Soviet Deaths in the Great Patriotic War: A Note

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THE NUMBER OF SOVIET DEATHS in the Great Patriotic War was one of those crucial historical numbers that were grossly distorted in Soviet historical writing prior to glasnost'. In the Stalin period the official figure was 7 million, a figure stated by Stalin in March 1946. This extreme understatement was presumably intended both to hide the country's postwar weakness from potential new enemies and also to protect the image of Stalin's 'wise leadership'. Under Khrushchev the figure was raised to 20 million.² Gorbachev's campaign to fill in the blank spots of Soviet history led to the establishment in March 1989 of a committee attached to Goskomstat USSR, which included officials of Goskomstat itself, the Ministry of Defence, the archives, some research institutes and Moscow State University. This committee arrived at a new figure for Soviet war losses of 26.6 million, which was included in Gorbachev's speech on the 45th anniversary of the end of the war.³ The explanation by the leading demographers on this committee as to how they arrived at this figure was set out a few months later in a short article in Vestnik statistiki.⁴ Its authors explained that 26.6 was an approximate point estimate and that allowing for its approximate nature, it was more accurate to give a figure of 26-27 million war deaths.⁵ At the same time a committee of the General Staff was set up to recalculate the war losses of the Soviet armed forces. It arrived at a figure of 8.7 million military deaths. Whereas the Goskomstat figure was based on comparing the adjusted 1939 census data⁶ with the 1959 census data, the General Staff figure was based largely on military records. A selection of these has now been published in an interesting, important and controversial volume.⁷ The availability of the new data makes this a convenient time to survey the state of knowledge about Soviet war deaths.

26-27 million war dead

It is important to be clear as to what this figure is a figure of. It is basically an estimate of the excess deaths of the population of the USSR between 22 June 1941 (the beginning of the Soviet–German war) and 31 December 1945. These mainly comprise excess deaths of people already alive on the eve of the war, but also include excess deaths of children born during the war. It includes, however, people who were part of the Soviet population in June 1941 but had left the USSR by the end of 1945 (who are part of the Soviet population loss but are not part of the war dead) and excludes the decline in births during the war, the decline in the birth rate after the war

TABLE 1
Derivation of the 26–27 Million Figure (MILLIONS)

1. Population of the USSR on 22 June 1941	196.7
2. Population of USSR on 31 December 1945	170.5
3. Population of USSR on 31 December 1945 alive at	
beginning of war	159.5
4. Population decline 22 June 1941–31 December 1945 of those	
alive on 22 June 1941 (196.7 – 159.5)	37.2
5. Normal deaths June 1941–December 1945 of those	
alive at the beginning of war	11.9
6. Excess deaths of those alive in June 1941 $(4-5)$	25.3
7. Excess deaths of children born during war	1.3
8. Total population loss $(6+7)$	26.6

Notes: Row 1 is an estimate derived from the (corrected) 1939 census. Row 2 is an estimate based on the 1959 census and estimated deaths in the postwar period. Row 3 is based on row 2 and estimated births in 1941–45. Row 5 is based on the counterfactual assumption that the 1940 death rate had applied in 1941–45. Row 7 is the difference between estimated 22 June 1941–31 December 1945 deaths of children born in this period and estimated deaths of children born in this period if the 1940 mortality figures had applied.

Source: E. Andreev, L. Darsky & T. Khar'kova, 'Otsenka lyudskikh poter' v period velikoi otechestvennoi voiny', Vestnik statistiki, 10, 1990.

compared with before the war, and the increased deaths after 1945 resulting from the war (i.e. the death after 1945 of persons injured during the war). It is an estimate of excess deaths during the war, rather than of deaths directly caused by the war, and hence naturally also includes victims of Soviet repression. Similarly, it also includes Soviet citizens who died in German service fighting partisans or the Soviet armed forces, despite the fact that a well known Soviet specialist considered that such deaths 'hardly really belong (from a social point of view) to the losses of the Soviet people'.⁸ The meaning of the 26–27 million figure can best be seen by presenting a summary of the method by which it was calculated, and this is done in Table 1, all the data of which refer to the USSR within the 1946–91 frontiers.

It can be seen from Table 1 that the 26–27 million figure is an estimate of the sum of excess deaths in the period 22 June 1941 to 31 December 1945 (comparing actual deaths with the estimated deaths if the 1940 mortality rates had applied in 1941–45) plus net emigration. In principle, if net emigration was positive in this period, then the 26–27 million figure would exaggerate the war deaths. If it was negative (i.e. if there was net immigration) then it would understate it. Although there was some immigration (e.g. of Armenians and of white Russians from Manchuria) it is well known that there was net emigration. The effect of this on the 26–27 million figure, however, is uncertain. It is possible that the net emigration has been allowed for by reducing the 1941 population estimate to take account of those who subsequently emigrated. If this was so, then if the adjustment was approximately 100% then all the 26–27 million would consist of excess deaths. If the adjustment was greater than 100%, then the figure of 26–27 million would understate war deaths.

The excess deaths were predominantly males (about 20 million). On 31 December 1945 the number of women in the age groups 20–29 was about 50% greater than the number of men in the same age groups. This imbalance in the sex ratio continued to influence Soviet society for a long time.

How accurate is this figure of 26–27 million for the total war deaths? As far as its biggest component is concerned, the 25.3 million excess deaths of those alive at the beginning of the war, it is close to the estimate made by one of us in the 1960s. ¹⁰ This was a minimum of 24.5 million with a possible adjustment of a maximum of 2.9, making a range of 24.5–27.4. The close coincidence of the new official figure with this earlier independent estimate is reassuring. ¹¹ The main areas of doubt at present concern the estimate of the population annexed in 1939–40 (and remaining part of the USSR after 1945) and in 1944–45. If this is an underestimate, as seems quite possible, then the 26–27 million figure will also be an underestimate. It is likely, however, to be substantially less inaccurate as a measure of war deaths than as a measure of total war losses, since a higher than average proportion of the population of the newly annexed regions had emigrated by the end of 1945. ¹²

Population loss from certain newly annexed territories

In addition to the Soviet population loss as calculated above, there is an extra population loss by territories included in the USSR after 1945, which is not included in the above calculations. This consists of the population of certain newly annexed territories who were expelled from their home (or fled from it) on annexation. The main groups here seem to be Finns (424 000), Konigsberg Germans (1.157 million), and Japanese (296 000). These 1.877 million people are part of the population loss of the populations inhabiting the territories of the USSR in its post-war frontiers, but are normally excluded from 'Soviet war-time population losses'.

Hypothetical demographic loss

From a demographic point of view, the total population loss consisted of the excess deaths, plus net emigration, plus the decline in births, minus natural deaths among these hypothetical newly-born. A rough estimate of the decline in births can be derived as follows. The estimated births in 22 June 1941-31 December 1945 are 16.5 million.¹⁴ As far as the counterfactual birthrate is concerned, it is necessary to take account of the prewar birthrate, the age structure of the female population and in particular of the number of women in the most fertile cohorts, and of fertility trends (e.g. the effects of the law prohibiting abortions). Taking account of all these factors suggests a reasonable estimate of the hypothetical births had there been no war as 3.4 million in the second half of 1941, 6.7 million in 1942, 6.4 million in 1943, 6.0 million in 1944 and 5.5 million in 1945. This is a total of 28 million. Actual births were approximately 16.5 million. This means that approximately 11.5 million children were not born as a result of the war. This figure is very sensitive to the counterfactual birthrates used. If no allowance is made for the age structure of the female population and for fertility trends, it would be about 5.5 million higher. Hence had there been no war, the population of the USSR at 31 December 1945 would have been greater by the sum of the losses (26–27 million) and the unborn as a result of the fall in the birth rate (11.5 million) minus natural deaths which would have occurred among these 11.5 million hypothetical children (about 2.4 million) making a total hypothetical demographic loss at 31 December 1945 of 35–36 million (or about 40 million if no

 $TABLE\ 2$ Military a losses in the Great Patriotic War b (Millions)

1. Killed in action and died of injuries	
before reaching a hospital	5.227
2. Died from injuries in hospitals	1.103
3. Died from disease, accident or shot as	
punishment	0.556
(of whom	
died from diseases	0.267
died from accidents and shootings	0.289)
4. Missing and imprisoned (according to	
military reports and the data of the	
repatriation organs)	3.396
5. Unaccounted for losses in the first	
months of war	1.163
6. Total losses $(1+2+3+4+5)$	11.444 ^c
Less	
7. Previously surrounded and missing soldiers	
subsequently called up on liberated	
territory	0.940
8. Returned prisoners of war	1.836
9. Total (7 + 8)	2.776
7. Net loss (6–9)	8.668
of whom	
not returned from imprisonment (died,	
killed, emigrated)	1.783
armed forces	8.509
frontier troops	0.061
internal troops	0.098

Source: Grif sekretnosti snyat (Moscow, 1993), pp. 130-131 and 136.

Notes: ^a Includes frontier troops and internal troops of the NKVD.

account is taken of the age structure of the female population and the declining fertility trend), most of whom are actual deaths but about a quarter of whom are children who would have been alive at the end of 1945 had there been no war but actually were never born because of the war. Since the total postwar population was below the prewar population, and the birthrate after the war was lower than before the war (although the contribution to this of the war is uncertain), the hypothetical demographic loss increases the later the date chosen to measure it. For example, on 31 December 1950 it was higher than on 31 December 1945.

8.7 million military losses

The meaning of this figure is explained in Table 2. The data in it are derived from mobilisation statistics and military records and on the whole are of good quality. It is important to note that this figure of 8.7 million only includes the regular armed forces and the frontier troops and internal troops of the NKVD. It does not include

b Includes also war against Japan in 1945.

^c The difference between the total and its components (here and elsewhere) is a rounding error.

non-conscripted fighters (partisans, resistance fighters and the underground in territories occupied by the Germans). Nor does it include railwaymen fighting in their own militarised detachments, local anti-aircraft defence, the militarised fire service, police in frontier areas who fought against the invaders etc. Nor does it include deaths among the 500 000 conscripts called up at the beginning of the war but captured by the Germans before reaching their unit.¹⁷ It is an estimate of 'deaths of conscripts who reached their units' and not of 'deaths of all conscripts and fighters'.

How accurate is this 8.7 million figure? The book which analyses military losses and which is the basis for the figure itself draws attention to the limitations of the underlying data on which it is based.¹⁸ Checking it requires studying the archival material which it used and also the estimating methods it used in the absence of firm archival figures. In the absence of such work, it is reassuring to note that the new figures, based on military records, are quite close to the estimates based on the method of demographic estimation, and published by one of us long ago. 19 On the other hand, there are some factors which make the 8.7 million figure too high as an estimate of deaths due to the war. First, it is necessary to take account of natural deaths of serving members of the armed forces. With total armed forces of 11-12 million, using the age specific death tables derived from the 1926 and 1939 censuses, for males of 18-40, one would expect about 70 000 deaths a year (0.7 per thousand), or for four years about 300 000. Second, the number of war-related deaths in captivity is exaggerated. Also here it is necessary to deduct natural deaths (about 100 000), Soviet prisoners of war who stayed in the West after the war (about 200 000—in particular Balts and Ukrainians) and those released by the Germans or escaped and not reinstated in the Soviet armed forces (e.g. because of age, injury or hiding from mobilisation agencies) who may be estimated at about 300 000. These corrections have the effect of reducing the military dead caused by the war to about 7.8 million. Of these 7.8 million, it would seem that 5.5 million died at the front, 1.1 million died from injury in hospitals, and 1.2 million died in German captivity.²⁰

The total number of medical losses according to military records was 18.3 million. Of these 15.2 million were injured, 3.0 million ill and 0.1 million frost-bitten. The total number of medical losses according to military-medical statistics was 22.3 million, the discrepancy being mainly accounted for by the much greater (7.6 million) number of ill recorded by the military-medical statistics. The discrepancy may be explained by the latter including also those who fell ill in military units not engaged in fighting, in militarised formations not part of the armed forces, and in partisan and resistance units.

It would be a mistake simply to add to the figure of 7.8 (or 8.7) military losses the figure of 18.3 medical losses and arrive at a figure of 26 or 27 million military killed and injured. This ignores the possibility of double counting. The same person can be injured first and subsequently be killed. Although he will be in the statistics for killed and injured twice, he is only one person. Because of this, it appears to be impossible to make any estimate of the total number of killed and injured persons (as opposed to cases). It is, however, possible to make estimates using the conventions of military statistics in other countries and hence comparable with those of other countries.

TABLE 3 CIVILIAN LOSSES IN THE WAR (MILLIONS)

Exterminated (shot, gassed, burnt, tortured) Famine and infectious diseases spread by the Germans	6.4 or 11.3 ^a 8.5 or 6.5 ^b
Deaths among civilians deported to Germany for forced	
labour, while outside the USSR or shortly after	
returning to it	2.8 or 3.0
Soviet citizens who did not return to USSR after	
the war	0.5
Total	18.2° or 20.8

Source: A. A. Shevyakov, 'Gitlerovskii genotsid na territoriyakh SSSR', Sotsiologicheskie issledovaniya, 12, 1991; A. A. Shevyakov, 'Zhertvy sredi mirnogo naseleniya v gody otechestvennoi voiny', Sotsiologicheskie issledovaniya,

Notes: a In his first article Shevyakov gives the first figure, in the second article the second. There is no explanation of the difference. It mainly results from different figures for the RSFSR.

- ^b In the first article the first figure is given, in the second the second. The figures in this row are a combination of an archival figure of 5.5 million for some of the territories concerned, together with an estimate for the territories not included. In the first article this estimate is 'not less than 3 million'. In the second it is 'not less than 1-1.5 million'. There is no explanation of the difference.
- ^c Shevyakov (first article, pp. 10–11) makes this total 18.8, but it is difficult to see where his additional half million comes from.

Non-military deaths

The enormous non-military deaths of approximately 19 million (26.6 - 7.8 = 18.8)are so large and so various (deaths in the siege of Leningrad; deaths in German prisons and concentration camps; deaths from mass shootings of civilians; deaths of labourers in German industry; deaths from famine and disease; deaths in Soviet camps; etc) that it is desirable to try and break them down. It should be noted that not all these deaths are truly 'civilian'. This enormous figure includes the deaths of both Soviet non-conscript partisans and of Soviet citizens not conscripted into the Soviet armed forces who died in German or German-controlled military units fighting the USSR.

In the glasnost' period, a committee of the USSR Academy of Sciences was established to determine the magnitude of Soviet war losses. It was headed by corresponding member of the Academy Yu. A. Polyakov. It relied heavily on the unpublished data of the Extraordinary State Commission which had estimated war deaths shortly after the end of the war. According to one of its members, A. A. Shevyakov, the loss of civilian population as a result of German actions (including emigrants to the West) was about 20 million. The composition of this figure is shown in Table 3.

The figures in Table 3 imply a very convenient result, namely that there were no excess deaths during the war in Soviet-held territory and that all the excess deaths among the civilian population were caused by the Germans. These figures cannot be taken seriously, for the following reasons. First, the discrepancies between the data cited in the two articles (see notes). Secondly, the fact that when combined with the estimated military dead (even using the corrected 7.8 million figure) the figure of 20 million civilian dead in German-occupied territories exceeds the estimate for total war losses (26–27 million) and makes no allowance at all for excess deaths on Soviet-held territories or deaths among Soviet citizens fighting in anti-Soviet military formations. Thirdly, the source used. The postwar Extraordinary State Commission was set up only shortly after another Soviet commission had 'proved' that the Katyn massacre had been carried out by the Germans. It is likely that the Extraordinary State Commission used a similar methodology. Hence, neither its data nor its conclusions are likely to have been models of statistical accuracy. Accordingly, the breakdown of Soviet civilian casualties must be regarded as an open question at present.²¹

Conclusions

- (1) The majority of Soviet war deaths were non-military. Most of the Soviet citizens who died in the war were civilians.
- (2) The official figure from 1990 onwards of the population loss of the USSR as a result of the war was 26–27 millions. This figure consists almost entirely of excess deaths. It also includes, however, to an uncertain extent, net emigration. It is an estimate of 'population loss during the war' and includes both victims of Soviet repression and Soviet citizens who died fighting on the German side. The figure of 26–27 million fits in well with current knowledge and seems relatively reliable. The main area of doubt concerns the possible underestimate of the population of the territories annexed in 1939–40 (and remaining in the USSR after 1945) and in 1944–45. This may well have produced an underestimate of the total population loss, but the underestimate of the number of war deaths would be less of an underestimate because of the substantial emigration from the newly annexed territories.
- (3) The 26–27 million figure is not a complete estimate of the population loss by the territories which formed the USSR after 1945, since it excludes the population loss of almost 2 million Germans, Finns and Japanese expelled from (or who fled from) territories occupied by the USSR.
- (4) The 26–27 million figure understates the demographic effect of the war since it excludes the results of the fall in the birth rate during the war. Allowing for this, the hypothetical demographic loss of the USSR resulting from the war at the end of 1945 (i.e. the difference between the actual population on 31 December 1945 and an estimate of what it would have been then in the absence of the war) is roughly 35–36 million. The precise figure depends on the counterfactual assumption made about the birthrate in the absence of the war (if the prewar crude birth rate is used it would be about 40 million) and the estimate used for wartime births. The total demographic effect at later dates is still higher.
- (5) The current official figure for military losses is 8.7 million. There are reasons for thinking that, as an estimate of deaths caused by the war of those serving in the regular armed forces (including the border troops and internal troops of the NKVD) it is about 900 000 too high. On the other hand, it excludes deaths among conscripts captured before they reached their unit and deaths of non-conscripted fighters not in the regular armed forces, such as partisans, local anti-aircraft

- defences, police in frontier areas, militarised transport employees, militarised fire service employees etc.
- (6) The main unresolved issues at present in this area concern the breakdown of non-military casualties, although some preliminary work has already been done on this.

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- ¹ Pravda, 14 March 1946. Reprinted in I. V. Stalin, Sochineniya, vol 3 [XVI], p. 38, ed. R. H. McNeal (Stanford, CA, 1967).

² See for example Khrushchev's letter of 5 November 1961 to the Swedish Prime Minister T. Erlander (*Mezhdunarodnaya zhizn*', 12, 1961, p. 8).

- ³ See *Pravda*, 9 May 1990, which reports Gorbachev as referring to 'almost 27 million'. That the old official figure of 20 million was clearly too low had been pointed out more than two years earlier by the well known Soviet historian Academician A. M. Samsonov. See the interview with him in *Knizhnoe obozrenie*, 8, 1988, 19 February. Samsonov had been requested to throw some light on this matter in an open letter by Roy Medvedev dated 4 October 1987 and published in *Russkaya mysl'*, 11 March 1988.
- ⁴ E. Andreev, L. Darsky & T. Khar'kova, 'Otsenka lyudskikh poter' v period velikoi otechestvennoi voiny', *Vestnik statistiki*, 10, 1990. See also *Istoriya statistiki*, vyp 3–5 (chast' I), *Istoriya naseleniya SSSR 1920–1959 gg* (Moscow, Goskomstat, mimeo, 1990), pp. 112–122; and E. Andreev, L. Darsky & T. Khar'kova, *Naselenie Sovetskogo Soyuza 1922–1991* (Moscow, 1993), chapter 8. Virtually the whole of *Istoriya statistiki*, vypusk 3–5 (chast' I), *Istoriya naseleniya SSSR 1920–1959 gg*. has been translated into French as L'histoire de la population de l'URSS, 1920–1959, *Annales de démographie historique 1992* (Paris, EHESS, 1992).
- ⁵ In J. Barber & M. Harrison, *The Soviet Home Front 1941–1945* (Longman, London & New York 1991), pp. 40–42, a figure of 27–28 million is given. Despite the impression given, this figure was not the authoritative Soviet estimate in 1990.
- ⁶ The adjustments were made with the help of the 1937 census data (which remained suppressed for half a century), adjusted birth and death figures for 1937 and 1938 from the population registration data, and archival data concerning the 1939 census. The Goskomstat estimate of the population of the USSR at the time of the 1939 census is almost 2 million below the 'result' of the 1939 census which was official from 1956. The organisers of the census had to bring the officially reported result of the census into line with the authoritative figure of 170 million which Stalin announced on 10 March 1939 in his speech to the XVIII congress before the census authorities had completed their calculations and reported on the outcome to Stalin and Molotov.
- ⁷ G. F. Krivosheev, (ed.), Grif sekretnosti snyat.Poteri vooruzhennykh sil SSSR v voinakh, boevykh deistviyakh i voennykh konfliktakh. Statisticheskoe issledovanie (Moscow, Voennizdat, 1993). For a critical review see Svobodnaya mysl', 3, 1993. For a review by one of us see, S. Maksudov, 'O frontovykh poteryakh sovetskoi armii v gody vtoroi mirovoi voiny', Svobodnaya mysl', 10, 1993.

⁸ A. Ya. Kvasha, 'O metodike opredeleniya lyudskikh poter' v velikoi otechestvennoi voine', *Sotsiologicheskie issledovaniya*, 1, 1989, p. 63.

Between the end of World War II and the publication of the 1959 census, the official figure for the population of the territories annexed in 1939–40 was 23 million. Since then it has been 20 million. One of us has suggested that the difference is an estimate of subsequent emigration. See Maksudov (following note), English version, p. 238, Russian version p. 192. On the other hand, there is no support for this suggestion in *Istoriya statistiki*, vyp 3–5 (chast' I), *Istoriya naseleniya SSSR* 1920–1959 gg (M. Goskomstat, mimeo, 1990), pp. 72–77. The latter does, however, explain the conventional and not entirely reliable nature of the 20.1 million estimate. In the subsequent book by the same authors, *Naselenie Sovetskogo Soyuza 1922–1991*, one chapter (chapter 4) is devoted to the question of the population of the newly annexed areas. A variety of estimates are quoted, and a figure of 20.3 adopted as a working hypothesis.

It seems to us likely that there is a net emigration balance of about 2.7 million which may be reflected in the statistics by an artificial reduction in the estimated population of the newly annexed

territories. The figure of 2.7 million comprises 2.3 million people transferred to Poland, 0.4 million Germans from the Baltic states transferred to the Third Reich, 0.5 million emigrants from the USSR including the Baltic states to the West, and 0.3 million Jews emigrating to Israel via Poland, less 0.1 million Russian immigrants from Europe and Manchuria, 0.1 million Armenian immigrants and 0.6 million Ukrainian and Belorussian immigrants from Poland.

¹⁰ S. Maksudov, 'Pertes subies par la population de l'URSS, 1918–1958', *Cahiers du Monde russe et soviétique*, XVIII, 3, July–September 1977; English translation, S. Maksudov, 'Losses suffered by the population of the USSR 1918–1958', in R. Medvedev (ed.), *The Samizdat Register II* (London, Merlin Press, 1981); Russian version, 'Poteri naseleniya SSSR v 1918–1953 gg', in S. Maksudov, *Poteri naseleniya SSSR* (Chalidze, Benson, Vermont, USA, 1989). Although first published in 1977 in France, these calculations were made in the mid-1960s in the USSR.

- ¹¹ In the late Soviet and recent Russian literature, higher figures are sometimes estimated. For example V. I. Kozlov, 'O lyudskikh poteryakh sovetskogo soyuza v velikoi otechestvennoi voine 1941-1945 godov', Istoriya SSSR, 2, 1989, estimated the population loss at 40 million. Kozlov himself pointed out the 'approximate' nature of his calculations. His method was to make an estimate of the total demographic loss and then subtract an estimate for unborn children. This is in principle a less reliable method than that outlined above. It amounts to subtracting one hypothetical figure—the difference between the number of children who would have been born had there been no war and the number of children actually born during the war-from another hypothetical figure-what the population would have been at the end of the war had there been no war. Since both these hypothetical figures can vary quite widely, depending on the demographic assumptions made, a point estimate for the final result has a wide margin of error. Moreover, he understated the population of the USSR at the end of 1945 by 3.5 million, at any rate compared with current official estimates. In addition, he also included the difference between actual population growth in 1940 and the whole of 1941 and hypothetical counterfactual population growth in 1940 and all 1941, in total war losses. Kozlov wrote before the new official figure of 26-27 million, and the explanation of how it was calculated, had been published. The current popularity of the 40 million figure in some publicistic circles is not a result of its statistical merits. V. S. Gel'fand, Naselenie SSSR za 50 let (1941–1990) (Perm, 1992), pp. 264–275, estimates the excess deaths in 1941–45 at 26.4 million, a very close agreement with the ADK estimate. Gel'fand's estimate of the hypothetical demographic loss is discussed in note 15.
- ¹² For a brief discussion of some of these migration flows see Maksudov, 'Poteri naseleniya ...', pp. 192–193. For example, in 1950 the Polish population included 2.1 million people from the territories annexed by the USSR.

See Maksudov, 'Poteri naseleniya ...', p. 192.

- ¹⁴ Istoriya statistiki, vyp 3–5 (chast' I), p. 117 suggests a range of 16.49–16.53. The same range is given in Naselenie Sovetskogo Soyuza 1922–1991, p. 76. Elsewhere, the same authors give a range of 15.7–16.4 million. See E. Andreev, L. Darsky & T. Khar'kova, 'Otsenka lyudskikh poter' ...', p. 27. The cause of the difference, whether it is substantive or simply a printing mistake, is not clear. In the text the estimate from the more detailed and later book (which coincides with that of the preliminary mimeo version) has been preferred to that in the earlier short article.
- The excess of 6–7 million over that in the text seems to be explained by two factors. First, Gel'fand's estimates of the total population at the beginning of 1941 and the beginning of 1946 differ from those of ADK. As a result, Gel'fand's estimate of the population decline in 1941–46 is 3.1 million greater than that of ADK. Since Gel'fand's estimates are based on official publications, and ADK's on official publications corrected by archival research (which, for example, revealed the falsification of the published 1939 census results) it would seem that ADK estimates on this point are to be preferred. Secondly, Gel'fand's estimate for births during the war is about 4 million less than that of ADK. This produces a correspondingly larger estimate of the decline in births and hence a correspondingly larger estimate of the hypothetical demographic loss. Since ADK devote almost two pages to a clear and relatively satisfactory explanation of how they arrived at their estimates (*Naselenie Sovetskogo Soyuza ...*, pp. 75–77), whereas Gel'fand provides no explanation and seems to rely on simple interpolation between unreliable population estimates for 1941 and 1946, the ADK estimate seems preferable.
- ¹⁶ The fact that the total demographic loss would be higher the later the date for which it was calculated, was pointed out by Kozlov, 'O lyudskikh poteryakh ...', p. 134.

¹⁷ Grif sekretnosti ..., p. 140.

- ¹⁸ Grif sekretnosti ..., pp. 4, 129, 327.
- ¹⁹ For the English version see S. Maksudov, 'Losses suffered by ...', pp. 268–269. According to this estimate, deaths in action were 5.5 million (which compares with the figure of 5.227 million

in Table 2 above), the number of those who died from wounds was 1 million (compared with 1.103 million in Table 2), and 'about a million' died in captivity, resulting in total military losses of 7.5 million. For a detailed comparison of the two estimates see 'O frontovykh ...', p. 118.

²⁰ 'O frontovykh ...', p. 119.

²¹ According to preliminary calculations made by one of us ('O frontovykh ...', p. 119), deaths from the German occupation (killing of Jews, deaths in the siege of Leningrad, deaths of civilians resulting from the fighting, excess deaths in the occupied territories resulting from the deterioration in living conditions) were about 7 million. Of these, about 1 million were in the siege of Leningrad, and 3 million were Jews. Of the latter, about 2 million were Jews from the newly annexed territories, and 1 million Jews from old Soviet territory. Excess deaths from the deterioration in living conditions in the non-occupied territories seem also to have been about 7 million. Soviet repression (deaths in camps and among the deported nations) probably claimed about another 3 million. In addition there was a population loss of about 2 million as a result of emigration, mainly to Poland. These are rough preliminary estimates on a topic which still awaits serious research.