

Closing the “Bergson Gap”: New Data on a
Problem in Soviet Statistics

R.W. Davies

University of Birmingham
R.W.Davies@bham.ac.uk

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CLOSING THE “BERGSON GAP”: NEW DATA ON A PROBLEM IN SOVIET STATISTICS¹

Over half-a-century ago, the distinguished demographer Frank Lorimer, in his classic study *The Population of the Soviet Union* (Geneva, 1946), compared the standard Soviet employment series with the equivalent figures in the 1939 population census. He observed that the census figures for employed persons were much larger than those in the standard employment series. The 1939 census data published at that time were exiguous, and Lorimer was unable to shed much light on the gap.

A year later, Abram Bergson, in an article in *The Review of Economics and Statistics*, “A Problem in Soviet Statistics” (vol. XXIX, No. 4, November 1947, pp. 234-42), drew attention to a second related gap: between the payroll (wage bill) for the persons listed in the employment series, and a substantially larger figure cited as the wage bill for the whole national economy. The two wage bills, which will be referred to here as the “narrow wage bill” and the “full wage bill”, were given in a report by Nikolai Voznesenskii, head of Gosplan (the State Planning Commission) to a conference of the Soviet Communist Party in February 1941:²

Table 1. Soviet employment and wage bill in 1940: Voznesenskii’s data

Employment (millions)	Average wage (rubles)	Narrow wage bill (billion rubles)	Full wage bill (billion rubles)
30.4	4069	123.7	161.0

The narrow wage bill was only 76.8 per cent of the full wage bill. Using other sources, and some ingenuity, Bergson showed that a similar gap existed earlier in the 1930s, at least as far back as 1934.

The standard employment series, known as the TsUNKhU series from the acronym for the state statistical agency, was collected monthly from both the regional statistical agencies and the People’s Commissariats (the equivalent of Ministries) and other government departments. It was regularly published as an annual average of the monthly figures. The series covered only persons in receipt of pay (wages - *zarabotnaia plata*, literally “payment for work”) from an enterprise, institution, person or group of persons. Employed persons were roughly divided into “manual workers” (*rabochie*), usually including apprentices and auxiliary personnel, and “white-collar workers” (*sluzhashchie*), including engineers, technicians, managerial staff, and foremen. The wage bill was reported together with the number of employed persons: it was equal to the average wage times the number of employed persons. What is referred to here as the “narrow wage bill” for the national economy as a whole is the total of all the wage bills for the enterprises and institutions covered by the TsUNKhU data. Both the employment series and the narrow wage bill excluded economically active persons who did not work “for hire”: collective farmers

¹ The author is grateful to Drs. A. Miniuk (Russian State Archive of the Economy - RGAE), A. Blum, S. Tsakunov, and S. G. Wheatcroft for valuable assistance in seeking out material in the Russian archives.

² *Pravda*, February 19, 1941. Voznesenskii stated that the planned wage bill for 1941, over 175 billion rubles, was 14 billion rubles larger than the wage bill in 1940.

receiving income from their work as members of collective farms (“labor-day incomes”), self-employed artisans (including those in producer cooperatives), individual traders, and others. These excluded categories were the majority of the economically-active population at this time.

The full wage bill, in 1940 30 per cent larger than the narrow wage bill, was also explicitly said by Voznesenskii to refer to “manual and white-collar workers”; like the narrow wage bill, it did not include the large number of persons working on their own account. The employment and wage-bill gaps clearly called for an explanation. Bergson pointed out that the unexpected announcement of the existence of this gap was important for our understanding of the Soviet economy. First, it meant that we did not know the size or the activities of a substantial section of the labor force. Secondly, insofar as the existence or meaning of the gap was not known to Soviet officials concerned with demand, supply, and prices on the retail market, their plans would be unsuccessful.

In his 1947 article Bergson drew attention to a variety of premiums and other payments which might have been omitted from the narrow wage bill, but concluded that this would explain the whole of the gap only if there was “a rather startling” degree of inefficiency in Soviet data collection (and it would not of course explain the “Lorimer gap”). He suggested therefore that the main reason for the gap was possibly that “TsUNKhU does not publish data on all the workers that actually are covered in the reports submitted to it”. Major omissions (on grounds of secrecy) might include the munitions industry and “payments charged to organizations employing political and other prisoners”.

II

Bergson’s discovery became known as the “Bergson gap”. Subsequent attempts by Western specialists to close the gap turned on a search for the missing millions of persons who were earning the missing wages. The search was made more difficult by the failure of the Soviet authorities to publish the 1939 population census figure for the number of manual and white-collar workers; Lorimer had deduced its size from a figure which included dependents as well as earners. In spite of this obstacle, Warren Eason, Solomon Schwarz and Peter Wiles all made illuminating contributions to the discussion.³ The general opinion was that munitions workers were not part of the gap, because they were included in the TsUNKhU current employment series. Major candidates for the gap were servicemen and prisoners of all kinds. Schwarz pointed out as early as 1951 that a Soviet statistical reference book published in 1944 indicated that the “complete wage bill (*polnyi fond zarabotnoi platy*)” included “military personnel and other categories which are not freely hired” (obviously the latter referred to prison and camp labor).⁴ Further progress was made after the publication of a few more figures from the 1939 census in 1960. In 1963, Janet

³ S. M. Schwarz, *Labor in the Soviet Union* (NY, 1951), pp. 250-56; P. J. D. Wiles, “Average Wages in USSR”, *Bulletin of the Oxford Institute of Statistics*, vol. 15 (1953), pp. 327-39; W. W. Eason, “Labor Force”, in *Economic Trends in the Soviet Union*, ed. A. Bergson and S. Kuznets (Cambridge, Mass., 1953), pp. 38-95.

⁴ *Slovar’-spravochnik po sotsial’no-ekonomicheskoi statistike* (Moscow, 1944), p. 213. This passage did not appear in the 1948 edition of the same book.

Chapman, in a study of real wages which formed part of Bergson's major project on Soviet national income, summed up the possible missing categories:

earnings of members of producer cooperatives, the pay of the armed forces (and possibly the police), wages paid to prison labor, wages and salaries of paid officials of the Communist Party, wages paid to workers hired by the collective farms, probably wage payments by the state to members of collective farms for work in the machine-tractor stations [owned by the state but manned by collective farmers - *RWD*], earnings of domestic servants (since the war only), wages paid to workers hired for less than five days for work in subsidiary operations of an enterprise, wage payments to students working for practical experience in connection with their courses of study, and probably various other types of wage payments.⁵

In the volume summarizing the results of his work on Soviet national income, Bergson estimated the two largest missing categories: "in the late 1930s the government employed some 3.5 million prison workers", while the armed forces numbered 1.75 million men in 1937 and 3.5 million in 1940.⁶ But firm evidence was not available to confirm these numbers, or even the missing categories as such.

III

With the opening of the Soviet archives, many of these problems can now be cleared up. In the early 1990s the results of the 1939 population census were published for the first time in some detail. The figure for the number of manual and white-collar workers on the census date, January 17, 1939, proved to be 38,439,733, including 25,339,296 manual workers and 13,100,437 white-collar workers.⁷ This may be compared with the long-available TsUNKhU employment figure for 1940, 30.4 million (see Table 1). The employment figure for 1940 was 79.2 per cent of the census figure for 1939, as compared with the 76.8:100 ratio of the narrow and full wage bills for 1940.

Archival files of Gosplan and TsUNKhU for the pre-war years, also declassified in the 1990s, reveal that both the employment : census gap and the wage-bill gap were a matter of concern for Soviet planners and statisticians as well as Western Sovietologists. Voznesenskii's laconic statement in February 1941 in effect summarized a careful and somewhat anxious discussion behind the scenes.

A few years before this discussion, during the Great Purge of 1937-38, most of the senior officials in Gosplan and TsUNKhU were arrested. Voznesenskii was appointed deputy head of Gosplan on November 23, 1937, and head of Gosplan on January 18, 1938, after its two previous heads had been arrested and executed. Sautin had been appointed head of TsUNKhU, which was subordinate to Gosplan, a few days earlier on January 7, 1938, after its three previous heads had been arrested and executed (Sautin was in turn

⁵ J. G. Chapman, *Real Wages in Soviet Russia since 1928* (Cambridge, Mass., 1963), p. 111.

⁶ A. Bergson, *The Real National Income of Soviet Russia since 1928* (Cambridge, Mass., 1961), pp. 96, 364-65.

⁷ *Vsesoiuznaia perepis' naseleniia 1939 goda: osnovnye itogi* (Moscow, 1992), p. 93.

removed on October 21, 1940, four months before Voznesenskii made his famous statement).⁸ Neither Voznesenskii nor Sautin had previously worked in these institutions, and they embarked on a vigorous effort to make sense of the statistical system they had inherited.

An important step towards this understanding was the special survey of manual and white-collar workers carried out on September 3, 1939, designed to check the monthly labor returns from the commissariats and the regional statistical agencies. A TsUNKhU instruction for this survey, prepared at the time⁹, stated that a substantial part of the labor force, while included in the employment data, was not to be recorded normally, but to be handled by a “special organizational plan”. This was obviously for reasons of secrecy. The special categories included the personnel of the People’s Commissariats of the Aircraft Industry, the Defense Industry (as distinct from the People’s Commissariat of Defense, the army commissariat), and Non-Ferrous Metallurgy (“non-ferrous metallurgy” includes gold and other precious metals, crucial for the Soviet balance of payments). Statements by regional statistical agencies preserved in the archives note that the regional agencies were not required to return figures for these industries, which were added in to the totals centrally.¹⁰ The numbers were substantial: in May 1940, for example, the defense industry and non-ferrous metal industry commissariats employed 2.14 out of the 29 million manual and white-collar workers recorded for that month¹¹. Other institutions, such as the Committee of Reserves, responsible for state stocks of food and materials, also came within the “special” category.

The TsUNKhU instruction explained that the September 1939 survey was to include People’s Commissariats and government departments, including local government, and the staff of “social organizations” (such as the trade unions) and cooperative organizations, including the members of producer cooperatives.¹² But certain organizations and activities were to be excluded, notably the People’s Commissariats for Defense (responsible for the army and air force), the Navy, and Internal Affairs (the People’s Commissariat for Internal Affairs, NKVD, was responsible for all prisons, labor camps and colonies, and special settlements of exiles).¹³ The survey was also to exclude labor hired by collective farms, domestic servants, shepherds, and the staff of the Communist Party and Young Communist League.

⁸ For these appointments see *Soviet Government Officials: A Handlist* (Birmingham, UK, 1989); Sautin continued in Soviet service in a variety of appointments and died in 1975.

⁹ RGAE, 1562/15/1073, 19, 19ob (n.d. ?1939).

¹⁰ Thus the Irkutsk office stated that its returns “did not cover the defense industry of the region, or the gold industry” (RGAE, 1562/336/1031, 30).

¹¹ RGAE, 4372/38/74, 57-58 (dated August 6, 1940).

¹² Members of producer cooperatives had not previously formed part of the TsUNKhU employment data, as members of producer cooperatives do not receive a wage but a share of the earnings of their cooperative. In the tables in the archival files they are sometimes included, and sometimes omitted. A similar confusion results from the exclusion of domestic servants from the employment data of the 1930s, including the 1939 survey -- pace Janet Chapman), and their inclusion in the following survey in September 1940 (one table for 1940 includes the number of domestic servants but excludes their wages! - see RGAE, 1562/15/1087, 1-5 [n.d. ?1941]).

¹³ Some “civilian” activities of the NKVD were included in the labor survey, for example the registry offices (ZAGS), archives, and NKVD printing presses, and rest homes.

Sautin and Voznesenskii were anxious to quantify the gap between the TsUNKhU employment figure and the population census figure for manual and white-collar workers. On August 6, 1940, Sautin sent a memorandum to Voznesenskii entitled “The Number of Manual and White-collar Workers according to the Data of the Population Census of 1939 and the Data of Current Records”.¹⁴ The document was marked “TOP SECRET”, and it was prepared in only two copies, one for Voznesenskii, and one for the files. The text was typed, but all the figures were entered by hand, indicating a special degree of secrecy (the typist must not see the figures...).

The memorandum stated that the population census figure for manual and white-collar workers was 38,037,000 (slightly lower than the final figure included in the census tables), while the September 1939 labor survey had yielded a figure of 29,525,000 (a discrepancy of 8,512,000). It explained that the September 1939 data covered only those “working for hire” at that time, while the population census included all those who were manual or white-collar workers by their “social group” whether they were working for hire on the day of the census or not. It singled out servicemen, amounting to 1,735,000 persons, and “staff of camps and other places of confinement, and prisoners”, amounting to 2,500,000, as major categories which should be excluded from the population census in order to make it compatible with the current employment data. It then gave a long list of further items which should be excluded (in thousands):

Those changing jobs during the census period	600
Workers engaged in small-scale building and repair for private persons	300
Other persons hired by private individuals and groups of citizens (e.g. chopping firewood; laundry, domestic workers, typists working at home, tutors, language teachers, pre-school child minders, and nurses working for private persons)	850
Tractor drivers of Machine-Tractor Stations (MTS)	808
Manual and white-collar workers hired by collective farms	231
Trade not covered by the employment survey	60
Police	320
Hunters	8
Seasonal workers not working in September 1939	100
Members of free professions [authors, etc.]	30
Staff of the Communist Party and Young Communist League	340
Cooperative artisans wrongly recorded as workers in the census	350

Including the armed services and the prisoners, this gave a grand total of 8,232,000. According to Sautin, this total must be reduced by 350,000, because the census did not include in the category “manual and white-collar workers” those collective farmers who were working seasonally in industry, building, timber hauling, etc.; they did appear in the

¹⁴ RGAE, 4372/92/283, 245-248.

TsUNKhU employment series. The amount to be deducted from the census figure to reach the September 1939 TsUNKhU figure was therefore 7,882,000 (8,232,000 - 350,000). This brought the total down to 30,155,000 (38,037,000 - 7,882,000) as compared with the September 1939 figure of 29,525,000.

Sautin concluded his memorandum by suggesting further categories which might account for the remaining gap, 630,000. The most important of these (a handwritten afterthought) was “Hired manual and white-collar workers of the People’s Commissariat of Defense and the People’s Commissariat of the Navy (including military construction” - this is likely to have been a substantial category.¹⁵

Several of the categories listed by Sautin require further explanation.

Servicemen. We know from the material attached to the population census that the figure returned by the armed services to the census takers was 2,107,022. Except for officers, who were all classified as “white-collar workers”, servicemen were allocated in the census to the social group to which they belonged before joining the services. The many soldiers who had been collective farmers or artisans in civilian life were therefore not included among the “manual and white-collar workers”.¹⁶ This could well account for the gap between Sautin’s 1,735,000 and the census 2,107,022.

Prisoners, etc. The NKVD returned a figure to the census takers of 3,743,000, including:

- 3,108,000 prisoners of various kinds, together with prison and camp staff ;
- 366,000 members of NKVD armies and of its central staff; and
- 269,000 civilians working in NKVD organizations and camps.

These figures included civilian police living in barracks, and non-working dependents of prisoners living in camps and labor settlements. When these were deducted from the total NKVD return, it may well have been compatible with Sautin’s rough figure of 2,500,000.¹⁷

¹⁵ Throughout this article, all the underlinings in passages quoted from the archives appeared in the original document.

¹⁶ For the figure returned by the armed services, see *Sotsial’nye issledovaniia*, no. 8, 1990, pp. 30-104; for the way in which these figures were registered, see RGAE, 4372/92/283, 245.

¹⁷ The way in which prisoners were included in the census tables was very complicated. The main tables of the census did not show employment in prisons, camps, colonies, and special settlements separately, but lumped them in with manual and white-collar workers and others. The Russian editors of the volume on the 1939 population census published from the archives explained how this was done:

For those in confinement [*zaklyuchennye*] and for special settlers [*trudposelentsy*] those occupations were noted down which they were engaged in at the moment of the census in the camp, colony, or labour settlement. For those in confinement who were under investigation the type of occupation at their last place of work before confinement was recorded. These special contingents were also distributed among branches of the economy in an analogous fashion.

(*Vsesoiuznaia perepis’ ... 1939* (1992), p. 250.)

The more detailed instruction in the archives stated “for prisoners in camps and colonies write, for example, ‘Construction of Kuibyshev hydro-station’, ‘Construction of Baikal-Amur railway’, ‘Kargopol timber cutting’, ‘Agriculture’, ‘Karaganda livestock state farm’, etc.”, and “for labour settlers show the name of the organisation in which the labour settler works;... for those engaged in industry show the name of the industrial enterprise”. Prisoners under sentence, however, were simply recorded

“Other persons hired by private individuals and groups of citizens”. This figure seems very large, but it should be borne in mind that it includes 535,000 domestic servants.¹⁸

Tractor drivers of collective farms were in an anomalous position. While they were paid by the MTS, they were members of collective farms. As they were in receipt of payment from a state organization, they should strictly have been included in the TsUNKhU current employment series, but TsUNKhU chose to omit them (perhaps because earlier in the 1930s, they were paid by the collective farm direct). But Sautin’s figure is too large. It refers to all tractor drivers in agriculture, and the substantial number of tractor drivers who worked in state farms as distinct from collective farms almost certainly appeared in the TsUNKhU employment series.¹⁹

Cooperative artisans recorded as workers. Sautin explained that “there is reason to suppose that some of the artisans in cooperatives, working for large enterprises of the producer cooperatives, stated in the census that they were workers.” This was partly a matter of prestige. The statistical office of the Azerbaijan republic reported to the bureau of the census that “in the census many artisans in cooperatives preferred to show themselves as manual and white-collar workers... Evidently the reason for such statements is psychological in character: it is more prestigious (*pochetno*) to be a manual or white-collar worker than to count as an artisan.”²⁰

Two general points should be noted about Sautin’s categories. First, it is obvious that all his figures were rough estimates: no special study had been carried out to check his findings. But he was well-informed; all his guesstimates seem to be the right order of magnitude. Secondly, we can make a clear distinction between those categories which were not included in the regular TsUNKhU monthly and annual data for reasons of secrecy, and those which were not included because of their ambiguous status in Soviet society, or because it was inherently difficult to collect the data. Servicemen, prisoners, police, and staff of the Communist Party and Young Communist League were excluded for reasons of secrecy.²¹ These four categories amounted to 4,895,000 out of the 8,232,000 in Sautin’s list, or 59 per cent.²² The remaining omissions (41 per cent) were the result of the kind of problem that exists in comparing current labor statistics and population census figures in any country.

as “prisoner”; and prisoners under investigation were recorded by their last place of work before their arrest. (RGAE, 1562/329/276, 9.)

¹⁸ For the number of domestic servants, see *Vsesoiuznaia perepis’... 1939* (1992), p. 147.

¹⁹ For the total number of tractor drivers in agriculture recorded in the census, see *Vsesoiuznaia perepis’... 1939* (1992), p. 107.

²⁰ RGAE, 1562/336/103, 33.

²¹ Great secrecy surrounded most aspects of Communist Party activity, including the decisions of its committees as well as the number of its officials.

²² Perhaps the category “temporarily seeking work” (i.e. unemployed) should also be placed in this secret category, as the Soviet authorities rarely referred to frictional unemployment in publications.

Sautin's categories, both secret and non-secret, correspond in large measure to the ingenious guesses of Bergson and other Soviet specialists based largely on indirect evidence. They made some errors. As we have seen, Bergson was mistaken in his suggestion that the current TsUNKhU employment data did not include munitions workers: several million persons whose work was classified as secret were included in the TsUNKhU data. Chapman was wrong to assume that domestic servants were included in the TsUNKhU current data before the war, and the position of members of producer cooperatives was more anomalous than she supposed (see below). But the conclusion was entirely correct that the manual and white-collar workers who appeared in the census data and not in the TsUNKhU current data were a mixture of secret and non-secret personnel. The categories covered by Chapman's list included prisoners, servicemen, party and Young Communist League officials, workers hired by collective farms, and collective farmers working in MTS. These five categories amounted to 5,614,000/8,232,000, or 68 per cent of the total gap.

Sautin, in a second memorandum also written on August 6, 1940, turned *inter alia* to the related question of the wage-bill gap.²³ He noted that from the first quarter of 1940 TsUNKhU was recording, in addition to the wage bill for the manual and white-collar workers in its current employment data, "the full wage bill (*polnyi fond zarabotnoi platy*) for the whole national economy", including the military commissariats, the NKVD, and party and Young Communist League officials. TsUNKhU had not yet received data from these organizations, but it had used data on the earnings of the personnel of these organizations from the State Bank, the savings banks and elsewhere. From this Sautin was able to conclude:

According to preliminary data...the wage bill for the categories covered by TsUNKhU amounted in the first six months of 1940 to 60.2 billion rubles, and the full wage bill to 73.1 billion rubles.

Thus according to Sautin's estimate, the ratio between the two wage bills was 82.4 : 100, as compared with 76.8 : 100 in the figures for 1940 given by Voznesenskii six months later. Evidently the Sautin estimate for the full wage bill did not include some of the missing non-secret categories.

Following Sautin's memoranda, further strenuous efforts were made to explain the employment and wage-bill gaps. A handwritten note on Sautin's first memorandum, apparently written by him, dated August 29, 1940, reads "Show this to comrades Zelenovskii and Yampolskii in connection with the instructions from Gosplan dated 28.viii.40 to check the reasons for the gap." It is evidently in consequence of these instructions that the Gosplan archive contains a group of undated tables, evidently prepared early in 1941 at the time of Voznesenskii's report, which present the employment and wage-bill data for 1940. A selection of the alternative estimates in these Gosplan tables is given in Table 2. As will be seen, these figures are all close to those given in Voznesenskii's report.

²³ RGAE, 4372/38/74, 53-60; this memorandum was entitled "On Recording the Number of Manual and White-Collar Workers in the National Economy". It was also addressed to Voznesenskii; the number of copies is not stated, but it is likely to have been small, as the memorandum was typed not mimeographed. Further aspects of this memorandum are discussed below.

Table 2. Soviet employment and wage bills in 1940 (Actual) and 1941 (plan): archival estimates

		1940 (Actual)		1941 (plan)
	TsUNKhU current employment series (millions)	Wage bill for TsUNKhU series (billion rubles)	Full wage bill (billion rubles)	Full wage bill (billion rubles)
Voznesenskii (published figures)	30.4	123.7	161.0	175.0
Archive series A (excludes West Ukraine and West Belorussia)	30.4	123.7	--	--
Archive series B (excludes West Ukraine and West Belorussia)	30.1	126.5	156.0	---
Archive series B (includes West Ukraine and West Belorussia)	30.8	---	160.8	170.5

Sources:

Series A: RGAE, 4372/41/544, 76.

Series B: *Ibid.*, 43-44.

Note: The "full wage bill" in Series B in 1940 is said to include the earnings of members of producer cooperatives (which amounted to 6.6 billion rubles - see RGAE, 1562/15/1087, 5), but the current TsUNKhU figure apparently does not.

From 1940 onwards, the full as well as the narrow wage bill was regularly estimated by TsUNKhU (and its successor TsSU). As the full wage bill included the armed services and forced labor, it was rarely published and never explained. A post-war document set out a series for the full wage bill in pre-war years. In Table 3 these estimates are compared with those made by Bergson. Bergson used data on money incomes of the population and retail trade to reach his estimates by a circuitous route, but they have proved to be remarkably accurate.

Table 3. The wage bill, 1937-40: Bergson's and archival estimates
(billion rubles)

	Narrow wage bill	Full wage bill: Bergson estimate	Full wage bill: archival data
1937	82.2	102.7	103
1938	96.4	116.3/122.8	123
1939			145
1940	123.7	161	162

Sources:

First two columns: see Bergson (1947), p. 236.

Last column: RGAE, 1562/41/66, 114 (no date).

In his 1947 paper, Bergson also drew attention to evidence that the monthly labor data returned to TsUNKhU for its employment series by government departments were not comprehensive (see his pp. 238-39) - for example that they did not include workers engaged in secondary lines of activity within the department. Bergson wondered whether these omissions might account for part of the gap between the narrow and full wage bill. The archival data show that this was not the case. TsUNKhU officials dealt with the inadequacy of the labor returns not by publishing incomplete statistics, but by adjusting the returns they received by including estimates for the omissions.

The story goes back a long way. In January 1934 a memorandum in the TsUNKhU archive notes a decree by the Council of People's Commissars dated February 21, 1933, which "requires all government departments to prepare a monthly record of the number of employees (*rabotniki*) and the wage bills for the complete coverage of the enterprises and establishments subordinate to them."²⁴ However, the returns actually received in 1933 covered only 19 billion rubles of the 34 billion rubles total wage bill (this of course refers to the narrow wage bill). The main omissions were made by local soviets for the organizations for which they were responsible, and by some of the People's Commissariats of the Soviet republics. The People's Commissariat for Education of the Russian republic, for example, "did not keep a record of its local establishments financed from the budget until October 1933". But the major People's Commissariats at the USSR level were also at fault. The memorandum listed figures for the four main industrial commissariats. The returns by the commissariats had included only 4,252,000 employees in the industries for which they were responsible, while estimates by TsUNKhU showed that the total was 5,334,000. The People's Commissariat for Heavy Industry, was particularly delinquent, omitting 22 per cent of its employees.

During the 1930s, TsUNKhU had carried out several special labor surveys in order to obtain more reliable data. In his second memorandum of August 6, 1940, Sautin compared the current monthly returns with the September 1939 survey (already discussed above). While the survey had shown a total of 29.5 million, the monthly returns for 1940 had produced figures rising from only 15 million in January to 25 million in May. TsUNKhU had reached the true monthly total by "additions based on the September survey, by using fuller data for the average month of the quarter [*sic*], and by applying the percentage change which related to those organizations which were covered". Sautin claimed that by the time he wrote his memorandum "the USSR People's Commissariats, with some exception, have organized a full record of the number of manual and white-collar workers." According to Sautin, the remaining under-reporting was [as in 1933] mainly due to the failure of republican and local organizations to make complete returns. He added:

In relation to the wage bill, the position is exactly the same.

He accordingly proposed (repeating the remedy of the January 1934 memorandum) that a further special labor survey should be arranged for September 1940, and expressed the

²⁴ RGAE, 1562/1/799, 5-7.

pious hope that “in future TsUNKhU shall ensure a 100% record of the number of personnel and the wage bills”.

The September 1940 survey, which covered the wage bill as well as the number of personnel, was duly carried out. A table in the archives, evidently prepared sometime after Voznesenskii’s report in February 1941, used the survey to produce annual average figures for 1940: 31.4 million manual and white-collar workers and a wage bill of 122.9 billion rubles. These were close to those in the report: the employment figure was 600,000 larger, the wage bill was 0.8 billion rubles smaller. But even these revised estimates, as an elaborate accompanying memorandum explained, “were based partly on directly reported data, and partly on estimates.”²⁵ As with labor and wage statistics in other countries, the Soviet figures contained a substantial element of intelligent guesswork.

In his 1947 paper, Bergson (p. 238) cited Soviet publications which had indicated that various premiums and advances, though part of the payments received by workers, were not recorded in the TsUNKhU monthly returns. The 1940 table based on the September 1940 survey includes a column for “additional payments, which do not form part of the basic activity, to employees of the reporting organization, and to persons who are not on the establishment list of the organization, from all financial sources.” The total is 5.76 billion rubles, in addition to the 122.9 billion annual wage bill. Bergson correctly assumed that the published narrow wage bills are not complete.

V

Following the September 1940 labor survey, TsUNKhU continued to seek out more precise data. In 1941, a few months before the German invasion, TsUNKhU’s bureau of the census, presumably with the agreement of Sautin’s successor Starovskii, asked the regional statistical authorities to explain the difference between the September 1940 labor survey and the data in the 1939 population census. Some of the local offices seemed bewildered to have been asked such an obvious question. The Irkutsk office even reproved its masters in Moscow:

In conclusion we consider it necessary to say that the purpose for which you insist on such an analysis is completely incomprehensible to us, when you know in advance that the population census is the only accurate material, which must be made the basis for any calculations.²⁶

The replies from the regions referred to all the major discrepancies which have been traced in the course of this article:

The main reason for the discrepancy is the different methodology of the records. In the census those who have employment include those who were temporarily not working on the date of the census (seasonal or in process of changing their place of

²⁵ RGAE, 1562/15/1087, 1-5. These figures exclude 2.2 million members of producer and invalid cooperatives, with earnings amounting to 6.59 billion rubles.

²⁶ RGAE, 1562/336/103, 30; these regional reports were written in the first few months of 1941.

work). Also included are the special contingents [i.e. labour camps, etc.], students at the FZU (factory apprenticeship schools) and passengers and train brigades of railway trains subject to the census. [North Ossetia] ²⁷

The [September 1940] survey does not include party officials, the Young Communist League, and some other organisations, and the staff of trade enterprises of public catering belonging to collective farms...

The results of the special September survey are considerably different from the census materials for industry and construction. This discrepancy is evidently a result of the fact that the special survey includes only the personnel engaged in basic production in the case of industry and construction, and all other employed persons are included in the appropriate branches of the economy. [Tadzhik SSR]²⁸

VI

To sum up, Bergson and his colleagues revealed a major gap in the Soviet employment and wage statistics, amounting to over 20 per cent of the total employed labor force and its wages. The archival data have shown that the search for the missing categories by Bergson and other Western specialists, using scattered statements in the Soviet specialized literature, produced quite accurate results. As Bergson and Chapman indicated, the gap included both "normal" data which the authorities had not succeeded in collecting, and data which they wished to keep particularly secret. The "normal" data included such categories as persons temporarily seeking work, and those working for private individuals as builders, domestic workers, etc. The secret categories included the armed forces, the labor camps, the police, and Communist Party and Young Communist officials. But, as this Note has shown, not all secret categories were excluded from the TsUNKhU monthly and annual employment statistics: in particular, these series included employees of the armaments and non-ferrous metals industries, which were registered on a special secret list.

R. W. DAVIES

Centre for Russian and East European Studies,
University of Birmingham,
Birmingham B15 2TT,
UK.
Email: R.W.Davies@bham.ac.uk

27. *Ibid.* 1, 1 ob, 2.

28. *Ibid.* 3-4. In Tadzhikistan the differences for industry and construction were very large:

	<u>1939 census</u>	<u>September 1940 survey</u>
Industry	41704	20874
Construction	16373	8890
Transport and Communications	11692	11780
Trade	24157	19346
Establishments	54759	48150
Total for these items	(148685)	(109040)