

Debate

Arguing from Errors: On Certain Issues in Robert Davies' and Stephen Wheatcroft's Analysis of the 1932 Soviet Grain Harvest and the Great Soviet Famine of 1931–1933

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IN THEIR RECENT BOOK, *THE YEARS OF HUNGER: SOVIET AGRICULTURE, 1931–1933* (2004), a detailed study of the Soviet famine of those years, Robert Davies and Stephen Wheatcroft criticise my publications on the Soviet grain harvests of 1932–33 and the causes of the famine. In an appendix to their book and in a table located online, they attempt to discredit the evidence, methodology and conclusions from my article 'The 1932 Harvest and the Famine of 1933' (Tauger 1991) and certain other publications, showing that the 1932 harvest was much smaller than the official data showed.

The data at issue are from *kolkhoz* annual reports for 1932 and 1933, located in a group of archival files in the Russian State Economic Archive (RGAE) (Tauger 1991, p. 77 and following pages). In 1932 these reports came from more than 77,000 collective farms, 40% of the total at the time, with more than 6.7 million peasant households, approximately 33 million people. In 1933 the reports came from more than 154,000 farms, more than 60% of the total at the time, with more than 60 million people, a majority of the rural population (Tauger 1991, p. 78 and 2001a, p. 54).

These reports contain the final results of the work of these collective farms, in particular measured final harvest data. These data thus represent actual agricultural production and not pre-harvest estimates or other speculative figures. Because we know the coverage and character of these reports, it is clear that their data are uniquely valuable: no other category of sources for agricultural production in this period can legitimately be described as measured final harvest results or can claim their coverage. All other estimates of the 1932 harvest, including both Soviet official published data and later estimates by Western scholars, are projections made before the harvest or speculative adjustments of those numbers (Tauger 1991, p. 70 and following pages, and 2001a, p. 39 and following pages).

We cannot be sure that all of these *kolkhozy* measured their harvests with total accuracy, but the large gap between the official yield data and the much lower annual report yields for virtually all regions of the USSR, along with the severity of the famine in 1932–1933 and certain other considerations I discuss in Tauger (1991), make it difficult to avoid the conclusion that the annual report data are much closer to the actual harvest in 1932 than any other data. In my 1991 article I presented these data and showed, using comparisons with official figures, a weighted average yield calculation, and other calculations, that proved that the 1932 harvest was much smaller than the official published estimate of that year, and also smaller than the harvest of 1933. This conclusion seriously undermined previous claims, for example by Robert Conquest and the late James Mace, that the famine was ‘man-made’ because the harvest was not exceptionally small and therefore did not create a shortage that would have caused the famine.

Two other considerations lend importance to the annual report data. First, since the Soviet government used their high pre-harvest estimates to justify grain procurement quotas from the farms, the much smaller annual report data must be seen in part as an attempt by the *kolkhozy*, and the millions of peasants in them, to communicate to the government how much worse conditions were in the villages than the official harvest figures implied. Peasants persisted in these attempts to persuade the government through the Stalin years, at times with success.¹ Second, Soviet statistical officials after Stalin’s death used annual report data to correct the notorious ‘biological yield’ pre-harvest projections from 1933 onward, but did not change earlier estimates because the agency usually considered responsible for those ‘biological yields’, the Central State Commission for Determining Harvest Yields, was established only in 1933. In fact, however, a similar agency performing the same types of pre-harvest projections had been established in 1932, so the annual report data should be employed to reduce the official estimates from 1932 as well (Tauger 2001a, p. 44 and following pages). Both of these considerations indicate that it would be a serious omission to discount, dismiss, or misrepresent these sources in analysing the famine.

In presenting these sources and the conclusion that the harvest was small, I cited several other scholars, including Davies and Wheatcroft, the Ukrainian scholars Vsevolod Holubnychy and Stanislav Kul’chyts’kyy, the German diplomat Otto Schiller, and others, all of whom asserted or speculated that the 1932 harvest, in Ukraine or the USSR as a whole, was as low, or nearly as low as I calculated from the annual reports (Tauger 1991, p. 74 and following pages). I learned of the estimate by Davies and Wheatcroft from Robert Davies himself in 1990 (Tauger 1991, p. 75).

Davies and Wheatcroft’s main disagreement with my work is contained in the appendix to *The Years of Hunger* in which they discuss different views of the 1932 harvest, and the supplementary website for *The Years of Hunger*, which contains a table they prepared ‘Re-weighting of regional results of *kolkhoz* grain yield in 1932 according to sowings of all *kolkhozy* by separate regions’.² I have excerpted the relevant section of

¹I discuss this in my article *Statistical Falsification in the Soviet Union* (Tauger 2001a, p. 58).

²Available at: www.soviet-archives-research.co.uk/hunger, accessed 19 May 2006.

their table in my Table 2. In their appendix, before citing their web table, they discuss the different estimates of the harvest. They identify what they consider one extreme view among scholars who accept the official Soviet estimate, and then state:

At the other extreme, Mark Tauger, on the basis of the unpublished *kolkhoz* reports for 1932, claimed that the harvest was only 50.06 million tons, and might have been even lower. Tauger's estimate is based on the mistaken assumption that the average *kolkhoz* yield for the USSR given in the reports, 5.4 *tsentners* [sic] per hectare, was representative.

This passage contains misleading assertions that ignore my arguments and sources. They refer to me as 'at the other extreme', yet I showed that several other scholars asserted that the harvest was as low as I calculated (Tauger 1991, p. 84). Their use of the word 'claim' in regard to my harvest estimate implies that it was not supported by evidence, yet I documented that it was supported by data from 77,000 collective farms that included more than 30 million peasants, which far exceeds the source base of any data on the 1932 harvest in *The Years of Hunger*.

Davies and Wheatcroft then assert that the yield estimate I used was not representative, citing two articles on harvests in the 1930s by the Soviet scholars Ilya Zelenin and Mikhail Vyltsan, who mentioned that the annual reports from before 1933 'were likely to be unrepresentative' (Davies & Wheatcroft 2004, p. 445, fn. 7).³ These articles, which I also cited, refer peripherally to annual reports, but I also discussed at length a substantial article specifically on the reports by V. I. Zvavich, a Soviet specialist who focused much of his research on these sources. Zvavich explains that despite certain inadequacies the annual reports were representative and basically reliable (Tauger 1991, pp. 77–79; Zvavich 1979, pp. 316–351). Davies and Wheatcroft do not mention this study and my discussion of it, which again has the effect of discrediting my evidence by omitting my sources and arguments.

Davies and Wheatcroft then criticise my calculations because 'regions with low yields tend to be over-represented in the reports, and regions with high yields to be under-represented'. They support this with a table showing that only about one fourth of the *kolkhozy* in Moscow and Gor'kii regions, which had higher yields, had completed annual reports for 1932, while much larger proportions of *kolkhozy* in Ukraine and the North Caucasus completed reports but had much smaller harvests. Then they write: 'When the regions are re-weighted in terms of total sown area, the average *kolkhoz* yield for the USSR rises to 6.2 *tsentners* [sic] per hectare instead of 5.4'. Their footnote refers to a table located at the website noted above (www.soviet-archives-research.co.uk/hunger).⁴

In this table Davies and Wheatcroft attempt to invalidate the approximate 5.4 centner figure by multiplying regional yields by regional sown areas, adding the resultant regional harvests into a total harvest, and then dividing that by the total sown area. Yet I already performed that calculation in my 1991 article employing exactly the same method that they used (Tauger 1991, p. 85). This is shown

³The two other articles were Vyltsan (1970) and Zelenin (1970).

⁴They adjust their 6.2 centner estimate slightly according to certain other considerations that need not detain us here (Davies & Wheatcroft 2004, p. 445).

TABLE 1
CALCULATION OF WEIGHTED AVERAGE GRAIN YIELD BASED ON PUBLISHED STATISTICS FROM
KOLKHOZY V 1932 G. AND OFFICIAL FIGURES

| | <i>Average yield</i> (centners per hectare) | <i>Kolkhoz grain</i> <i>sown area</i> (thousands of hectares) | <i>Harvest</i> (yield x sown area, thousand centners) |
|---|--|---|---|
| USSR | 6.8 | 69,119.7 | 470,013.9 |
| RSFSR | 6.5 | 53,065.1 | 344,923.1 |
| <i>Regional figures:</i> | | | |
| Northern <i>krai</i> | 9.8 | 498.7 | 4,887.2 |
| Leningrad <i>oblast</i> | 7.7 | 535.0 | 4,119.5 |
| Western <i>oblast</i> | 7.2 | 1,411.3 | 10,161.3 |
| Moscow <i>oblast</i> | 8.5 | 2,056.5 | 17,480.2 |
| Ivanov <i>oblast</i> | 9.0 | 667.0 | 6,003.0 |
| Urals <i>oblast</i> | 4.6 | 4,873.2 | 22,416.7 |
| Tatar ASSR | 8.7 | 1,935.7 | 16,840.5 |
| Middle Volga | 5.0 | 6,233.0 | 31,165.0 |
| Central Blackearth <i>oblast</i> | 6.4 | 5,305.8 | 33,957.1 |
| Lower Volga | 3.7 | 6,745.6 | 24,958.7 |
| North Caucasus | 3.9 | 7,112.2 | 27,737.5 |
| Crimean ASSR | 5.3 | 628.6 | 3,331.5 |
| West Siberian <i>krai</i> | 7.7 | 4,438.4 | 34,175.6 |
| Ukrainian SSR | 5.1 | 13,005.0 | 66,325.5 |
| Belorussian SSR | 4.9 | 1,146.9 | 5,619.8 |
| Transcaucasia | 7.0 | 836.8 | 5,857.6 |
| Uzbekistan | 4.3 | 6,15.9 | 2,648.3 |
| Turkmeniia | 7.5 | 96.2 | 721.5 |
| Weighted average yield* | 5.5 | 58,141.8 | 318,406.5 |
| Official grain sowings and harvests for omitted regions, total [†] | — | 10,977.9 | 72,143.2 |
| Weighted average USSR yield, including omitted regions: | 5.65 | 69,119.7 | 390,549.7 |

Notes: *Weighted average yield is calculated from total sown areas and harvests for the regions referred to in the table above.

[†]Official *kolkhoz* harvests for regions omitted from published figures from *Kolkhozy v 1932g.* (*Sel'skoe khozyaistvo SSSR*, 271); Karelian ASSR, 225.2; Bashkir ASSR, 11,782.1; Kazakh ASSR, 20,361.6; Krakalpak ASSR, 99.1; Kirgiz ASSR, 3,455.6; Yakut ASSR, 275.9; Nizhegorod *krai*, 19,686.2; East Siberia *krai*, 10,461.9; Far East *krai*, 3,442.5; Tadzhik SSR, 2,353.1 (total, 72,143.2).

Sources: Average yields see *Kolkhozy v 1932g.*, table 9. Figures from sown areas are from *Sel'skoe khozyaistvo SSSR*, pp. 252–259.

in Table 1 above. Because the annual reports do not cover every region, I included some official harvest data, which tended to inflate the result, but the result was still 5.65 centners per hectare as the average Soviet yield in 1932. Here again, Davies and Wheatcroft omit part of my article in a manner that seems to imply (incorrectly) that the article did not analyse these data in a competent manner.

In their website table, however, Davies and Wheatcroft's own calculations reveal a remarkable pattern of errors. I reproduce this section of their table in Table 2. The crucial column 'AE' in Table 2 purportedly contains regional *kolkhoz* sown areas from the main Soviet publication of agricultural statistics in the 1930s, *Sel'skoe*

TABLE 2

RE-WEIGHTING OF REGIONAL RESULTS OF KOLKHOZ GRAIN YIELD IN 1932 ACCORDING TO SOWINGS OF ALL KOLKHOZY BY SEPARATE REGIONS. CITED IN DAVIES AND WHEATCROFT (2004, PP. 444 – 445), FROM HTTP://WWW.SOVJET-ARCHIVES-RESEARCH.CO.UK/HUNGER

| A | W | X | Y | Z | Yields calc | | | For all kolkhoz households | | | | | | Yields calc | | | | |
|------------|-------|-------|-------|-----|-------------|-----|---------|----------------------------|---------|-------|------------|---------|-----|-------------|-----|---------|-----|--|
| | | | | | Production | MTS | non-MTS | All grain sown area | | | Production | | | all (1) | MTS | non-MTS | All | |
| | | | | | | | | Mts | non-mts | All | Mts | non-mts | All | | | | | |
| 1) NCR | | | | | | | | | | | | | | | | | | |
| | 4 | 84 | 88 | 8.8 | 9.9 | 9.8 | 32 | 373 | 404 | 28 | 369 | 397 | 8.8 | 9.9 | 9.8 | 8.8 | 9.9 | |
| Northern | 1 | 2 | 3 | 6.0 | 6.8 | 6.6 | 4 | 18 | 21 | 2 | 12 | 14 | 6.0 | 6.8 | 6.7 | 6.0 | 6.8 | |
| KareL,ASSR | 27 | 77 | 105 | 7.7 | 7.7 | 7.7 | 155 | 376 | 531 | 119 | 290 | 409 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | |
| Leningrad | 68 | 187 | 256 | 6.8 | 7.4 | 7.3 | 377 | 1,266 | 1,643 | 256 | 937 | 1,193 | 6.8 | 7.4 | 7.3 | 6.8 | 7.4 | |
| Western | 91 | 228 | 320 | 8.6 | 8.5 | 8.5 | 492 | 1,198 | 1,690 | 423 | 1,018 | 1,442 | 8.6 | 8.5 | 8.5 | 8.6 | 8.5 | |
| Moscow | 90 | 155 | 245 | 9.1 | 8.9 | 8.8 | 189 | 428 | 616 | 172 | 380 | 552 | 9.1 | 8.9 | 9.0 | 9.1 | 8.9 | |
| Ivanovo | 85 | 448 | 532 | 8.4 | 9.1 | 9.1 | 454 | 1,850 | 2,303 | 381 | 1,683 | 2,064 | 8.4 | 9.1 | 9.0 | 8.4 | 9.1 | |
| Gorky | 64 | 87 | 150 | 5.0 | 4.8 | 5.0 | 480 | 727 | 1,207 | 240 | 349 | 589 | 5.0 | 4.8 | 4.9 | 5.0 | 4.8 | |
| BSSR | 430 | 1,268 | 1,699 | 7.5 | 8.1 | 8.0 | 2,182 | 6,235 | 8,417 | 1,622 | 5,038 | 6,661 | 7.4 | 8.1 | 7.9 | 7.4 | 8.1 | |
| 2) SCR | | | | | | | | | | | | | | | | | | |
| Transcauc | 157 | 140 | 297 | 7.6 | 6.7 | 7.1 | 207 | 276 | 483 | 157 | 185 | 342 | 7.6 | 6.7 | 7.1 | 7.6 | 6.7 | |
| Uzb | 47 | 0 | 47 | 4.3 | 4.3 | 4.3 | 110 | 110 | 110 | 47 | 47 | 47 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | |
| Turkm | 43 | 10 | 53 | 8.1 | 5.4 | 6.9 | 53 | 232 | 284 | 43 | 125 | 168 | 8.1 | 5.4 | 5.9 | 8.1 | 5.4 | |
| Tadzh | | | | | | | | | | | | | | | | | | |
| 2)SCR | | | | | | | | | | | | | | | | | | |
| | 247 | 150 | 398 | 6.7 | 6.6 | 6.6 | 370 | 507 | 877 | 247 | 310 | 557 | 6.7 | 6.1 | 6.4 | 6.7 | 6.1 | |
| 3) SPR | | | | | | | | | | | | | | | | | | |
| UKSSR | 2,827 | 716 | 3,543 | 5.1 | 5.0 | 5.2 | 7,552 | 6,568 | 14,120 | 3,851 | 3,284 | 7,136 | 5.1 | 5.0 | 5.1 | 5.1 | 5.0 | |
| N,Cauc | 1,893 | 489 | 2,382 | 3.9 | 3.9 | 4.0 | 5,606 | 1,448 | 7,054 | 2,186 | 565 | 2,751 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | |
| Crimea | 210 | 55 | 266 | 5.1 | 5.9 | 5.2 | 460 | 98 | 558 | 234 | 58 | 292 | 5.1 | 5.9 | 5.2 | 5.1 | 5.9 | |
| 3) All SPR | | | | | | | | | | | | | | | | | | |
| | 4,931 | 1,260 | 6,191 | 4.6 | 4.5 | 4.6 | 13,617 | 8,115 | 21,732 | 6,272 | 3,907 | 10,179 | 4.6 | 4.8 | 4.7 | 4.6 | 4.8 | |
| 4) CPR | | | | | | | | | | | | | | | | | | |
| CBE | 808 | 368 | 1,177 | 6.4 | 6.4 | 6.4 | 3,198 | 2,265 | 5,463 | 2,047 | 1,450 | 3,496 | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | |
| L.Volga | 896 | 229 | 1,125 | 3.6 | 4.0 | 3.7 | 3,190 | 3,277 | 6,467 | 1,149 | 1,311 | 2,459 | 3.6 | 4.0 | 3.8 | 3.6 | 4.0 | |

(continued)

TABLE 2
(Continued)

| A | W | X | Y | Z | AA | AB | AC | AD | AE | AF | AG | AH | SAI | AJ | AK | | | | | | | | | | | | |
|----------|---------|---------|--------|---------|------|------|---------|--------|--------|---------|---------|--------|---------|---------|------|----------------------------|---------|-----|---------|-------------|--|--|--|---------------------|--|--|--|
| | | | | | | | | | | | | | | | | For all kolkhoz households | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | Production | | | | Yields calc | | | | All grain sown area | | | |
| Mts | non-mts | all (I) | MTS | non-MTS | All | MTS | Non-MTS | All | MTS | non-mts | all (I) | MTS | non-mts | all (I) | MTS | non-MTS | all (I) | MTS | non-MTS | | | | | | | | |
| C. Volga | 1,532 | 574 | 2,106 | 6.7 | 3.9 | 5.5 | 2,632 | 2,349 | 4,981 | 1,763 | 916 | 2,679 | 6.7 | 3.9 | 5.4 | | | | | | | | | | | | |
| Bashkir | 184 | 273 | 457 | 5.1 | 5.3 | 5.2 | 566 | 1,418 | 1,985 | 289 | 752 | 1,040 | 5.1 | 5.3 | 5.2 | | | | | | | | | | | | |
| Tatar | 287 | 364 | 651 | 8.8 | 8.5 | 8.6 | 456 | 898 | 1,354 | 401 | 763 | 1,165 | 8.8 | 8.5 | 8.6 | | | | | | | | | | | | |
| 4) CPR | 3,707 | 1,808 | 5,515 | 5.5 | 5.1 | 5.3 | 10,042 | 10,207 | 20,249 | 5,648 | 5,192 | 10,840 | 5.6 | 5.1 | 5.4 | | | | | | | | | | | | |
| 5) EPR | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urals | 379 | 632 | 1,012 | 4.2 | 4.8 | 4.6 | 1,505 | 3,285 | 4,790 | 632 | 1,577 | 2,209 | 4.2 | 4.8 | 4.6 | | | | | | | | | | | | |
| W.Sib | 940 | 1,026 | 1,967 | 7.8 | 7.7 | 7.8 | 7,091 | 22,982 | 30,073 | 5,531 | 17,696 | 23,227 | 7.8 | 7.7 | 7.7 | | | | | | | | | | | | |
| E.Sib | 195 | 163 | 359 | 7.1 | 7.8 | 7.4 | 416 | 434 | 850 | 296 | 339 | 634 | 7.1 | 7.8 | 7.5 | | | | | | | | | | | | |
| Far East | 0 | 0 | 0 | | | | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | |
| KazASSR | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kirg | 140 | 30 | 170 | 20.3 | 16.6 | 18.8 | 323 | 162 | 486 | 657 | 270 | 926 | 20.3 | 16.6 | 19.1 | | | | | | | | | | | | |
| 5) EPR | 1,655 | 1,852 | 3,507 | 6.7 | 6.4 | 6.6 | 9,336 | 26,864 | 36,199 | 7,115 | 19,881 | 26,996 | 7.6 | 7.4 | 7.5 | | | | | | | | | | | | |
| USSR | 10,970 | 6,339 | 17,309 | 5.2 | 5.8 | 5.4 | 35,547 | 51,928 | 87,475 | 20,905 | 34,328 | 55,233 | 5.9 | 6.6 | 6.3 | | | | | | | | | | | | |

Notes: All grain sown area for all kolkhoz households: Columns AC, AD, AE: Sel. Khoz. SSSR, Moscow 1936, pp. 243-249.
 All grain production for all kolkhoz households assuming that the reported yields for the investigated kolkhoz households in the separate regions could be applied to all kolkhoz grain sowings in those regions: columns AF, AG, AH: calculated from Z, AA, AB and AC, AD, AE.
 Grain yields for all regions weighted according to all kolkhoz grain sowings: columns AI, AJ, AK: calculated from AF, AG, AH and AC, AD, AE.

khozyaistvo SSSR Ezhegodnik 1935 (Muralov *et al.* 1936). The footnote to the table states that the data in columns ‘AC’, ‘AD’, and ‘AE’ are drawn from *Sel'skoe khozyaistvo SSSR* (pp. 243–249), which is table 97. Table 97, however, lists sown area only by type of crop—winter grain, spring grain, fodder, technical crops, vegetables—and does not distinguish between sectors (*kolkhoz*, *sovkhoz*, individual peasants), so Davies and Wheatcroft could not possibly have obtained that data from this table.

Table 99 in *Sel'skoe khozyaistvo SSSR* (pp. 252–259) does distinguish between sectors, so one might think that this error in reference was just an oversight or misprint, yet the figures in column AE also differ consistently from the data in table 99. The first two columns of Table 3 in the present article compare the actual data from *Sel'skoe khozyaistvo SSSR* with the data from column AE in Davies and Wheatcroft's table. Every single figure is different, and Davies and Wheatcroft's list of sown areas has several gaps, while *Sel'skoe khozyaistvo SSSR* lists data for all regions. Davies and Wheatcroft's numbers did not come from the source they cite.

Their crucial error in this column, however, concerns their figure for Western Siberia. The official figure of the *kolkhoz* sown area is approximately 4.4 million hectares, but Davies and Wheatcroft have a figure of 30 million hectares for Western Siberia in 1932. This figure is certainly incorrect: even at the peak of the Virgin Lands campaign of the 1950s, after years of intense expansion of sowings, the sown area in Western Siberia barely reached 17 million hectares (McCauley 1976, p. 87). Whatever doubts one may have about the official figure of 4.4 million hectares (if anything, it may be an exaggeration), it is certainly in the right order of magnitude. The number that Davies and Wheatcroft included in their table exaggerates the official figure by a factor of seven and thereby substantially inflates their calculations of the total *kolkhoz* sown area and total *kolkhoz* harvest. It is mostly on the basis of this false statistic that they conclude (inaccurately) ‘when the regions are re-weighted in terms of total sown area, the average *kolkhoz* yield for the USSR rises to 6.2 *tcentners* [sic] per hectare instead of 5.4’ (Davies & Wheatcroft 2004, p. 445).

The later columns of Table 3 in the present article show a recalculation of the yield and harvest based on the annual report yields where available, official yields where they are not, and the sown area data from *Sel'skoe khozyaistvo SSSR*. This recalculation, which basically duplicates the table in my 1991 article, clearly shows that the Davies–Wheatcroft ‘re-weighting’ of my data, and their assertion that my data are not representative, are both quite wrong. My recalculation in Table 3 also clearly vindicates my original estimate of a yield around 5.4 centners per hectare, and thereby my calculation of the total Soviet harvest in 1932.⁵

⁵The reason I came up with a lower estimate of 50 million tons for the harvest was that I reduced the sown area to the smaller harvested area, based again on data from the annual reports. Such a reduction of the harvested area is necessary because in every agricultural system harvested areas are smaller than sown areas; many Soviet sources indicate that much of the sown area was not harvested in 1932. See Tauger (1991, p. 84).

TABLE 3
COMPARISON OF DAVIES AND WHEATCROFT'S DATA WITH THE SOURCES THEY CITE AND WITH TAUGER'S
CALCULATIONS

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------------|--------|--------|---------|--------|--------|-------|----------|
| <i>1) NCR</i> | | | | | | | |
| Northern | 499 | 404 | 397 | 499 | 499 | 9.8 | 489 |
| Karel.ASSR | 22 | 21 | 14 | | 22 | 10.2* | 23 |
| Leningrad | 535 | 531 | 409 | 535 | 535 | 7.7 | 412 |
| Western | 1,411 | 1,643 | 1,193 | 1,411 | 1,411 | 7.2 | 1,016 |
| Moscow | 2,056 | 1,690 | 1,442 | 2,056 | 2,056 | 8.5 | 1,748 |
| Ivanovo | 667 | 616 | 552 | 667 | 667 | 9 | 600 |
| Gor'kii | 2,278 | 2,303 | 2,064 | | 2,278 | 8.6* | 1,969 |
| BSSR | 1,147 | 1,207 | 589 | 1,147 | 1,147 | 4.9 | 562 |
| 1) NCR | 8,615 | 8,417 | 6,661 | | | | 6,819 |
| <i>2) SCR</i> | | | | | | | |
| Transcauc | 837 | 483 | 342 | 837 | 837 | 7 | 586 |
| Uzb | 616 | 110 | 47 | 616 | 616 | 4.3 | 265 |
| Turkm | 96 | 284 | 168 | 96 | 96 | 7.5 | 72 |
| Tadzh | 354 | | | | 354 | 6.7* | 253 |
| 2) SCR | 1,903 | 877 | 557 | | | | 1,176 |
| <i>3) SPR</i> | | | | | | | |
| UkSSR | 13,005 | 14,120 | 7,136 | 13,005 | 13,005 | 5.1 | 6,633 |
| N.Cauc | 7,112 | 7,054 | 2,751 | 7,112 | 7,112 | 3.9 | 2,773 |
| Crimea | 629 | 558 | 292 | 629 | 629 | 5.3 | 333 |
| 3) All SPR | 20,746 | 21,732 | 10,179 | | | | 9,739 |
| <i>4) CPR</i> | | | | | | | |
| CBE | 5,306 | 5,463 | 3,496 | 5,306 | 5,306 | 6.4 | 3,396 |
| L.Volga | 6,746 | 6,467 | 2,459 | 6,746 | 6,746 | 3.7 | 2,496 |
| C.Volga | 6,233 | 4,981 | 2,679 | 6,233 | 6,233 | 5 | 3,116 |
| Bashkir | 2,045 | 1,985 | 1,040 | | 2,045 | 5.8* | 1,178 |
| Tatar | 1,936 | 1,354 | 1,165 | 1,936 | 1,936 | 8.7 | 1,684 |
| 4) CPR | 22,266 | 20,249 | 10,840 | | | | 11,870 |
| <i>5) EPR</i> | | | | | | | |
| Urals | 4,873 | 4,790 | 2,209 | 4,873 | 4,873 | 4.6 | 2,242 |
| W.Sib | 4,438 | 30,073 | 23,227 | 4,438 | 4,438 | 7.7 | 3,418 |
| E.Sib | 1,234 | 850 | 634 | | 1,234 | 8.5* | 1,046 |
| Far East | 518 | 0 | | | 518 | 6.6* | 344 |
| KazASSR | 4,009 | | | | 4,009 | 5.1* | 2,036 |
| Kirg | 474 | 486 | 926 | | 474 | 7.3* | 345 |
| 5) EPR | 15,546 | 36,199 | 26,996 | | | | 9,431 |
| USSR | 69,076 | 87,475 | 55,233 | | 74,733 | | 39,035 |
| implied yield | | | 6.3 c/h | | | | 5.65 c/h |

Notes: 1. *Kolkhoz* sown area, table 99, 'Sel'skoe khozyaistvo SSSR Ezhegodnik 1935' (Muralov *et al.* 1936), hereafter S-Kh SSSR, pp. 252–259.

2. *Kolkhoz* sown area, Wheatcroft's table, 1,000 h.

3. *Kolkhoz* harvests, Wheatcroft's table, 1,000 h.

4. *Kolkhoz* sown area from *Kolkhozy v 1932g.*, 1,000 h.

5. *Kolkhoz* sown area, 'Kolkhozy v 1932 gody', using S-Kh SSSR 1935 for gaps, 1,000 h.

6. Yields—annual reports with official data for gaps (S-Kh SSSR, p. 269), centners per hectare.

7. *Kolkhoz* harvest calculated from annual reports or official yields, 1,000 metric tons.

Inadvertent support for my point came in an email that Wheatcroft sent me in 2001 with regard to an article I had just published in the Carl Beck Papers (Tauger 2001b, discussed below). He wrote that 'the Barn yield at this time was always about

20 million tons or so below the biological yield'.⁶ Since the official harvest figure for 1932 was 69 million tons and was a pre-harvest biological yield, subtracting 20 million tons from this gives a barn harvest figure of 49 million tons, which at least implies that his methodology would lead to agreement with my harvest estimate.⁷

Despite the use of erroneous statistics by Davies and Wheatcroft, which has the effect of discrediting my conclusions, the data of the annual reports imply a very small grain harvest in 1932. In raising the issue of how representative these data are, Davies and Wheatcroft again omit a portion of my argument and evidence. In my 1991 article I cited several indicators of declining agricultural production and difficult rural conditions in 1932 to argue that 'production in *kolkhozy* not in the annual reports thus was probably lower than production in those included. If the annual reports came from the better *kolkhozy*, they may bias average production figures upward' (Tauger 1991, pp. 28–83). On the basis of this consideration and other points and evidence, I noted later that 'if the *kolkhozy* that did not complete annual reports had lower harvests than those that did and if *sovkhoz* and *edinolichnik* harvests were as low as their 1932 procurements implied, the harvest may have been well below 50 million tons' (Tauger 1991, p. 84). Davies and Wheatcroft ignored this point, which I made twice in the article, and claimed that I thought that the data *were* representative, which is not what I wrote.

Any discussion or evaluation of the causes and character of the 1932–33 famine in the USSR must begin with and be based on the actual harvest data, which as my article showed, show an extremely small harvest in 1932. All the other data that Davies, Wheatcroft, and other scholars have published—official figures, pre-harvest projections, estimates—are qualitatively different and inferior in reliability.⁸ Davies and Wheatcroft, moreover, cite numerous high-level pre-harvest estimates in Chapter 5 of *The Years of Hunger*, but never document how representative *those* estimates were. Such data should not be described as 'harvest' data, but rather identified as what they really are: propaganda, speculative projections, or educated guesses.

Why was the harvest so small in 1932? On this point, central to Davies and Wheatcroft's book, they again misrepresent my research. My Carl Beck Paper, *Natural Disaster and Human Actions in the Soviet Famine of 1931–1933*, published in 2001, which Davies and Wheatcroft cite, evaluates the relative importance of environmental conditions and human actions in this crisis period (Tauger 2001b). This paper examines weather conditions and other natural factors, the actions of Soviet leaders, dekulakisation, livestock deaths, and peasants' resistance, and the interaction of man and nature, including soil exhaustion and the recurrence of a chronic rodent infestation. Most of these factors had either never been mentioned in any publications, or mentioned in passing, and virtually none had ever been examined on the basis of the archival sources I used. Since virtually all of the 'human factors', especially the decline in livestock and the hunger and weakness of the peasants, were worse in 1933 than in

⁶Stephen Wheatcroft, personal communication, 2001; I will be glad to send a copy of this letter to anyone interested.

⁷I documented that the 1932 official harvest was a biological yield in Tauger (2001a, p. 36 and following pages, p. 39 and following pages, p. 44 and following pages).

⁸I discuss the main problems with these pre-harvest estimates, using international comparisons, in Tauger (2001a).

1932, while the harvest in 1933 was much larger than in 1932, the paper concludes that natural disasters of 1931–32 probably played the preponderant role in causing the famine.

This paper clearly addresses many topics that Davies and Wheatcroft address in *The Years of Hunger*. Yet in their discussion of the 1932 harvest in *The Years of Hunger*, Davies and Wheatcroft discuss my article only in the following footnote:

Mark Tauger has drawn attention to the rust epidemic and its spread from Eastern Europe (see Tauger (2001), 13, 17). In our opinion, however, he exaggerates its importance. He cites Soviet estimates of losses from rust and smut (another significant disease) amounting to 8.9 million tons, but relates these not to the harvest on the root, from which they should be deducted, but to the barn harvest. He also does not pay sufficient attention to the normal losses from rust. According to a Soviet agronomist, more grain was lost to rust in the good harvest of 1933 than in 1932; 15% of spring and autumn-sown wheat were lost in Kursk and Voronezh regions in 1932, and 20% of spring and 26.5% of autumn-sown wheat in 1933 (see Naumov (1939), 5, citing Boevskii's data). (Davies & Wheatcroft 2004, pp. 131–132, fn. 137).

Again a brief statement hides several omissions. First, my article documented a wide range of environmental problems in 1932. It emphasised rust and other plant diseases because data showed they were very significant, and because no previous historians of the famine (including Davies and Wheatcroft) had ever even mentioned this topic before.⁹ Their point about my comparison of plant disease losses to the total harvest again misinterprets my argument: I compared the losses to both projected and real harvests simply to illustrate their magnitude. The crucial point, which Davies and Wheatcroft ignore, is that these data are the only Soviet-wide estimate of losses from the 1932 harvest that are documented with any degree of scientific accuracy: no other primary source of 1932 on a national scale compares to this. On the issue of 'normal losses from rust', I cited an exhaustive CIA report on Soviet agriculture that in turn cited many Soviet studies, historical and agronomic, and I also reviewed Soviet and other literatures on rust in Russian and early Soviet history and in other countries. Here again they ignore my sources.

Their statement that 'according to a Soviet agronomist, more grain was lost to rust in the good harvest of 1933 than in 1932', seems to imply that this agronomist was writing about the entire harvest. In fact, this source, a study of grain rusts in the USSR published in 1939, makes this statement only in relation to two types of wheat in two provinces of the Central Black Earth region, covering less than 5% of the Soviet sown area (Naumov 1939, p. 5).¹⁰ Davies and Wheatcroft note this but did not explain on what basis they concluded that specific data for wheat in part of one region could be generalised to all grain crops in the USSR in 1933; after all, rust affected many other regions and other grain crops in the USSR in this period, as I documented in

⁹Mary Matossian, who is not a specialist on the famine or Stalinism, noted outbreaks of ergot (but not rust) in 1932: see Matossian (1989, p. 25).

¹⁰As can be seen from Table 1, the Central Black Earth Region's total sown area, including wheat and all other grain crops, was approximately 8% of the total sown area; the Naumov source refers only to wheat sowings and only in part of that region.

the Carl Beck Paper. In other words, Davies and Wheatcroft imply a much more general assertion than made in the source or supported by their evidence.

Davies and Wheatcroft's footnote does not mention the fact that I cited the same source they cite on this and other points. Their footnote implies that my article ignored this source, when in fact I used it and even addressed this very issue in my article (Tauger 2001b, p. 16). Here again they omit any mention of my use of sources, which has the implication that I did not use that source.

It is of course legitimate to disagree with another scholar's conclusions, but Davies and Wheatcroft's criticisms of my work are based on an incorrect use of statistics and the omission of detailed references to parts of my evidence and argument that, in important respects, misrepresent my work and seem to discredit my conclusions. Their failure to cite my work in the book on certain key points appears to continue this pattern. For example, in *The Years of Hunger* Davies and Wheatcroft did not cite my evidence and arguments in their discussion of the 1933 harvest, which was much larger than the 1932 harvest and was the main factor that ended the famine in 1933 (Davies & Wheatcroft 2004, ch. 7). Yet my data documented this conclusion more clearly and (as discussed above) on a more reliable basis than any of their published estimates.¹¹

This pattern of omissions and inaccurate citations is regrettable, not only for the reception of my work, but potentially for serious scholarly debate about the Soviet famine, given the prevailing politicised interpretation of it. Wheatcroft, for example, recently wrote that my writings had done 'the profession a disservice by describing the advocates of a political interpretation [of the 1932–1933 famine] as the dominant academic interpretation . . .' (Wheatcroft 2004, p. 117). Yet the main example of the political interpretation, Robert Conquest's *Harvest of Sorrow*, is still in print after 20 years and has been used in thousands of university courses, while *The Years of Hunger* seems to have been used very rarely.¹² Almost all studies of genocide include the 'man-made famine in Ukraine', as do Western and world civilisation and Russian history textbooks.¹³ Advocates of a 'Ukrainian genocide' interpretation persuaded the US House of Representatives to pass a resolution declaring the famine to have been a genocide, and are seeking similar declarations from other governments.¹⁴ In this context, all those who seek a more objective understanding of this event need to avoid such problematic use of each other's scholarship.

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¹¹Davies and Wheatcroft suggested in 1986 that the 1932 harvest was smaller and the 1933 harvest was larger, but according to their speculative estimates (the annual report data were still inaccessible), the two harvests could have been almost the same (for 1932, 55.7 million tons $\pm 10\%$, or as much as 61 million tons, for 1933, 65.1 million tons $\pm 4\%$, or as low as 62 million tons) (Wheatcroft *et al.* 1986, p. 283).

¹²A Google search of 'Conquest Harvest Sorrow syllabus' yields more than 14,000 hits, including syllabi for courses in Russian and Soviet history, European history, the history of genocide, and others. A similar search of 'Davies Wheatcroft Years of Hunger syllabus' yields 49 hits, none of which appear to be a syllabus in Soviet history using their book because there are many people with these names and many items (including a film not about the USSR) with title words including 'years' and 'hunger'.

¹³Examples include Weitz (2005), Totten (2004), and Chalk and Jonassohn (1990).

¹⁴US House of Representatives House Resolution 356, 20 October 2003.

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