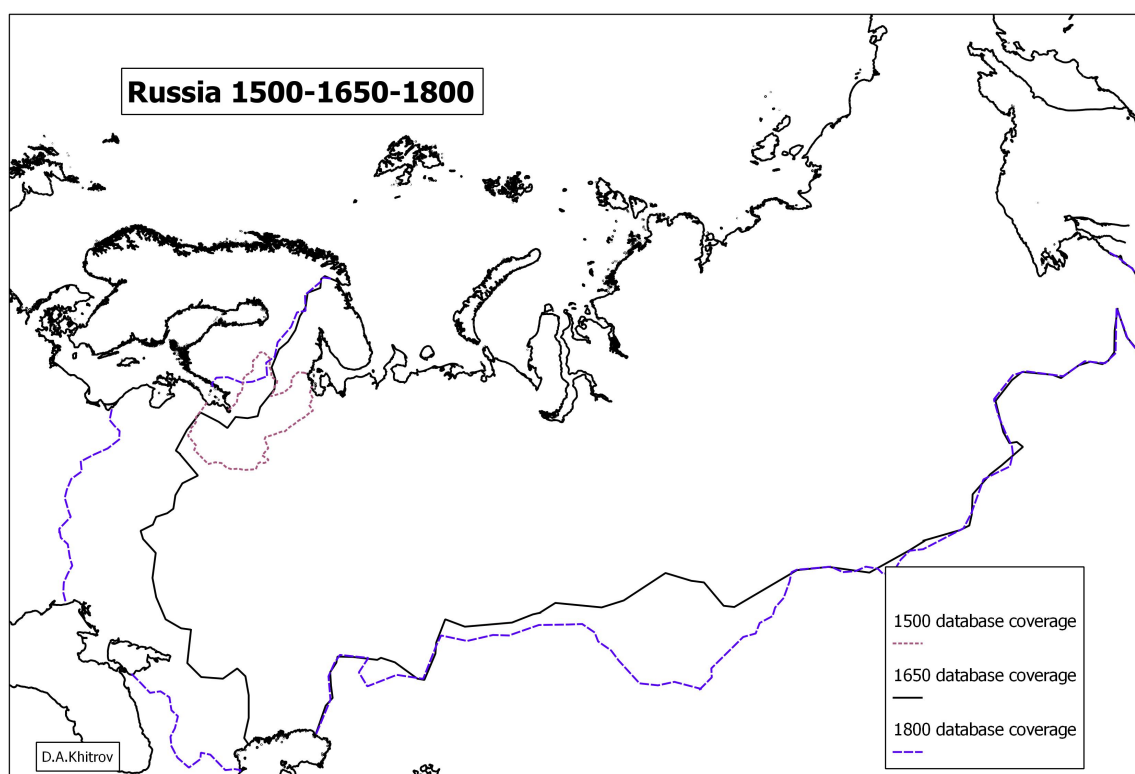
One of the principal challenges in charting the historical occurrence of labour relations in Russia is the tremendous expansion of the territory governed by the Russian state over the five centuries covered by the database. This is a challenge not only in terms of the availability of sources, but also at a more principal level. To achieve comparability over time it is desirable that the territorial coverage of the data-sets for the respective cross-sections do not differ too significantly. Because of the changes in territory over time, however, this inevitably means that for certain cross-sections the territorial coverage of the database offers a less than perfect match to that of the Russian state at that particular moment in time. Depending on the cross-section the territorial coverage of the database can be either smaller or larger than that of the Russian state. Of these two possibilities, the latter is the less preferable, because it would involve drawing in sources on these outlying areas, which might be non-existent, or compiled within statistical and bureaucratic traditions very different from those of the Russian state, and might therefore be very difficult to meaningfully integrate into the database.

Taking into account the different considerations, the authors have opted for a territorial coverage which roughly coincides with the 1800 boundaries of the Russian state, incorporating Siberia and the Far East (including territories acquired in the course of the 19th century), as well as most of modern-day Belarus, Ukraine and the Baltic States, but excluding Central Asia and the Caucasus.

For the 1900 cross-section a similar territorial coverage can be achieved by excluding the data for Central Asia, Poland, Finland and the Caucasus from the aggregates for the Russian Empire as a whole. For the cross-section 2000 this can be achieved by the aggregation of census data for the Russian Federation, Belarus, Ukraine, Moldova, and the Baltic States - all gathered within similar statistical traditions because of their recent common past within one and the same statehood and because of the increasing global standardization of census categories and procedures.

Backward comparability to the 1650 cross section is marred by the fact that the data for the cross-section 1650 do not cover the Ukrainian lands and the steppe north and east of the Black Sea which were added to the empire only later. Having said this, nonetheless the match between the territory covered by the 1650 and the 1800 data is close enough to warrant comparisons at a more general level of aggregation like the overall subdivision by labour relations. The cross-section 1500 remains the major outlier. Only data for a part of the Novgorod lands have withstood time, but these can be compared to data for the same lands in the 1650 cross-section, thus obtaining a second tier of comparability over time.

Map 1 - Territory covered by the databases for 1500, 1650 and 1800.



Map 2 - Russian Federation and other countries of the former Soviet Union, 2000



Comparability of the data over-time is summarised in the table below:

	1500	1650	1800	1900	2000
Upper level of aggregation	Not available	Not available	Russian Empire	Russian Empire excl. Poland, Finland, Caucasus, Central Asia	Russian Federation + Ukraine + Moldova + Belarus + Baltic States
Medium level of aggregation	Not available	Muscovy state	Not available	Not available	Russian Federation
Lowest level of aggregation	Novgorod lands	Novgorod lands	Not applicable	Not applicable	Not applicable

Methodology

The data-set comes as a MS Access file combining data for all five cross-sections, available for download at [<https://collab.iisg.nl/web/labourrelations/russia>]. The database is compiled using the standard methodology described in the documentation for the Global Collaboratory on the History of Labour Relations [available at: <https://collab.iisg.nl/web/labourrelations/results>]. Each record of the database stands for one or more persons identifiable by one and the same labour relation AND sharing a number of other characteristics, such as sex, age, profession, regional provenance, social status, or ethnicity. Each individual figures in the database only once, therefore the database in itself does not contain any subtotals. For example no single record exists in the database for the total number of women working in hired labour, regardless of profession. Instead the database contains separate records for each group of women sharing the same profession and the same labour relation. This can be achieved without great difficulties through the use of queries in MS Access.

The essence of the procedures followed in compiling the database is to first isolate the non-working (Labour Relation 1) from the working people and to subsequently divide the working population over the other labour relation on the basis of information on their social status, profession and other characteristics.

The separation of the working from the non-working combines data on the disabled and those otherwise unfit for work with data on the age-structure of the population. Unless indicated otherwise by qualitative and/or quantitative evidence it is assumed that in most societies people of 75 years or older, as well as people under seven years of age are not working, and are not expected to do so. The age-delimiters for inclusion into the category non-working vary somewhat between the cross-sections, depending on differences in longevity, schooling and expectations towards children and adolescents:

	1500	1650	1800	1900	2000
Lower age-delimiter	≤ 6	≤ 6	≤ 6	≤ 6	≤ 14
Upper age-delimiter	≥ 60	≥ 60	≥ 60	≥ 75	≥ 75

The database has been set up in such a way, however, to allow for the calculation of Labour Relation 1 using alternative age-delimiters, for example by integrally assigning all of the population aged 7-10 to the non-working category, if it is considered that only at eleven years of age children would start to pursue a trade or contribute to the household budget.

As far as the working population is concerned, the database also provides information, wherever available, on multiple labour relations. People combining two or more jobs or economic activities can be simultaneously engaged in several different labour relations. Examples would be a peasant smallholder who works as a hired labourer during part of the year, a serf fulfilling his or her labour obligations to the lord during only part of the year while providing in his or her own existence during the remainder of the year, or indeed a nominally free population having to perform certain labour obligations to the local community or the state during part of the year.

To accommodate for the existence of such multiple labour relations per individual, the database offers the option to assign up to three labour relations for each entry. The relative importance of each of these labour relations for persons concerned can be indicated by providing information on the share of total working they accounted for. Because such information is extremely difficult to get by, in particular for the earlier cross-sections, the Russian data-sets offer a slightly different solution, not assigning percentages of time spent to the respective labour relations, but simply providing a ranking of their importance by putting the principal labour relation in the Lab_rel 01 field, the second most importance in the Lab_rel 02 field, and the least important in the Lab_rel 03 field.

The relative importance of the respective labour relations is assessed on the basis of additional qualitative and quantitative evidence on one or more of the following criteria: contribution to total income or total household income, share of time allocated to the particular activity, or the importance of the activity in terms of social and legal identity. Ideally, the ranking weighs all three elements, so as not to put in first place an activity which brings in substantial income but is really a side-activity in all other respects, or an activity which is of overriding importance for legal or social identity, like serfdom, but can actually affect labour relations of the individuals concerned during only a minor part of the year.

Cross-sections

The following sections of this methodological paper provide comprehensive and full details on the sources used and the classification, coding, estimation and calculation procedures adhered to in compiling the database. For the convenience of the user this information is listed separately for each cross-section.

1500

In 1500, the Grand Princes of Moscow were taking the last steps in uniting all the Russian principalities under their power (with some exceptions: Pskov and Ryazan still remained formally independent, and Smolensk and Chernigov were part of the Grand Principality of Lithuania). The territory of Muscovy was comparatively small, less than 1/5 of Russia's territory by 1650, but it was on the threshold of a period of rapid growth. The economic, demographic, and military potential of Russia in this period therefore presents an interesting historical problem, which has been a subject of discussion among several generations of historians.

Unfortunately, the sources at our disposal provide little hope of having these questions finally solved. Although a unified system of taxation was introduced throughout the possessions of Ivan III in the late XVth century and all tax-payers were registered, the records of this taxpayers' census [*писцовые книги*] vanished in the fires which periodically

devastated the medieval Russian archives.

The sole exception are the materials concerning the region of Novgorod, where the census was held in 1495-1504. These materials have been integrally published and they have been investigated in several dedicated studies.² Although not all the social groups were recorded, we can make a well-founded estimate of the total population, as well as of the major social groups. Moreover, the materials provide some information on occupations and labour relations.

These figures cannot be extrapolated to other regions of the country, however. Novgorod was a very specific part of Russia at that time. Conquered by Ivan III in 1478, it was still not entirely integrated into the political and administrative structure of Muscovy, and there is some controversy whether it was more or less populated and economically developed than the regions of the Russian Heartland. The total loss of materials concerning all the territories except Novgorod rules out any source-based assumptions on this question.

Our first task was to assure comparability with the cross-section 1650. The former territory of the Novgorod republic was one of the biggest administrative provinces [*uezd*] of the Muscovy state. It was subdivided into five districts, called 'piatinas' ('one-fifth part'). The territory of the 1495 Novgorod *uezd* roughly coincides with the territory of two *uezds* in 1678 (the benchmark-year for our next cross-section): Novgorod and Staraya Rusa.³ There are two big mismatches, however. In the first place, the Baltic seaboard, with the fortresses of Yama, Ivangorod, Koporie, Oreshek, and Korela, was assigned to Sweden according to the terms of the Stolbovskij peace treaty of 1617. According to XVIth century data these lands had no significant rural population. Therefore, we have excluded the population of those 5 forts from the database to ensure comparability with the data for 1678. Secondly, we also have no data for the city of Novgorod itself before 1580s. Any extrapolations are too risky, as they would have to bridge the catastrophe of 1570, when this medieval megapolis was captured and devastated by Ivan Grozny's *oprichniks*. Consequently, we have to limit ourselves to the rural territories, and mark all database records for 1500 as Non-Urbanized.

The census books survived for only 3 of the 5 piatinas. This is a serious problem, because for the cross-section 1650 we only have the data for the Novgorod and Staraya Russa *uezds* taken together. For the other two we can use existing estimates from historiography, in particular from the fundamental 'Agrarian History of Russian North-West'.⁴ They are based on the materials of the mid-XVIth century and on a sophisticated system of extrapolation of population density and household size figures from the nearby territories. Consequently, the picture of occupational structure is much more generalized for the territories where we use extrapolations, instead of direct sources.

The sources give us the number of households and families, but no figures on population size.⁵ In order to obtain a figure for total population size, we use the advanced calculations of 'Agrarian History', which take into account both of the indicators just mentioned.⁶ Average household size was calculated using the assumption that there would be 5 men and women if there was only one family within the household, 7,5 if there were two, 10 if there were three, etc.

² Cf.: Stepanova L.G., *Novgorodskoe krest'ianstvo na rubezhe XV-XVI stoletii*. (Moscow, 2004) (bibliography).

³ Another part of the 1495 Novgorod *uezd*, the territory of the *Zaonezhskie pogosty* had become part of the *uezd* of Olonets by 1678, but as its census books of 1495-1504 are lost, we cannot include it into the database for 1500. Cf.: Nevolin, K.V., *O piatinakh i pogostiakh Novgorodskikh*. (St. Petersburg, 1853) - Map; Vodarskii Ia.E. *Naselenie Rossii v kontse XVII - nachale XVIII veka* (Moscow, 1977), pp. 252-253.

⁴ *Agrarnaia istoriia Severo-Zapada Rossii. Vtoraia polovina XV - nachalo XVI v.* (Leningrad, 1971) (Hereafter - AISZR).

⁵ Ibid., pp. 17-20.

⁶ Ibid., pp. 322.

The sources give us five types of households.

1. The households of the feudal lords. As a rule, the feudals in medieval Russia were obliged to perform military service, therefore we have marked Tributary labour as Lab_Rel 01 for all the heads of these households.

A more complex issue is whether they obtained their means of subsistence just by collecting rent from their peasants and by using the corvee labour of their slaves, or also by working their land themselves. Two broad categories existed: so-called *svozemtsy*, whose land-titles dated to the period of Novgorod independence⁷, and *pomeshchiks*, who had obtained their manors after 1478. For the territory covered by the sources they accounted for 53 % and 47 % of the total number of feudal lords respectively⁸, which ratio we have extrapolated to our total figures. According to historiography, *svozemtsy* usually worked their lands themselves (although some of them also extracted rental payments from their peasants), so they are marked as Labour Relation 4 - Household Leading and Kin producers., *Pomeshchiks*, to the contrary, did not work their own lands, but their military service was much more intensive. One question is, did all adult men serve in the army, or only part of them? The number of people which used to be sent to the army from each manor depended on its size. If we take the earliest recorded norms on this issue, those of the mid-XVIth century, and relate this to average manor size, this would result in an average of two men per manor performing military service would result⁹, a figure which roughly equals the average number of men of working age per manor - in other words all men older than 15 and younger than 60 served in the military. Consequently, they all were classified as Labour Relation 8.

2. The households of slaves. Slaves were corvee labourers, as a rule, but they were also running their own households¹⁰.

3. Peasants formed the absolute majority of the population. They paid rent to the feudal lords, but did not generally work on the corvee fields (*gospodskaja pashnia* or *barshchina*), which at that time was supposed to be the work of slaves.¹¹

4. The 'Non-plowing' people (*nepashennye liudi*) included all peasant households which did not have their own plough-land. These were mostly artisans, but also impoverished peasants, beggars, and families where there were currently no members able to do field work. We have singled out the artisans¹², and marked all others as "non-working and not expected to work" [Labour Relation 1]. This is of course an exaggeration, but likely not too far from reality, as they account for less than 2 % of the total.

Village artisans can be identified only in those parts of the territory for which the census books have survived. Assuming that their share among the total population was the same in the other parts of the territory, we have calculated their total number, but have not specified their trades..

5. Orthodox clergy, unlike the Catholic one, had families and combined field work with divine service.

Next, we need to assess the size of the working and the non-working population. Unfortunately, the nature of our sources does not allow us to make any distinct calculations concerning the demographic characteristics of the population. The earliest reliable data for

⁷ They were also obliged to perform military service. See: Bernadskii, V.N., *Novgorod i Novgorodskaja zemlia v XV v.* (Moscow-Leningrad, 1961), pp. 125-128; AISZR, pp. 341-342.

⁸ AISZR. p. 339.

⁹ According to the Code of Service (1558), 1 horseman per 50 hectares of ploughland. The average size of manor within this group (*pomeshchiks*) is 112 'korobias', which is nearly equal to 110 hectares (AISZR, p. 335).

¹⁰ AISZR. pp. 354-357.

¹¹ AISZR. pp. 350-353.

¹² AISZR, p. 318.

the reconstruction of the demographic pyramid are the censuses of the early XVIIIth century. We have several samples based on these sources, and a fundamental study by E.N. Baklanova on the Vologda region for 1717.¹³ We depart from the assumption that before 7 years old a child was not able to work to the extent that the results of its efforts were significant to the family. According to Baklanova, children of this age made up 17,6 to 19,2 % of the total population, and we set this value at 18 %. We have also singled out the groups of 7-10 (when the children began to assist their parents within the household) and 11-14 years old (when children were considered 'half-workers' and participated in all major adult work, except military and civil service). Each of these groups is estimated as 9 % of the total. Traditionally, among Russian peasants 15 was the age when a young man or woman was considered to have become a worker (*rabotnik*) in his or her own right, meaning that their labour started to make a significant contribution to the total effort of the household; also, 15 was supposed to be the minimum 'normal' age for marriage, and for paying taxes, when the community divided the total tax burden among households.¹⁴ The age at which people ended their labouring life was subject to much greater variation, and it is hard to draw a distinct line separating the working from the non-working in this respect. Average life expectancy was very low – according to the same sources only 4,5 % of the population was older than 60. Considering this, it would not be a great exaggeration to classify all of them as non-working.

Finally, we have absolutely no data concerning the female population and nuptiality. Usually, researchers use the assumption, drawing on the first available evidence, which dates to the XVIIIth century, that the number of women among the population is approximately equal to the number of men, while marriage rates among the adult population tend to the maximum (due to early marriages, the absence of divorce, and a high probability of second marriage after the death of one of the spouses). There is no contemporary direct or indirect evidence for these assumptions, though, and reality can have been very different for certain social groups or distant regions, but these deviations cannot have been of the order of magnitude to have a significant impact on calculations and estimates at the aggregate level. .

1650

The basic data for any demographic or social research concerning mid-seventeenth century Russia can be obtained from the materials of the fiscal census of 1678/79 - the so-called 'perepisnye knigi'.¹⁵

The territory covered by the census was that of the Russian state of 1678, excluding the Left-bank Ukraine (*Getmanstvo*). The census was held in European Russia only, but similar Siberian sources exist for the 1680s and early 1690s. This corresponds well with the approach we use.

The materials of the 1678 census contain information on the main social groups obliged to pay taxes, i.e. peasants and tradespeople (*posadskie liudi*) as well as slaves and parish clergy. The census does not cover the nobility, monks, and several minor groups obliged to perform military service instead of paying taxes. Also, the numerous peasants belonging to the Court ('*dvortsovye*') were not recorded. Fortunately, all these data can be obtained from other contemporary sources. For the '*dvortsovye*' peasants, a similar census was held in the late 1670s and early 1680s. The numbers of people belonging to the social groups not

¹³ Baklanova, E.N., *Krest'ianskii dvor i obshchina na russkom Severe. Konets XVII – nachalo XVIII veka*. (Moscow, 1976), p. 21.

¹⁴ For an in-depth treatment of the issue, cf. Baklanova 1976, p. 40-44.

¹⁵ A census was also held in 1646-1647. It is much closer to the cross-section date, but it has vast lacunas, because standards of description were poor and the materials we have are incomplete. Also, its results were not aggregated at the time or in historiography, which would make it very-consuming to use. For these reasons we have opted to use the materials of the 1678 census for compiling the database for the cross-section 1650.

enumerated in the census were calculated using the materials of the Razriad (Military Department), Patriarch's Chancellery, and other ministries which oversaw them.¹⁶ Summarising, it is possible to obtain source-based data covering the entire population of the country.

At the same time, we face two serious problems in working with this material.

First, there was no centralized system of population registration nor a centralized budget in the XVIIth century Russia, and therefore the results of the census were never aggregated at the national level. For each of over 200 uezds 'a census book [*переписная книга*]' was compiled, but by now, only part of these books survived, so we cannot recalculate the total population directly from them. Many different calculations were carried out over the long period when these books were used as a taxation cadaster (until 1724), but none of them covers the whole territory of Russia and all social strata.

Secondly, a significant part of population avoided the census altogether in order to avoid taxation. This is quite common for censuses of the early Modern era in general¹⁷, but it presents the problem of comparability with later cross-sections when censuses became far more accurate.

For these reasons the materials of the census cannot be used directly. Instead, we rely on the seminal work of Ya.E. Vodarskii, who traced missing figures and revised, recalculated and combined the various data in "The population of Russia in the late XVIIth – beginning of the XVIIIth century", published in 1977. Working on an atlas of historical demography, he faced exactly the same problems we do. Combining the different figures used by numerous civil departments to determine the number of tax-payers, the 'general tables' compiled during the reign of Peter the Great, and the figures from the remaining census books of 1678, he painstakingly reconstructed the overall results of the census. Subsequently, using the materials of the few governmental verifications of the accuracy of the data, he estimated the number of those who avoided census registration and taxation as 25%.

The only shortcoming of Vodarskii's work is that his calculations merely reveal the size of the main aggregate social strata, such as the nobility and the peasantry. But different labour relations could exist within each of those major groups. Therefore, if we simply rely on his figures, our picture of occupations and labour relations in Russian society will be too generalized.

One possible solution is to combine the estimates by Vodarskij with the data of partially aggregated primary sources. In 1708, when the census books of 1678 were still used for tax assessment, so-called 'general tables' (*generalnye tabeli*) were compiled, which aggregated the data of the census books and covered the central¹⁸, western, north-western, and southern regions of Russia, together accounting for over 60 % of the total population. In these 'general tables' the social stratification is rendered in much more detail than in Vodarskij's research; these materials are published and can be used in our work.¹⁹ Therefore, we use the data of the 'tables' for the part of the population they cover and rely on Vodarskii's figures for an estimate of the remaining part of the population. One of the consequences of this approach is that the occupational structure of this remaining part, like the population in the border regions of Russia as well as such social groups as 'dvortsovye' and 'chernososhnye' (state serfs), can be captured in much less detail than that of the population covered by the 'general tables'.

Summarising, the quality of the records in the database is homogenous, as they are

¹⁶ Vodarskii, 1977.

¹⁷ Cf. Vodarskii, Ia. E., "Perepisi naseleniia v XVII v. v Rossii i drugikh stranakh Evropy", in: *Feodal'naia Rossiia vo vsemirno-istoricheskoi protsesse*. (Moscow, 1972).

¹⁸ With one significant loss – we have no tables for the city of Moscow.

¹⁹ *Perepisi naseleniia Rossii: Itogovye materialy podvornykh perepisei i revizii naseleniia Rossii (1646-1858)*, Vyp. 1 (Moscow, 1972).

derived from one and the same primary materials. But the level of detail varies among the different parts of the country, as well as among social groups.

The 1678 census focused on households, because these were the objects of taxation. They include also the names and number of men, particularly those bound to the soil, because the census books also recorded relations of personal dependence. Again, we assume the number of women to have been equal to the number of men. To separate the different age groups and to identify the work they do we use the same approach as for the cross-section 1500, based on the work of E.N. Baklanova.

The assessment of the rural/urban ratio among the population also presents some difficulty. Due to low population density and poorly developed internal trade, only a few major political and economic centers exceeded a population size of 5000, which is the benchmark value used for classifying a population as urban in the taxonomy of the Collaboratory.²⁰ The major part of the urban population belonged to the social group of tradespeople ('posadskie'); according to our calculations, average household size was 2.18 men, which would equal 4.36 men and women. Following this logic, if there were 900 households of tradespeople in a city, this would equal 4000 city dwellers. Assuming then, that in such an urban centre the non-taxpaying population would amount to a further 1000, we classify population centres with over 900 households in the *posad* as urbanized. Within the territories covered by the 'Tables' this applies to Nizhnij Novgorod, Yaroslavl, Kostroma, Vologda, Velikij Novgorod, Pskov, and their population is marked as 'Urbanized'. Unfortunately, another four significant urban centers existed outside the territory covered in the 'tables' – Arkhangelsk, Vyatka, Ustiug, and, alas, Moscow. We have no option to estimate their population, and it would be too risky to single it out from the general estimates of Vodarskii. Consequently, levels of urbanization have been underestimated in the database..

The Collaboratory relies on the Historical International Standard Classification of Occupations (HISCO) for coding data on occupation, but our sources describe types of economic activity in a way very different from the approach realized in HISCO. Russian society in the mid-seventeenth century was divided into a number of social ranks (*chiny*), and each of them linked to the provision of a particular 'service'. The census identifies the rank according to the type of this 'service'. For example, the 'yamschiks' are not simply 'transport workers', which would be a literal translation of the word, but those who perform 'transport duties' for the state. The problem is, however, that they could easily derive their means of existence from agriculture, rather than from work in transport, and this is not an exception, but rather the rule.

We have accommodated for this in the database by identifying each social rank in the 'Position' field, while giving an interpretation of their occupations in the 'Branch' and 'Occupation' fields.

Further difficulties are encountered when interpreting labour relations.

Of the three major divisions offered by the taxonomy of labour relations used in the Collaboratory, two at least can be applied to the absolute majority of the population described in our sources.

²⁰ The difference between a town (*gorod*) and a village (*selo, derevnia*) was clear to contemporaries, but has little to do with modern concepts and can therefore not be used in the database. Decisive were the administrative and military functions of a settlement, rather than its size or economic characteristics. According to this logic, the center of an administrative district (*uezd*), or a significant border fort was always considered a town, whereas some significant trading centers such as Rogachevo or Pavlovo never obtained this status before the beginning of the industrial era. In the central regions, a community of merchants and craftsmen (*posad*) was an important attribute of a town, but not for example in the border regions or in Siberia. But in Siberia no settlement could be called a town if it did not have fortifications and a permanent garrison, whereas this would have been the exception rather than the rule in the cities of the European North.

First, everyone had his own household or lived in someone else's household. Rather than a type of work in the sense of the Collaboratory, this was a manner of living. The storage of stocks, animal husbandry and preparing food were activities present in any household, and in the absolute majority of them it was combined with field work. Even the nobles spent much effort running their households and ruling their manors, and the *Domostroy*, the mid-sixteenth century code of Orthodox ethics and one of the most popular and respected books at the time, calls running the household in the proper way not only the way to prosperity, but also a condition for eternal salvation. Among artisans there was a division between the 'plowing' (*pashennye*) and 'non-plowing' (*nepashennye*), and the latter were numerous only among highly skilled professions like jewelers or clock-makers. But even within such groups, the women and children would work within the household as kin producers, running the kitchen gardens, raising livestock and small fowl, etc. Therefore, in the column Labour_rel_01 all the people living within the households (except the few 'non-plowing' artisans, administrators, etc) should be classified as reciprocal labourers. The number of leading household producers is assumed to have been equal to the number of households, and the number of household kin producers are calculated as the number of people minus the number of households. As a rule, households were run by a family couple, and the leading producer was the man; an exception has been made for the households marked as belonging to widows. The number of kin producer was calculated as the number of working people minus the number of leading producers.

Secondly, tributary labour was very widespread in Russian society. All subjects of the Tsar were obliged to perform services to the state (*sluzhba*) when needed. For some social groups such services were episodic (although sometimes very heavy), and our sources do not reveal them. Others carried them out as a permanent duty instead of or in addition to paying taxes, and were marked as 'Tributary Serfs'. Serfs in the estates of the nobility, the bishops and the monasteries paid both quitrent (*obrok*) and worked in the corvee fields. Historiography holds it that the corvee was present in the absolute majority of estates by the second half of XVIIth century, even if the size of the burden could vary²¹, and therefore all serfs have been classified as 'Tributary serfs'. Slaves consisted of two major subgroups. 'Dvorovye' were servants on the nobles' estates. Some of these lived in with their master's households, whereas others had their own households, but they all were supposed to be 'non-plowing'. 'Delovye', 'zadvornye', 'krepostnye' and some other groups were actually peasants, not servants, although they were legally bound to their master, rather than to the soil. They had their own households, worked on the corvee fields and were not, as a rule, used as servants. Consequently, they have also been classified as 'Tributary Serfs'.

The nobles were obliged to render military service from the age of 15 onwards, with no right to retire until they died or were removed from service as invalids. Attempting to avoid the service resulted in the confiscation of lands and criminal prosecution. Their position was not far from the position of conscripted soldiers, and therefore they are classified as indentured tributary labourers. Clerics are, again, marked as household producers and wage-earners working for non-market institutions.

The census provides no meaningful data concerning commodified labour, although it did exist. Hired labourers were not very numerous, however (30 000 is a maximum estimate) and did not form a stable group within society, which makes it difficult to single them out in the database.

²¹ Cf. *Istoriia krest'ianstva SSSR s drevneishikh vremen do Velikoi Oktiabrskoi sotsialisticheskoi revoliutsii*. (Moscow, 1993), Vol. 3., p. 153; Tikhonov, Iu.A., *Pomeshchich'i krest'iane v Rossii* (Moscow, 1974), pp. 293-294; Gorskaia, N.A. *Monastyrskie krest'iane Tsentral'noi Rossii v XVII v.* (Moscow, 1977).

1800

In the XVIIIth and the 1st half of the XIXth century accurate population counts were of vital importance to the Russian state, because the poll-tax was the major item of revenue to the budget. To this end all tax-paying subjects of the empire were periodically registered in a kind of a census, the so-called *revisiia*. First introduced by Peter the Great in 1719, subsequent revisias were carried out in 1744, 1763, 1782, 1795, 1811, 1815, 1833, 1850, and 1857.

The materials of the 5-th revisia are the most appropriate source for this part of the database. This is for several reasons. The date of this census (1795) is closer to the benchmark date than any other, and its materials are evaluated by historiography as more accurate and complete than those of the 4-th and the 6-th revisias. According to the estimates of V.M. Kabuzan, aggregation and calculation errors in these materials never exceeded 2 %, which can be considered an excellent result for the XVIII century. The revisia included all population of the empire except the nobility, the regular army, and foreigners (those who did not live in Russia permanently), whereas the quantity of the first two groups can be obtained from parallel sources, which has already been done in historiography.

The highest-level resulting documents of the revisia were the so-called *okladnye knigi* ('tax books'), the basic fiscal documents of the state, which were compiled annually. The tax book of 1808, generally acknowledged in historiography to be the most complete and accurate among those pertaining to the 5th revisia, has been integrally published and has been used for creating the database.²² One important note is that population changes occurring between the revisias were not taken into account, which means that the book of 1808 still contains the data of 1795. Only those who arrived from abroad and became subjects of the empire within these 12 years were added, and they have been excluded from the database.²³

The materials of the *okladnaya kniga* cover the whole territory of the empire, with the exception of the regions of Vilna and Grodno (in modern-day Lithuania and Belorussia); also, non-taxpaying citizens in Moscow and Slobodskaya Ukraine (in modern-day Eastern Ukraine, with the center in Kharkov) were omitted. The editors of the source publication retrieved those data from the lower-level primary documents of the revisia, and printed them in the same volume. A significant advantage of the book of 1808 is that the figures are bound to the administrative division of 1808, which is quite similar to that of 1897 and enhances comparability with the 1900 cross-section.

The primary record of the revisia, the so-called 'revizskaya skazka', included the following data: name, marital status, gender, age, social status, location. Unfortunately, not all these materials were aggregated. We have no general figures concerning age and marital status, so for this information we have to rely on estimates made by historians who worked with the primary data, as well as on some general assumptions concerning the upper and lower boundaries of the working age.. Moreover, only the male population was counted in the *okladnye knigi*, but we do know the total female population from the annual governors' reports.

Several steps were made to adapt the raw data to the format of the database.

1. The starting point for all further calculations is the total male population as listed in the *okladnaya kniga* of 1808 (and the additional data). These figures are broken down by region (*guberniia*) and social status.

When interpreting occupations and labour relations, the 'social status' column is critical. The system of social stratification in the late XVIIIth century was still quite sophisticated

²² *Perepisi naseleniia Rossii* (1972), Vyp. 6.

²³ This is why the total figures in the database differ slightly from the figures by V.M. Kabuzan. Cf. Kabuzan, V.M., *Narodonaselenie Rossii v XVIII - pervoi polovine XIX v. (po materialam revizii)* (Moscow, 1963), pp. 159-160.

(although much less than that of 1678), and each social group is identified according to its position in society and to its obligations before the state. Some of them can be found in all regions (like state serfs), others exist only in several, or even one, guberniia (e.g. *mishari*, a social and ethnic group of non-Bashkir and non-Russian settlers in Orenburg guberniia). Referring to historiography and legislation (compiled in The Complete Collection of Laws of Russian Empire, 1830) this gives us the possibility to determine ethnicity, urban/rural residence, and sector of the economy (agriculture, trade, industry, or civil service) for each of these social groups, and to subsequently arrive at some assumptions concerning the corresponding labour relations.²⁴

In some obvious cases some standardization was applied to the terminology of the sources to facilitate the use of the database. We have uniformly marked groups sharing a set of characteristics but historically having different names in different regions; for instance, in Ryazan 'the state serfs, called in the guberniia by their old name as *prezhnih sluzhb shuzhilye ludi, kazaki, streltsy, pushkari, razsylshiki, vorotniki, and pashennye soldaty*' were marked as 'state serfs'. In the same way, the numerous groups of peasants bound to the military service were unified as a 'service class' category (*voinskie obyvateli*).

Next step is to add several groups missing in the *okladnaia kniga*.

The number of nobles was calculated by V.M. Kabuzan and S.M. Troitskij in their study²⁵ on the basis of the 'geographical descriptions' (*topograficheskie opisaniia*), a series of geographical studies, compiled in the 1780s-1790s. The size of the field army and the garrison population were calculated by L.G. Beskrovnyi on the basis of the documents of the Voennaia Kollegiia (Ministry of Defense).²⁶ Here, there is a risk of double-counting, because some nobles served in the army; additional evidence²⁷ allows us to estimate their number at 9600. The navy presented a more challenging task, because no reliable figures can be obtained from historiography. We have used the 'staff list' of 1798, although this could cause some overestimation, as these official staff positions were almost never filled for the full 100%. Finally, the indigenous population of the Russian Far East (Priamur'e and Primor'e) is added to provide territorial compatibility with the later cross-sections. This population was estimated as 38 000 in the late 17th century, significantly decreased in the wake of several invasions by Qing troops, and slowly increased again afterwards to reach 16000 in 1857.²⁸ For 1795 we have stuck to an estimate of 14000 (7000 men)..

Thus, as far as the male population is concerned, all information entered into the database is procured directly from the sources.

2. The next step is to separate those who work and those too old or too young to work. The age-delimiters used are the same as for the earlier benchmarks.

Unfortunately, the data on age from the primary documents of the revisiia were never aggregated, and, again, the only way to determine the size of the age groups is to extrapolate the data concerning individual manors, which have been gathered in historiography.

A number of such samples, representing different regions over the period from the 1760s

²⁴ *Polnoe sobranie zakonov Rossiiskoi imperii*. Sobranie 1. Vols. 1-45 (St. Petersburg, 1830).

²⁵ Kabuzan, V.M., Troitskii, S.M., "Izmeneniia v chislennosti, udel'nom vese i razmeshchenii dvorianstva v Rossii v 1782 - 1858 gg"., *Istoriia SSSR*, 1971, № 4.

²⁶ Beskrovnyi, L.G., *Russkaia armia i flot v XVIII veke*. (Moskva, 1958).

²⁷ Cf. Shepelev, L.E. *Chinovnyi mir Rossii XVIII - nachala XX vv.* (St. Petersburg, 2001), p. 113; Mironov, B.N. *Sotsial'naia istoriia Rossii* (St. Petersburg, 1999), Vol. 1, p. 134; Volkov, S.V., *Russkii ofiterskii korpus* (Moscow, 1993), pp. 269-270.

²⁸ See: Dolgikh, B.O., *Rodovoi i plemennoi sostav narodov Sibiri v XVII veke*. (Moscow, 1960); Kabuzan, V.M. *Dal'nevostochnyi krai v XVII – nachale XX v. (1640-1917)* (Moscow, 1985), p. 46.

to the 1790s, can be obtained in the works of Yu.A. Tikhonov²⁹ and M.F. Prokhorov³⁰. According to these authors, the percentage of the 0-15 years age-group varied from 34 to 47 %, with an average of 37.5%, and the percentage of the 60+ group from 3 to 6%, with an average of 4.5 %. This is very close to the data of E.N. Baklanova for 1717, used for the earlier benchmarks, and of Steven L. Hoch for the 1820s-1840s (45.65 % of the non-working population).³¹

Accordingly, we have estimated the relative sizes of the different groups as specified below:

- 0-6 – 18,75 %
- 7-11 – 11,72 %
- 12-14 – 7,03 %
- 15-60 – 58%
- 61+ - 4,5%.

3. The third step is to add the values on Urbanisation.

From the point of view of tax-collectors, the population of cities and towns consisted of two social groups – ‘merchants’ (*купцы*) and ‘townspeople’ (*мещане*). Historically, this has never been the case, though, and the population of towns and cities always included nobles, clerics, their servants, garrisons, as well as some peasants; also, since the late 18th century there was significant labour migration to the cities. There are no possibilities to calculate or estimate the numbers of people involved in these additional categories, and therefore the actual level of urbanization will be underestimated in the database.

Having said this, the bulk of the urban population nonetheless consisted of merchants and townspeople. But here, again, we have to determine which part of them lived in settlements with more than 5000 inhabitants. It is impossible to do so on the basis of the aggregate data for each region (*guberniia*). Therefore, we have resorted to the use of the lower-level data for the individual *uezdy* (a *gubernia* typically consisted of 20-40 *uezdy*. As a rule, there was only one urban center in an *uezd*, and if the total number of merchants and townspeople exceeded 4000 (2000 men), it is highly probable that its total population exceeded 5000 (assuming that the other categories accounted for at least 1/5 of the settlement population).

Further investigation revealed that this method works for all the regions, excluding Ukraine and Belorussia. There, a significant Jewish population existed, which was invariably classified in the revisiia as merchants and townspeople, no matter if they lived in the towns and cities, or in the rural settlements, called ‘mestechko’. Therefore, in these areas an extra criterion is required to determine whether an *uezd* center was a town with more than 5000 inhabitants. Using the method of trial and error we found this to be the case when there is more than a thousand non-Jewish urban population in a particular *uezd*. On these grounds we have excluded 32 *uezds*, while classifying the population of the remaining 129 population

²⁹ Tikhonov, Iu.A., *Dvorianskaia usad'ba i krest'ianskii dvor v Rossii 17 i 18 vekov: sosushchestvovanie i protivostoianie* (Moscow, 2005), p. 329.

³⁰ Prokhorov, M.F., "Krest'iane obrochnykh votchin Rostovskogo uezda v seredine XVIII v. (po materialam podvornykh opisani)", in: *Istoriia i kul'tura Rostovskoi zemli: Materialy konferentsii 1995 g.* (Rostov, 1996), p. 140-146; Prokhorov, M.F., "O genealogii krest'ianskikh semei v Rossii v XVII - pervoi polovine XIX (po materialam Pokrovskoi votchiny Naryshkinykh)", in: *Genealogicheskie issledovaniia* (Moscow, 1993), pp. 160-167; Prokhorov, M.F., "Krest'ianskaia sem'ia v krepostnoi derevne Podmoskov'ia v XVIII - pervoi polovine XIX v.", in: *Problemy istorii Rossii* (Ekaterinburg, 2005), Vol. 6, p. 233.

³¹ Hoch, S.L., *Krepostnoe pravo i sotsial'nyi kontrol' v Rossii: Petrovskoe, selo Tambovskoi gubernii*. (Moscow, 1993), p. 65 and further.

centres as "urban".

4. Next, we should determine which part of the household population should be classified as Household Leading Producers (Lab_Rel 04) and Household Kin Producers (Lab_rel 05).³²

To calculate this, we need the number of households. Unfortunately, we have not found the aggregated data for 1795. We therefore rely on an estimate, which is informed by average household size. Average household size was calculated using the results of the census of 1710 and the materials of 1858, assuming that the pace and direction of change in the various regions was roughly the same.

Average household size³³

Region	Year		
	1710	1858	1795
West	10.6	8.0	9.1
North-West	7.4	6.8	7.1
Center	7.4	6.8	7.1
North	6.8	7.4	7.1
East	6.6	8.2	7.5
South	7.8	10.2	9.2

Next, the number of households was calculated by dividing total population figures by average household size. Having thus obtained the number of households, the number of Leading Household Producers was taken as equal to it, and the number of Kin Producers was calculated as the total household population minus the number of households.

5. Serfs appear as a homogeneous social stratum in our sources. The landlord (*pomeshchik*) had the right to determine the type and amount of obligations of his 'subjects', and the state did not intervene in their relations, treating all the serfs as one estate. In reality, though, there was a great difference between peasants (*krestiane*), and servants on the nobles' estates (*dvorovye liudi*).³⁴ In 1861, the latter accounted for about 7 % of all serfs; we have extrapolated this figure into the late XVIIIth century in order to single out this category.

Serfs fell apart in two categories. On the one hand, there were those who paid a quitrent (*obrok*) in kind or cash to their legal owners and were then free to engage in whatever economic activity they saw fit. On the other hand, there were those who actually performed their feudal obligations on the land of their owner, the so-called 'barshinnye'.³⁵ It ought to be distinguished well between the two categories, because in the database the latter category ought to be classified as 'tributary serfs'.

³² The labour relation 'household servant' was very rare among the Russian peasantry. It could occur among artisans (and their apprentices), but our sources do not record such cases.

³³ Cf. *Istoriia krest'ianstva SSSR* (1993), p. 366; Struve, P. *Krepostnoe khoziaistvo. Issledovaniia po ekonomicheskoi istorii Rossii v XVIII i XIX v.* (St. Petersburg, 1913), pp. 224-227. The figures in the table refer to both men and women.

³⁴ It should be noted, that the majority of servants also had their own households.

³⁵ Both those who paid the quitrent and those actually performing feudal labour obligations also carried out numerous other duties in providing the lord's estate with food, firewood, etc. The difference between quitrent and *barshchina* only relates to peasants' principal feudal obligations.

The prevalence of those two forms of feudal exploitation differs much from region to region. For an estimate of this regional spread the calculations of V.I. Semevskij can be used, even though they are based on the earlier materials of the General Land Survey (*General'noe Mezhevanie*), which relate to the 1770s-1780s).³⁶ His calculations, covering more than half of all serfs, provide a percentage for both categories for each *guberniia*. Using these coefficients, we have split the lump-category 'Serfs' from the sources into 'Serfs (*barshinnye*)', and 'Serfs (*obrochnye*)'.

6. One important thing never recorded in the materials of the *revisiia* is the growth of wage labour. Being in the first place a fiscal census, as well as an instrument of consolidating the social division into estates, the *revisiia* did not even attempt to record people's means of existence. In the majority of cases, this can be reconstructed according to the major occupation of each social group. But wage labour was an economic pursuit for only minor parts of the major estates, and existed throughout - in cities and towns, and in small village industry. Moreover, the *revisiia* also ignored seasonal labour migration (*otkhod*), quite widespread in the late XVIIIth century.³⁷ Historiography does present us with an abundance of estimates on this issue, however.

N.L. Rubinshtein summarized the numerous investigations into the historical emergence of a labour market in Russia which were conducted in the 1930s and 1940s, and arrived at an estimate of 220,000 for the total number of wage-labourers in the late XVIIIth century.³⁸ This would appear to be an underestimate, however, because Rubinshtein did not count transport workers (over 200,000) as well as wage labourers in small village industry. A more recent estimate by L.V. Milov puts the total number of hired labourers at about 0,5 million.³⁹

Bearing in mind that the absolute majority of wage workers were state serfs or nobles' serfs who paid the quitrent, we can incorporate Milov's estimate into the database. The combined number of 'state serfs' and 'Serfs (*obrochnye*)' is about 3 million, so for 1/6 of them we add Free Wage Labour [Labour Relation 14018] as Lab_Rel 02.

7. Last but not least, the female population has to be added to the database. The overall balance between the sexes can be calculated on the basis of the figures for the female population as a whole, found by V.M. Kabuzan in the governors' reports⁴⁰, and it amounts to 1084 women per 1000 men⁴¹. Extrapolating this sex-ratio to the database as a whole, we use this coefficient to calculate the number of women for each separate social group, with three important differences:

- there is no female group corresponding to the men serving in the army and navy
- women are always supposed to be kin producers within the household, and never leading household producers (although in practice the opposite could sometimes have been the case)
- women are considered not to carry tributary labour obligations before the state, nor to be working as wage-earners, but the wives of '*barshinnye*' serfs in the nobles' estates are known to have been working at the lord's corvée fields and are therefore classified as Tributary Serfs alongside with their husbands.

³⁶ Semevskii, V.I. *Krest'iane v tsarstvovanie imperatritsy Ekateriny II* (Moscow, 1903), p. 584.

³⁷ Kabuzan, *Narodonaselenie Rossii*, p. 122 and further.

³⁸ Rubinshtein, N.L., "Nekotorye voprosy formirovaniia rynka rabochei sily v Rossii v XVIII v.", *Voprosy istorii*, 1952, № 2, p. 95; See also: *Ocherki istorii SSSR. Period feodalizma. Rossiia vo vtoroi polovine XVIII v.* (Moscow, 1956), p. 112.

³⁹ Milov, L.V. ed., *Istoriia Rossii XVIII-XIX vekov* (Moscow, 2006), p. 245.

⁴⁰ Kabuzan, V.M. *Narody Rossii v XVIII v.: Chislennost' i etnicheskii sostav*. (Moscow, 1990), p. 183.

⁴¹ The army was excluded from the calculations, as few soldiers had families.

1900

The principal source for the cross-section 1900 is the first-ever modern population census of the Russian Empire, held on 28 January 1897. The census turnouts have been published in 86 volumes for individual provinces (губернии) of the Empire, as well as in a two-volume national edition and a number of companion volumes with data on specific topics.⁴² This database draws from (a) the data on occupations in table XX, published separately in four companion volumes, (b) a special two-part volume with the census data on workers, and (c) the data on the age-structure of the population in the national volumes.⁴³

At this stage, the database contains the aggregate data for the territory of the Russian Empire, minus the Polish provinces. A next edition will be narrowed down to the territorial coverage specified in table 1, roughly comparable to the territory of the Russian state in 1800. This will be achieved through the aggregation of the separately available census-returns for European Russia and Siberia.

A first step in the creation of the database is to isolate the non-working part of the population, to be included in Labour Relation 1 - "Cannot work or cannot be expected to work". Using age-delimiters of ≤ 6 and ≥ 75 the population in these two age-categories are integrally allotted to Labour Relation 1.

Next, we turn to the census data on occupation from table XX. Table XX in fact relates not so much to occupation, as to the source from which people derived their means of livelihood. At a first level it distinguishes between the people who had a source of income of their own on the one side, and the people who were supported by the former on the other side. For those who had a source of income of their own, this source of income is further specified, primarily by branch of industry or economic activity, but with some additional categories, like rentiers, prisoners, soldiers etc. Some of these categories ought to be assigned to the category "non-working", like for example those who live on state support, those who are resident in shelters and institutions, the ill and the infirm, and others. Therefore, these are also classified as Labour Relation 1 in the database.

Having thus isolated the non-working population, it is assumed next that all those listed in table XX as gainfully employed are above six and under 75 years of age. This is a simplification, because table XX itself reveals that relatively small numbers of the gainfully employed are outside of these age boundaries, but a necessary step to avoid double counting.

A further important implication of this assumption, is that the population between 6 and 75 years of age which is NOT listed as gainfully employed in table XX constitutes Labour Relation 5 - "Household kin producers" [subordinate kin (men, women, and children) contributing to the maintenance of self-sufficient households]. Labour Relation 5 therefore is calculated as the total population between 6 and 75 years of age minus the total number of persons listed as gainfully employed in table XX.

The next steps are to divide the people listed as gainfully employed in table XX over the Labour Relations 2-4 and 6-18. This cannot be done directly, due to the unfortunate

⁴² *Pervaia vseobschaia perepis' naseleniia Rossiiskoi imperii 28 ianvaria 1897 goda*, 86 vols. (St. Petersburg, 1905); *Obshchii svod po imperii rezul'tatov razrabotki dannykh pervoi vseobshchei perepisi naseleniia, proizvedennoi 28 ianvaria 1897 goda*, 2 vols. (St. Petersburg, 1905); Troitskii, N.A. (ed), *Pervaia vseobschaia perepis' naseleniia Rossiiskoi imperii 1897 g. Raspredelenie naselenie po vidam glavnykh zaniati i vozrastnym gruppam po otdel'nykh territorial'nykh raionam. Tablitsa XX* (St. Petersburg, 1905), 4 Vols.; Troitskii, N.A. (ed), *Pervaia vseobshchaia perepis' naseleniia Rossiiskoi imperii 1897 g. Chislennost' i sostav rabochikh v Rossii na osnovanii dannykh Pervoi vseobshchei perepisi naseleniia Rossiiskoi imperii 1897 g.* (St. Petersburg, 1906), 2 Vols.

⁴³ *Obshchii svod [...] dannykh [...] perepisi 1897*, T. I, pp. 56-59; Troitskii (ed), *Pervaia vseobshchaia perepis' naseleniia Rossiiskoi imperii 1897 g. Raspredelenie naselenie po vidam glavnykh zaniati i vozrastnym gruppam po otdel'nykh territorial'nykh raionam. Tablitsa XX*; Troitskii (ed), *Pervaia vseobshchaia perepis' naseleniia Rossiiskoi imperii 1897 g. Chislennost' i sostav rabochikh v Rossii*

circumstance that, for financial reasons, at the time the direct census data on labour relations [*положение в занятии*] were never worked out or aggregated. Only the data on blue-collar workers [*рабочие*] were published in a separate volume.⁴⁴ These are of limited value for our project, however, because blue-collar workers are only part of the larger categories 14 [market wage earners] and 18 [non-market wage-earners], next to white-collar workers. As a consequence, we have no choice but to use the data on occupation/source of income in table XX to infer the labour relations 2-18. This is feasible only to some extent. Separate data can be estimated/calculated for the Labour Relations 2, 4, 8, and 12-13-14-18:

Labour Relation 2 - “Affluent” [those who are so prosperous that they do not need to work for a living] is identified as such in table XX [sum of categories *Живущие доходами с капитала и недвижимого имущества* and *Живущие на средства, получаемые от родителей или родственников*].

Labour Relation 4 - “Leading household producers”. This is an approximation. Table XX differentiates between “general agriculture” [*Земледелие вообще*] and “general animal husbandry” [*Скотоводство вообще*] and several other specialised branches of agriculture and animal husbandry. It is assumed for the purpose of our database that the categories “general agriculture” and “general animal husbandry” relate to peasant agriculture and animal husbandry, whereas the specialised branches represent market-oriented types of agricultural production and livestock raising.

The next challenge is to isolate the leading household producers from among those deriving their income from peasant agriculture. Apart from heads of households, this last category potentially also contains kin producers, as well as agricultural hired labourers. Fortunately, the numbers of agricultural hired labourers working in “general agriculture” [*Земледелие вообще*] and “general animal husbandry” [*Скотоводство вообще*] are available from the separate volumes on blue-collar workers.⁴⁵

Having subtracted these from the total, the remaining challenge is to separate the heads of household [Labour Relation 4] from any other members of the household working in agriculture. In as far as subordinate kin producers are concerned who assist the head of household we operate on the assumption that these would not have been listed as gainfully employed in table XX, but would have been included in the category ‘dependents’, who derived their income from those employed in agriculture. By implication, we have already counted these when we calculated Labour Relation 5 as the total population between 6 and 75 minus the gainfully employed (see above).

A rather different situation applies to adult sons fully engaged in agriculture, who could well have been counted as gainfully employed by the census, even when working wholly or mostly within the household, but there is no real way we could isolate them from the heads of household. Consequently, our estimate of the number of leading producers contains a certain upward bias. We hope this is offset at least to some extent by the fact that some of these adult sons worked as agricultural labourers and were therefore already eliminated from the pool in one of the corrections applied earlier on. Further compensation can be expected from the systematic downward bias introduced by the mechanical subtraction of the numbers of agricultural labourers from the total, which also eliminates heads of household who were agricultural labourers, even if these were no doubt limited in numbers in Russia of that time.

Labour Relation 6 - “Household servants” and Labour Relation 7 - “Community-based redistribution agents” are non-existent for the benchmark 1900.

Labour Relation 8 - “Forced Labourers” can be calculated quite precisely from table XX

⁴⁴ Troinitskii (ed), *Pervaia vseobshchaia perepis' naseleniia Rossiiskoi imperii 1897 g. Chislennost' i sostav rabochikh v Rossii*, foreword.

⁴⁵ Troinitskii (ed), *Pervaia vseobshchaia perepis' naseleniia Rossiiskoi imperii 1897 g. Chislennost' i sostav rabochikh v Rossii*

as the sum of (a) men between 6 and 75 years of age serving in the armed forces (army and navy) as non-commanding officers and (b) convict labourers.

Labour Relations 9, 10 and 11 are non-existent for the benchmark 1900.

The biggest single shortcoming of the data in table XX is that they do not allow us to separate between the Labour Relations 12 [Self-employed], 13 [Employers], 14 [Market Wage-earners] and 18 [Wage-earners employed by non-market institutions]. Table XX merely gives us the number of people who derived their income from a particular branch of production, trade or services, whether in employment, self-employment, or indeed as employer. Also, it is problematic to separate between wage-earners working for the market [Labour Relation 14] and wage-earners employed by non-market institutions [Labour Relation 18]. This is because the data are ordered by occupation or type of production, rather than by the ownership of the branch concerned. Particularly in manufacturing the distinction between those employed by private companies and those employed by state enterprises or belonging to a co-operative is impossible to draw on the basis of table XX. Therefore, although for some occupations and/or trades it might be feasible to build valid assumptions as to the ownership structure of the establishment they were plying their trade at, the aggregate picture would be distorted and for this reason we have chosen not to separate the Labour Relations 14 and 18 in the database. Together, these two limitations yield an amalgamated category 12-13-14-18, comprising the upper-level category “commodified labour” in its entirety.

The database so far contains only the upper-level data, providing the breakdown of the population into the labour relations enumerated above for men and women separately. The underlying data, broken down to branch, trade and profession will be added in the next version.

2000

The data-set for the benchmark year 2000 contains separate data for the Russian Federation, Belarus, Ukraine, Estonia, Latvia, Lithuania and Moldova. [NB: At the current moment the database only contains the data for the Russian Federation, but this will be expanded in the next version] The data are drawn from the population censuses held in these countries as part of the so-called 2000-round, and relate to the following dates: Russian Federation [9 October 2002], Belarus [16 February 1999], Ukraine [5 December 2001], Estonia [31 March 2001], Latvia [31 March 2001], Lithuania [6 April 2001], Moldova [5-12 October 2004]. The data for the individual countries can be used in their own right or aggregated in order to obtain a territorial coverage comparable to that of the 1800 and 1900 data-sets.

Because of the different dates on which the population censuses in the respective countries have been conducted, migration between the countries obviously distorts the picture to some extent, in particular labour migration from East Ukraine, Moldova, and Belarus to the Russian Federation, for work in construction and other sectors of the economy. As most of these temporary migrants would, however, have avoided participation in the 2002 census in the Russian Federation, due to their uncertain or illegal employment, fiscal and immigration status, double-counting might have been much less significant than migration figures would suggest. In any case, there is no conceivable way of adequately correcting the figures for double-counting and therefore the distortion can only be accepted as given.

The paragraphs below specify the procedures which have been followed in compiling the data-sets from the census-returns for the respective countries.

Russian Federation

The data used in the compilation of the database have been drawn from the following tables of the 2002 census turnouts:⁴⁶

- volume 2, table 1 [Все население, городское, сельское по полу и возрасту = Rural and urban population by age and sex]
- volume 5, table 3 [Население, указавшее один источник средств к существованию, по полу и возрастным группам = Population with one source of income by age and sex]
- volume 6, table 12 [Население коллективных домохозяйств по полу и возрастным группам = Members of institutional households by age and sex]
- volume 7, table 1 [Население частных домохозяйств в возрасте 15-64 лет по возрастным группам и экономической активности = Non-institutional household population between 15 and 64 by age and economic activity]
- volume 7, table 5 [Занятое в экономике население в возрасте 15 лет и более по возрастным группам и положению в занятии = Employed population over 15 years of age by age and labour relation]
- volume 8, table 8 [Занятое население в возрасте 15-64 лет по видам экономической деятельности и положению в занятии = Employed population between 15 and 64 years of age by type of economic activity and labour relation].

As can be seen from this list, some of the tables relate to the population as a whole, whereas others relate only to the members of multi-person households or the population of working age. This requires a number of assumptions in our calculations, which will be specified below. The census data allow us to identify the Labour Relations 1, 2, 3, 4, 5, 12, 13, 14-18.

Starting with Labour Relation 1 - "Cannot work or cannot be expected to work" the age-delimiters applied for separating those too young or too old to work or to be expected to work from the rest of the population are 15 and 74 years of age, i.e. all men and women under 15 and over 74 [Vol. 2, Table 1] are integrally assigned to Labour Relation 1. The lower age-delimiter reflects the existence of obligatory school-education and is generally adhered to in current labour and employment statistics. The upper age-delimiter is more controversial - the Russian Federation inherited the Soviet pension system introduced in the late 1950s, with ages of retirement set at 60 for men and 55 for women. However, whereas in Soviet times this meant actual retirement at these ages, the decline of the value of retirement pensions in real terms during the post-Soviet period has effectively transformed the pension into a monetary allowance which is received irrespective of employment status. In addition to the pension people would have to provide for the means of existence, or be supported by relatives. Considering the definitions of work adhered to in our taxonomy, which includes household work, only when no contribution whatsoever would be expected anymore from them, should they be classified as belonging to Labour Relation 1. The default value for this age in the taxonomy is 75 and there is no reason not to consider this an appropriate value for Russian society at the start of the twenty-first century as well.

Further categories to be included in Labour Relation 1 are identified as such in the census:

(a) all people over 15 years of age living in institutional households [Vol. 6, table 12]. Apart from mental homes, hospitals, orphanages etc. this also includes the prison population, the armed forces living in barracks, as well as monasteries and convents. The latter three subcategories are included in the undifferentiated category "other institutions/другие

⁴⁶

Itogi vserossiiskoi perepisi naseleniia 2002 g., 14 vols. (Moskva, 2004-2005)

учреждения".

(b) people listed in Vol. 7, table 1 as "people receiving social welfare (except unemployment benefits) and people on state support" [лица, получающие пособие (кроме пособия по безработице) и лица, находящиеся на обеспечении государства], and "grantees" [стипендиаты]. These two categories would include most students, as well as the disabled. Unfortunately, though, these data only relate to those of 15-64 years of age, whereas in our taxonomy we would also want to include those of 65-74 years of age. As far as students are concerned, this is a minor omission, but relative to the disabled and other people on state support it has to be acknowledged that our data contain a certain downward bias.

Labour Relation 2 - "Affluent" [those who are so prosperous that they do not need to work for a living] has been calculated as the number of people over 15 years of age reporting savings [сбережения] or the letting of property [доход от сдачи внаем или в аренду имущества] as their single source of income [Vol. 5, table 3]. This contains a slight upward bias in that it includes all people over 65 years of age, i.e. inclusive of those over 74, whom we have already integrally allocated to Labour Relation 1 and therefore introduces a certain double-counting. To compensate this to some extent the number of people in the table who had indicated no age have been excluded from the calculations.

Labour Relation 3 - "Unemployed". The census only specifies the number of unemployed for the population between 15 and 64 living in non-institutional households [Vol. 7, table 1]; it is assumed that among the remaining categories of the population (people in institutions, the homeless and the non-institutional household population between 64 and 75) the number of unemployed will have been negligible.

Labour Relation 4 - "Leading household producers". Calculated as the number of rural residents working on their own account in agriculture, hunting, fishing, forestry and aquaculture [*Сельское население, работающие не по найму без привлечения наемных работников в с-х, охоте, лесном хозяйстве, рыболовстве и рыбоводстве*]. This figure only concerns the non-institutional household population between 15 and 64 [Vol. 8, table 8]. Of course outside non-institutional households few self-sufficient household producers are to be found, with the exception of heads of monasteries, but the omission of the age-category 65-74 is more problematic - it is exactly among the elderly that a lot of the self-sufficient rural producers can be found. On the other hand, the data overestimate the number of self-sufficient households, as some of the rural producers not working with hired labour should in fact be classified as self-employed, because they might be primarily working for the market. Therefore, on average, this is probably as good an estimate of the number of leading household producers in the countryside as we can get on the basis of available data.

Labour Relation 5 - "Kin producers". Calculated as a residual category, obtained by subtracting Labour Relations 1, 2, 3, 4, 12, 13, 14-18 from the total population. This figure is inclusive of women between 55 and 75 and men between 60 and 75 who are formally retired and in receipt of retirement pensions, but are not specifically gainfully employed. As we have argued above, pensions are not adequate for covering living expenses and people of this age would therefore either supplement them with income from gainful employment, or would be supported by relatives, taking care of grandchildren or performing other household duties in return.

Unfortunately, the census data do not allow us to identify military conscripts and therefore, Labour Relation 8 - "Forced Labourers". They cannot be separated from professional army personnel and have therefore been included with Labour Relation 18.

Labour Relations 12, 13, and 14-18 are calculated on the basis of the full data on employment in Vol. 7, table 5. This causes a certain double-counting and overlap with

Labour Relation 1: Volume 7, table 5 relates to the population over 15 years of age, i.e. inclusive of the population above 74, which we have integrally allotted to Labour Relation 1. Although a breakdown of the data according to age-cohorts is provided in the table, it does not provide separate figures for those over 74 years of age, but lumps them together with the age-cohort 64-74. Therefore we have no choice but to accept the possible distortion, also because the number of people over 74 years of age who would have indicated in the census to have been gainfully employed must have been quite small.

Labour Relation 12 - "Self-employed". Because of the often informal character of self-employment we have opted to calculate this category as a residual category, including everyone who indicated to be gainfully employed, but NOT to be working in employment. This involves adding up the Vol. 7, table 5 categories "working in self-employment without hired personnel" [*работающие не по найму без привлечения наемных работников*], "working in self-employment, without indication of the presence of hired labour" [*работающие не по найму, не указавшие привлечение наемных работников*] and "working in self-employment - other" [*работающие не по найму - иное*], as well as the top-level category of those indicating gainful employment in general, without further specifying this. To avoid double-counting we subsequently subtract the rural self-employed already classified as Labour Relation 4 from this total.

Labour Relation 13 - "Employers" are identified as such in Vol. 7, table 5 [*работающие не по найму с привлечением наемных работников*].

Labour Relation 14 [Market Wage-earners] and 18 [Wage-earners employed by non-market institutions] cannot be distinguished from each other on the basis of the census-data and are therefore calculated as an aggregate category, comprising all those listed in Vol. 7, table 5 as working in employment [*работающие по найму*].

The database contains only the upper-level data, providing the breakdown of the population into the labour relations enumerated above for men and women separately. Unfortunately, they cannot be differentiated any further by branch, trade and occupation because such a breakdown is available only for the population of 15-64 years of age as listed in Vol. 8, table 8. For reasons unspecified in the census volumes these data are not compatible with the data on labour relations from Vol. 7, table 5, which include all of the population over 15 years of age and, for that reason, have been used for the compilation of our database. The incompatibility lies in the fact that a simple subtraction of the number of people in the age-category ≥ 65 from the total in Vol. 7, table 5, which in theory should yield the same total as that listed in Vol. 8, table 8 for the population of 15-64, nonetheless returns a figure of over one million persons more, a difference in the order of magnitude which cannot be just ignored. For that reason we have decided to abstain from a classification by trade or occupation, also because the breakdown provided in the census is only a rudimentary one by sector of the economy.

In the current version the database does not differentiate between rural and urban population yet, but this will be changed in the next revision.

Belarus

To be added in next version.

Ukraine

To be added in next version.

Moldova

To be added in next version.

Estonia

To be added in next version.

Latvia

To be added in next version.

Lithuania

To be added in next version.

Overview of the Data

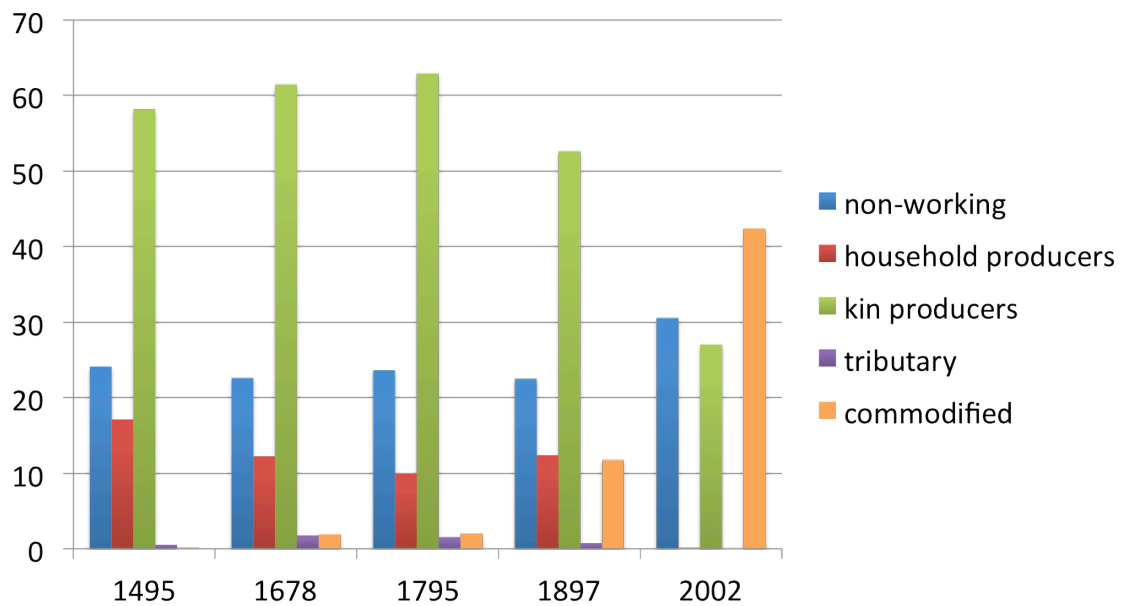
a) Labour relations and combinations of labour relations identified in the databases in percentages of the population:

LabRelation	1500	1650	1800	1900	2000
1	24.22	17.34	23.60	21.98	25.31
2		0.32	0.03	0.52	0.12
3		0.00			5.11
4	15.91	2.34	0.35	12.36	0.09
4+ smth else	0.84	10.54	5.41		
5	56.69	18.50	32.13	52.63	27.04
5+ smth else	1.75	48.04	34.93		
6		0.01			
6+ smth else		0.00			
8	0.41	0.32	1.54	0.73	
10	0.12	1.05			
10+smth else		0.00			
12	0.06	0.01			1.53
12+smth else		1.52			
13		0.00			0.64
13+smth else					
12 AND/OR 13 AND/OR smth else			0.41		
12 AND/OR 13 AND/OR 14				11.10	
14 AND/OR 18					40.16
18		0.01	0.01	0.68	
18+smth else			0.03		
12 AND/OR 13 AND/OR 14 AND/OR 18+ smth else			1.56		
TOTAL POPULATION	100.00	100.00	100.00	100.00	100.00

b) Labour relations and combinations of labour relations according to main categories of taxonomy in percentages of the population:

LabRelation	Category	1500	1650	1800	1900	2000
1 OR 2 OR 3	Non-working	24.1	22.6	23.6	22.5	30.5
4 OR 4+ smth else	Household producers	17.1	12.2	9.9	12.4	0.1
5 OR 6 AND 5 OR 6 + smth else	Kin producers	58.2	61.5	62.9	52.6	27.0
8 OR 10 AND 8 OR 10 + smth else	Tributary labour	0.5	1.7	1.5	0.7	0.0
12 OR 13 OR 14 OR 18 AND 12/13/14/18 + smth else	Commodified labour	0.0	2.0	2.0	11.8	42.3
Total population		100.0	100.0	100.0	100.0	100.0

c) Percentages of total population by main categories taxonomy:



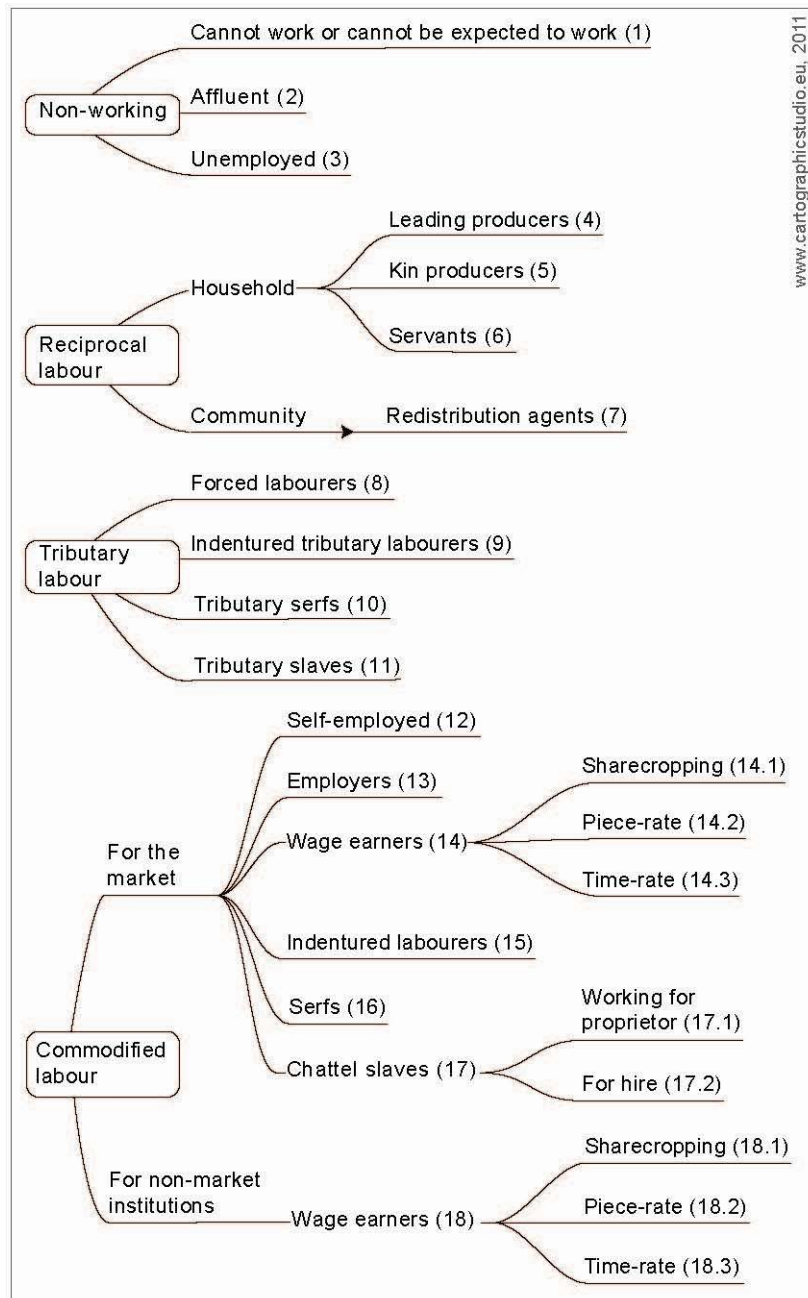
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Appendix I - Taxonomy of Labour Relations

The taxonomy of labour relations, showing types of labour relations (labrels) 1 to 18 in brackets



Definitions of Labour Relations

As a starting point for each geographical unit and cross-section, we take the whole population, and determine which part is as a rule not working, and, consequently, what part is working (these calculations are often based on estimates, rather than on direct data). The non-working population is divided into three categories:

- Those **who cannot work or cannot be expected to work** (because they are either too young, too old, disabled or studying).
- Those who do not have to work (because they are **affluent**).
- Those who wish to work but have no job (**unemployed**).

A central focus of the Collaboratory is the possible impact of the market economy. To help analyze that influence, the working population is also divided into three categories:

- Workers who provide labour within the household and the community are subsumed within the category **reciprocal labour**.
- Others are obliged to work for the polity (often the state, though it could also be a feudal or religious authority). Their labour is not commodified, and is owned by the polity. Those workers are included in the category **tributary labour**.
- One of the main trends we examine is the commodification of labour. The employer who 'buys' labour power may produce for the market, or for non-market institutions. Therefore, the category **commodified labour** is subdivided into those working for the market, and those working for public institutions *which may nevertheless produce for the market* (though not for the gain of private individuals). In some statistical sources, those comprising the category of commodified labour are referred to as 'gainful workers'.

Combining all these categories, we arrive at the following taxonomy of labour relations (labrels):

Non-working:

1. *Cannot work or cannot be expected to work*: those who cannot work, because they are too young (≤ 6 years), too old (≥ 75 years),⁴⁷ disabled, or are studying.
2. *Affluent*: those who are sufficiently prosperous, so that they do not need to work for a living (rentiers, etc.).
3. *Unemployed*: although 'unemployment' is very much a nineteenth-century (and, especially, twentieth-century) concept, we do distinguish between those in employment, and those wishing to work but who cannot find employment.

Working:

Reciprocal labour:

Within the household:

4. *Leading household producers*: heads of self-sufficient households (these include family-based and non-kin-based forms, such as monasteries and palaces). In many households after 1500, 'self-sufficiency' can no longer have been complete. Basic foodstuffs (e.g. salt), and materials for tools and weapons (e.g. iron), were acquired through barter or monetary transactions – even in tribal societies which were, by

⁴⁷ These minimum and maximum ages are very much culturally determined. If these differ greatly for a certain region or a certain cross-section, this difference is indicated in the database.

1500, only marginally exposed to market production.⁴⁸ 'Self-sufficiency' in our sense, which occurs in labour relations 4, 5, and 6, can include small-scale market transactions that aim at sustaining households, rather than accumulating capital by way of profiting from exchange-value.⁴⁹

5. *Household kin producers*: subordinate kin (men, women, and children) contributing to the maintenance of self-sufficient households.
6. *Household servants*: subordinate kin (men, women, and children) contributing to the maintenance of self-sufficient households. This category does not refer to household servants who earn a salary, and who are free to leave their employer of their own volition, but instead to servants in feudal autarchic households.

Within the community:

7. *Community-based redistribution agents*: persons who perform tasks for the local community, in exchange for communally provided remuneration in kind – such as food, accommodation, and services, or a plot of land and seed to grow food on their own. Examples of this type of labour include work under the Indian *jajmani* system, hunting and defence by Taiwanese aborigines, or communal work in nomadic and sedentary tribes in the Middle East and North Africa. In the case of the *jajmani* workers, hereditary structures form the basis of the engagement, while in Taiwan the criteria for fulfilling community-based labour are gender (male) and age (between the ages of six and forty).

Tributary labour:

8. *Forced labourers*: those who have to work for the polity, and are remunerated mainly in kind. They include corvée labourers, conscripted soldiers and sailors, and convicts.
9. *Indentured tributary labourers*: those contracted to work as unfree labourers for the polity, for a specific period of time, to pay off a debt. For example, German regiments (the 'Hessians') in the service of the British Empire, who fought against the American colonists during the American Revolutionary War.
10. *Tributary serfs*: those working for the polity, because they are bound to the land owned by the polity, and compelled to perform specified tasks for a specified maximum number of days.
11. *Tributary slaves*: those who are owned by, and work for the polity indefinitely (deprived of the right to leave, to refuse to work, or to receive compensation for their labour). Forced labourers in concentration camps are an example.

Commodified labour:

For the market, private employment:

12. *Self-employed*: those who produce goods or services for market institutions, possibly in cooperation with other household members or no more than three wage labourers, apprentices, serfs, or slaves (for example, peasants, craftsmen, petty traders, transporters, as well as those in a profession). *Nota bene*: All members of a family working under a putting-out system are counted as self-employed producers.⁵⁰

⁴⁸ According to Amalendu Guha, "The Medieval Economy of Assam", in Tapan Raychaudhuri and Irfan Habib (eds), *The Cambridge Economic History of India* (Cambridge, 1982), vol. 1, p. 487, "village self-sufficiency in a total sense was a myth", even for the relatively remote sixteenth- and seventeenth-century Assam.

⁴⁹ Marcel van der Linden, "Global Labour History and 'the Modern World-System'", *International Review of Social History*, 46 (2001), pp. 423-459, p. 452, referring to G.A. Cohen, *Karl Marx's Theory of History: A Defence* (Oxford, 1978). See too Akira Hayami, Osamu Saitô, and Ronald P. Toby (eds.), *The Economic History of Japan, 1600-1990, Vol. 1: Emergence of Economic Society in Japan, 1600-1859* (Oxford, 2004), who argue in a similar sense for a broader concept of "self-sufficiency", which allows for market production as long as accumulation is not the basic goal of such transactions.

⁵⁰ As long as they are ≥ 6 and ≤ 75 .

13. *Employers*: those who produce goods or services for market institutions by employing more than three wage labourers, indentured labourers, serfs, or slaves.
14. *Market wage earners*: wage earners who produce commodities or services for the market, in exchange mainly for monetary remuneration.
 - 14.1. Sharecropping wage earners: remuneration is a fixed share of total output (including temporarily unemployed persons).
 - 14.2. Piece-rate wage earners: remuneration at piece rates (including temporarily unemployed persons).
 - 14.3. Time-rate wage earners: remuneration at time rates (including temporarily unemployed persons).
15. *Indentured labourers for the market*: those contracted to work as unfree labourers for an employer for a specific period of time, to pay off a debt. They include indentured labourers in the British Empire after the abolition of slavery.
16. *Serfs working for the market*: those bound to the land and compelled to perform specified tasks for a specified maximum number of days (for example, the serfs working on large grain-growing estates of the nobility east of the Elbe).
17. *Chattel slaves who produce for the market*: those owned by their employers (masters). They are deprived of the right to leave, the right to refuse to work, and/or the right to receive compensation for their labour.
 - 17.1 Sharecropping chattel slaves working for their proprietor (for example, plantation slaves working in the Caribbean).
 - 17.2 Slaves for hire (for example, agricultural or domestic labour in eighteenth-century Virginia).

For non-market institutions that may produce for the market:

18. *Wage earners employed by non-market institutions*, such as the state, state-owned companies, the Church, or production cooperatives, who produce or render services for a free or a regulated market.
 - 18.1 *Sharecropping wage earners*: remuneration is a fixed share of total output (including the temporarily unemployed).
 - 18.2 *Piece-rate wage earners*: receiving remuneration at piece rates, including temporarily unemployed (for example, hired artisans in Chinese imperial silk weaving enterprises during the Ming and Qing dynasties).
 - 18.3 *Time-rate wage earners*: remuneration at time rates, (for example, hired artisans on Chinese imperial construction projects during the Ming and Qing dynasties, and workers and employees in twentieth-century state enterprises).

Appendix II - Authors

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