



Documented Homicides and Excess Deaths: New Insights into the Scale of Killing in the USSR During the 1930s

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Getty, Rittersporn and Zemskov recently claimed that no more than 2 million people could have perished from collectivization, famine, execution, terror, and forced labor in the USSR during the 1930s. Prior demographic confirmation of this estimate was provided by Anderson and Silver who contended that killings were unlikely to exceed a few million and could not be more than 4.8 million victims. This essay disproves both these contentions by introducing new demographic evidence proving that Stalin killed at least 5.2 million Soviet citizens 1927–1938, with a best estimate in the vicinity of 10 million. Copyright © 1997 The Regents of the University of California

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Introduction

The debate over the lethality of Stalinism has always had three closely related, but distinct aspects: the measurement of politically motivated imprisonment and killing; the dimensions of aggregate victimization; and the feasibility of using demographic evidence to compute homicides. Until recently the controversy over aggregate victimization held center stage because there was insufficient documentary evidence on homicides to prove that people demographically classifiable as excess dead were actually killed, or to satisfactorily determine the causes of their purportedly unnatural deaths. New evidence from disparate sources uncovered since the mid eighties has greatly enhanced our knowledge of Stalinist homicides, but hasn't brought about a firm consensus because the data on politically and non-politically motivated killings point in opposite directions. Documentary NKVD records located in the Central State Archive of the October Revolution of the USSR (TsGAOR), now part of the State Archive of the Russian Federation (GARF) indicate that while a little over 1 million people were executed or died in Gulag camps 1930–1939, mostly as a consequence of the *Ezhovshchina* 1937–1939, only 438 thousand are known definitely to have perished in NKVD colonies and exile during collectivization (Getty *et al.*, 1993). These figures are glaringly discordant with demographic evidence acquired from similarly authoritative Soviet sources which Davies, Wheatcroft, Maksudov, Nove, Ellman and Conquest variously calculate imply anywhere between 4 and 11 million collectivization homicides and famine fatalities (Conquest, 1991a, 1994; Ellman, 1991,

1992; Wheatcroft, 1990, 1995, 1996; Maksudov, 1989; Nove, 1993a; Wheatcroft and Davies, 1994).

These ostensible contradictions are compounded by other documentary evidence which suggest much higher levels of NKVD killing and confinement (Conquest, 1991a, 1994). For example, the Gulag camp and colony population shown in NKVD records reported by Getty, Rittersporn and Zemskov on December 31, 1936 is less than half the figure given by the NKVD to the Census Board in 1937¹. It might seem to follow therefore that the new evidence has only narrowly reduced the range of legitimate dispute over the lethality of Stalinism, even allowing for the possibility that proponents of the NKVD TsGAOR records might revise their maximum estimate of custodial and exile victims above 2 million (Getty *et al.*, 1993). Fortunately, this isn't so. The new criminal and demographic documentary evidence can be pooled to prove that census based excess death calculations are accurate estimators of the scale of Stalinist homicides. This demonstration developed below should settle two of the three outstanding aspects of the debate. It disposes of the methodological controversy over the meaning of excess deaths (Anderson and Silver, 1985, p. 520), and shows contrary to the superficial impression conveyed by the TsGAOR data that homicide validated excess deaths are probatively Orwellian in the vicinity of 10 million 1930–1938/39. The only unresolved scientific issue thus is the magnitude of political repression. Homicide verified excess deaths do not tell yet how many people were actually killed by the NKVD during collectivization, industrialization and the great terror, or how many famine deaths were the deliberate or incidental consequence of Stalin's policies. The data at hand still allow some to argue that less than 1 million collectivization and famine deaths are attributable to political causes while others credibly place the figure at 11 million.² Likewise executions and deaths in Gulag camps 1937–1939 can be legitimately estimated between 0.8 and 3.6 million.³ The scale of aggregate killing obviously prefigures the adjudication of these vital matters, but we will have to await further revelations for a definitive resolution.

Stalinist Homicides: Conceptual and Methodological Issues

Any assessment of the casualties wrought by Stalin's policies must begin with a clear understanding of what needs to be measured. We seek to compute the number of people who were executed or who died prematurely as a result of excessively harsh punishment. The former include judicially sanctioned and extrajudicial executions. The latter include those killed during interrogation, murdered in the Gulag system, shot attempting to escape, as well as those dying in prisons, camps, labor colonies, exile, transit, or civilian localities from physical abuse and politically engineered terror-famine. Anyone killed in these ways is deemed a homicide victim even though he or she might have died later in the year from natural causes.

All homicides of these sorts fall under the demographic rubric of excess deaths, but not all excess deaths are homicides. Some people may have died prematurely for other cataclysmic reasons, and others classified among the excess dead may be phantoms produced by emigration,

1. The Census Board figure is 2.75 million (Conquest, 1991b), (Ellman, 1992); the NKVD figures are 820,881 Gulag camp zeks plus 375,488 prisoners in labor colonies for a total of 1,196,369. This is 43.5 per cent of the Census Board figure. See (Getty *et al.*, 1993), Appendix, pp. 1048–49. See (Bacon, 1994) for an administrative explanation of the incompleteness of the NKVD data.

2. Getty *et al.* (1993), Conquest (1991b) and Wheatcroft and Davies (1994, p. 76) citing Andreev, Darskii and Khar'kova point out that if births were underregistered as contended excess deaths 1927–1936 could reach 12.5 million.

3. Getty *et al.* (1993) and Conquest (1994). This estimate includes all of 1939.

misreporting, overestimated natality and other statistical errors regarding rates of natural mortality. In principle therefore if there are no statistical and reporting mistakes, so that census populations and natural vital statistics are accurate, and no undetected catastrophes transpired, there should be a perfect correspondence between excess deaths and Stalin's homicides. Standard estimates computed using Lorimer's midpoint method under these assumptions will be unbiased homicide measures rather than technical statistical consistency checks as has been sometimes asserted (Anderson and Silver, 1985).

The introduction of statistical omissions and errors complicates matters by shifting the analytic framework from a deterministic to a probabilistic basis, but does not alter the essentials. Generally speaking, uncertainty is a positive function of the amount and incidence of missing information. If gaps are small interpolation should be relatively reliable, and vice versa, subject of course to the quality of the statistics themselves, regardless of whether analysts choose to describe the disparity between actual and expected deaths as a population deficit, or excess deaths. The former term which was coined to distinguish gaps where statistical uncertainty is high as in the case of demographic forecasts, from those where natural vital rates are well established, has sometimes been misapplied to suggest that aggregate excess deaths cannot be reliably computed when children are included in the calculation.⁴ This clearly is terminological nonsense. Excess deaths are computable for any cohort, and their reliability as indicators of homicides and catastrophic deaths depends only on the completeness and accuracy of the pertinent data.⁵

With regard to the Stalinist epoch, scholars persuaded that the scale of killings was high generally have concluded that the pertinent statistics were sufficiently reliable to interpret population gaps as approximate estimators of excess deaths and homicides. Those of the opposite persuasion have dismissed these same gaps as population deficits, signifying little more than the chaotic conditions of the time. The resolution of these conflicting perceptions can be sought in two alternative ways. Missing information may be obtained reducing statistical uncertainty, or sensitivity tests can be employed using life expectancy data to evaluate whether specific estimates fall within the realm of plausibility. Until recently, acquisition of missing observations and other probative documentary evidence had been incomplete, and therefore inconclusive, while the only serious sensitivity study supported the hypothesis that the gaps found using Lorimer's method were best viewed as innocent population deficits for those born during the thirties, and excess deaths for adults understood primarily as indicators of statistical inconsistency. Some of these excess deaths and some portion of the population deficit it was acknowledged were attributable to NKVD executions, Gulag homicides and famine, without hazarding precise estimates other than vague caveats against exaggeration.

Life Expectancy Sensitivity Modeling

The sensitivity study in question was prepared by Barbara Anderson and Brian Silver (Anderson and Silver, 1985). It had two components. The first focused on the mortality behavior of adults recorded in the census of 1926. Since these people were alive at the beginning of the period,

4. Anderson and Silver (1985)Anderson and Silver (1986) disregard this possibility giving the erroneous impression that the distinction between excess deaths and population deficits is always absolute instead of a matter of degree.

5. If for example a single observation were missing most statisticians would argue that the omission was trivial unless there were grounds for believing the suppressed datum was an outlier. Accordingly, a population gap computed with nearly full information normally will be construed as a measure of excess deaths, and as a strong indicator of demographic catastrophe when the results show large population losses. But, this is not the case for Anderson and Silver who start with the presumption that excess death estimates are to be treated primarily as technical consistency checks.

fertility issues were irrelevant and natural survival rates could be estimated straightforwardly from life expectancy tables according to various assumptions. These calculations yielded estimates of pro forma excess deaths; that is, estimates which it was presumed required substantial downward revision to allow for statistical errors, and distortions unintentionally introduced through diverse adjustments, including their own corrections for age heaping. The second component involved children born between the censuses. It too relied on life expectancy tables and mortality assumptions but was augmented to encompass different fertility regimes. The end result was a contingency table providing three population deficit estimates for each assumed life expectancy, yielding 12 possible outcomes.

Anderson and Silver chose three life expectancies to bound their sensitivity analysis from the larger set of options provided by the Coale-Demeny East model tables. The High Mortality (low life expectancy) variant assumed a life expectancy for both sexes combined of 38.6 years and best approximated the mortality rates Lorimer thought actually prevailed in the USSR as a whole 1926–1927. The official life expectancy reported for the European part of the USSR by contrast was 44 years. The High Mortality assumption yielded a pro forma excess death estimate of 0.5 million 1926–1939. The Low Mortality variant assumed a life expectancy of 48.3 years which was close to the official expectation of life at birth for both sexes combined for 1938–1939, (for the entire USSR) 47 years. Pro forma excess death estimates on this score were 5.5 million. The Medium Mortality variant split the difference assuming a life expectancy of 43.5 years, generating 3.2 million excess deaths.

The interpretation of these estimates flows directly from the assumptions. If the high mortality, low life expectancy hypothesis is correct, then proper excess death estimates computed with Lorimer's methodology should generate a relatively small number of potential NKVD prison executions, Gulag prison camp, colony, and transit killings, and exile, collectivization and famine homicides (Anderson and Silver, 1985, p. 523), provided that the data are adjusted for age heaping, and intercensus mortality rates are held at the 1926–1927 level, rather than being interpolated. These 0.5 million souls although far less than the 4.8 million adult excess deaths Lorimer himself computed with his midpoint method, nonetheless are consistent with his interpretation of likely Stalinist homicides and can be construed as the lower limit of the optimists' view. Alternatively, if the mean between the Medium Mortality and Low Mortality (high life expectancy) variants is chosen, the first approximating the average mortality indicated by the initial (European USSR), and the second the end (all USSR) period official mortality rates, there are 4.4 million pro forma excess deaths which is 0.4 million below Lorimer's interpolated midpoint estimate. Apparently, the age heaping adjustment offsets the higher estimates of pro forma excess deaths that would have been otherwise forthcoming from the official data.

Anderson and Silver treat this as a preferred estimate because natural mortality rates surely declined between censuses, without making it clear either that the outcome is intrinsically different than Lorimer's because of the age heaping adjustment, or that they are speaking about pro forma excess deaths, not estimates of Stalinist homicides (Anderson and Silver, 1985, p. 529). As a consequence, their beliefs about Stalin's killings are concealed and all that can be definitively deduced is that they are skeptical of pro forma excess deaths estimates significantly above 4.4 million because they exceed the magnitude indicated by the age heaping adjusted interpolated official mortality mean.

The analysis of potential homicides among children born between 1926 and 1939 is still more inconclusive because their estimates by design measure population deficits rather than excess deaths, although these would come to the same thing for the case where the unknown mean

fertility and natural mortality rates were correctly assumed. This makes it difficult to appraise what proportion of the hypothetical gaps between the actual and expected populations born during the thirties they are prepared to impute to excess deaths. To facilitate comparison it will be assumed that a figure of 400,000 child excess deaths is in order in line with the new information, implying a composite mean sensitivity analysis justified excess deaths seven hundred thousand below Lorimer's original 5.5 million estimate.⁶ Figures substantially above 4.8 million would agree with the high fertility assumption they oppose, and presumably are counter-indicated. The number of homicides inferable from these 4.8 composite million deaths is significantly lower in accordance with whatever scale of statistical error they presume.

Excess Deaths: Postcommunist Revelations

Improved access to Soviet sources brought about by glasnost and the demise of communism has radically changed the computation and appraisal of excess mortality. All the missing natality and natural mortality statistics that had previously clouded the interpretation of excess death estimates have been located and new information has enabled scholars to reestimate the 1939 census population.⁷ As a consequence, current excess death estimates are not only more accurate than their predecessors, they are better estimators of Stalin's homicides, which may only err due to residual statistical biases of various sorts or the misidentification of other catastrophes.

These data reveal that fertility during the early thirties was drastically below interpolated values in line with Anderson's and Silver's conjecture;⁸ that natural mortality closely followed the interpolated path, except in 1933 where approximately 2.8 million people died from starvation,⁹ and that there were approximately 3 million fewer people living in 1939 than previously officially reported (Rosefielde, 1996b, Table A9). Like all data, these statistics are subject to challenges in various regards, but they warrant serious consideration because they were obtained from reputable sources and have been accepted by Stephen Wheatcroft who has long been critical of high excess death estimates.

The composite effect of this new demographic evidence indicates that the Soviet people sustained 9.7 million excess deaths; all probable Stalinist homicides between 1929 and 1938.¹⁰ This figure is 0.75 million greater than previously calculated with the same methodology and the old data (Rosefielde, 1983, Table 3, p. 388); reflects the offsetting effects of different influences, and is virtually identical with recent estimates independently computed by Wheatcroft and Davies (Wheatcroft and Davies, 1994, pp. 76–77). The new natality statistics substantially reduce past estimates of excess deaths inflicted on children from 3.7 to 0.4 million in line with Lorimer's calculation, but this is countervailed by an increase in adult excess deaths attributed to the 1939 census revision. These findings dramatically disconfirm Anderson's and Silver's

6. Rosefielde (1983, Table 11, p. 400) computes 3,790,000 excess child excess deaths. Estimated births 1927–1939 in Rosefielde (1983, Table 3) using the old vital statistics were 70,114,000. Births based on the new vital statistics shown in Rosefielde (1996a, Table 4) are 66,625,000. The difference is 3,489,000, and implies only 301,000 child excess deaths on the assumption that natural mortality rates are broadly similar. The new mortality rates however are lower. Adjusting the old child excess death figure upward for this factor yields a new figure of $[(1.0358 \times 3,790,000) - 3,489,000] = 436,766$. Lorimer estimated that there were 4.8 million adult and 0.7 million child excess deaths. Ellman (1991) however claims higher rates of child mortality based on Andreev's, Darskii's and Khar'kova's demographic estimates. See Note 2.

7. See Tolts (1995). The unpublished census board population figure for 1939 coincides closely with Tolts's estimate. (Rosefielde, 1996a, Table A9).

8. See Anderson and Silver (1985, p. 524) and Rosefielde (1996b, Table A17). But also see Note 2.

9. Wheatcroft (1990) estimates the same figure.

10. See Rosefielde (1996a, Table 4), plus 2.8 million deaths revealed by Wheatcroft's mortality statistic for 1933.

hypothesis that their life expectancy sensitivity model establishes that pro forma adult excess deaths cannot exceed 5.5 million.

Stalin's Homicides

This is illuminating, but doesn't settle the further question of the relationships among pro forma excess deaths, excess deaths, and Stalin's homicides. What percent of the excess dead should be treated as Stalinist homicides? The data in Table 1 are instructive. They represent a compilation of documented but incomplete homicide statistics prepared by scholars who have consistently favored low estimates of Soviet repression. The nature of the documentation differs across categories, and its quality is variable. As such they provide an impression of the minimum level of killing deemed plausible based on available documentary evidence.

The data reveal that there were at least 5.2 million homicides 1930–1939 including 724 thousand NKVD confirmed execution orders, and 360 thousand Gulag camp fatalities. Another 70 thousand died in NKVD controlled prisons and colonies, and 438 thousand perished in exile, yielding a grand total of 1.6 million, which clearly exceeds Anderson's and Silver's lower limit estimate of 0.5 million adult excess deaths based on Lorimer's High Mortality assumption. The remaining casualties include 2.8 million famine victims computed directly from the official mortality statistic for 1933 reported by Wheatcroft, and 0.8 million collectivization fatalities net of exiles counted separately.

The core figures need to be corrected in various ways for comparison with Anderson's and Silver's sensitivity estimates. Fifty thousand odd executions, Gulag camp, and prison deaths incurred in 1939 must be subtracted for consistency with the census population, but a similar number should be added for omitted prison homicides 1930–1934. The statistics exclude executions, Gulag camp homicides and killings in transit throughout the archipelago which Rittersporn and Wheatcroft believe could be substantial.¹¹ Likewise Wheatcroft has located NKVD documents which suggest that he might have to raise the lower limit he has placed on collectivization deaths by 0.5 million. An adjusted lower bound in the vicinity of 5.5 million Stalinist homicides 1929–1938/39 therefore is probably in order (Wheatcroft, 1990).

This figure coincides with what appears to be Anderson's and Silver's upper bound, and of course it greatly surpasses the scale of homicides they seem willing to infer from Lorimer's and their own excess death calculations, corrected for statistical distortion.

Moreover, it must be recognized that the discovery of 5.5 million bodies validates the excess death methodology as a homicide indicator, creating a strong presumption that most of the additional unexplained 4.2 million excess deaths could also be killings, a point consistent with the fact that some scholars previously endorsing low estimates concede that homicides could substantially exceed the indicated upper bound. Wheatcroft is prepared to accept 1 million additional collectivization victims (Wheatcroft, 1995), Nove and Ellman are willing to go 3–5 million further (Ellman, 1992; Nove, 1990a, 1990b, 1993a), and Wheatcroft and Davies estimate 9.8 million fatalities (Wheatcroft and Davies, 1994, pp. 76–77). Clearly, the new criminal and demographic evidence has drastically changed the terms of the debate by demonstrating that excess deaths derived from official data plausibly establish levels of killing previously dismissed as unthinkable.¹²

11. Discussion at the conference on Lager, Zwangsarbeit, Vertreibung und Deportation: Dimensionen der Massvernichtung in der Sowjetunion und Deutschland 1933–1945, Evangelische Akademie, Mülheim/Ruhr Germany, 27 February–3 March 1995. Cf. (Getty *et al.*, 1993, p. 1024).

12. See the discussion of Maksudov's and Mace's estimates in Anderson and Silver (1985).

Concealed Homicides

The preceding estimates and inferences drawn from them assume that official vital statistics, including those previously suppressed,¹³ and the revised 1939 census adjusted by Tolts and

Table 1. Documented Homicides in the USSR 1930–1939

| | Documentary basis | Compiler | Documentary source | Homicides |
|---|--------------------|---|--------------------------------|-----------|
| Total documented homicides | | | | 5,204,384 |
| Composition: | | | | |
| 1. Collectivization | Estimate | Wheatcroft | Diverse fragmentary data, NKVD | 787,165 |
| 2. Famine | Enumerated samples | Wheatcroft | Official mortality rate | 2,825,000 |
| 3. Executions | Enumeration | Getty, Rittersporn, Zemskov, Wheatcroft | NKVD | 724,381 |
| 4. Gulag camp | Enumeration | Getty, Rittersporn, Zemskov, Wheatcroft | NKVD | 360,437 |
| 5. Gulag prisons and colonies 1935–1939 | Enumeration | Getty, Rittersporn, Zemskov | NKVD | 69,566 |
| 6. Exiles | Enumeration | Getty, Rittersporn, Zemskov | NKVD | 437,835 |

Sources: Rosefelde (1996b, Tables A1 and A5); Getty *et al.* (1993); Wheatcroft (1990, Tables A1, A2 and A3); Wheatcroft (1995, Table 3); Wheatcroft (1996).

Homicides: Deaths directly attributable to Stalinist oppression, whether or not judicially sanctioned through execution, brutalization, forced labor and starvation. Killings of other kinds are included in official mortality rates.

Methods: *Collectivization*: (Wheatcroft, 1990) estimates collectivization deaths other than those computed directly for the famine year 1933 at 1,225,000 to 2,225,000. These figures can be compared with the Getty *et al.* (1993) figure of 964,411 comprised of 437,835 known exile deaths, and 526,576 estimated peasant deaths which are neither documented by the NKVD, nor are attributable to famine. Exile fatalities are listed separately in Table 1 and therefore have been subtracted from Wheatcroft's lower bound (1,225,000 – 437,835 = 787,165). Wheatcroft has also discovered 500,000 more potential collectivization victims in the NKVD material, but is inclined to interpret the discrepancy as a reporting irregularity. The data in question suggest almost 500,000 people (over two thirds) of the Gulag population either died or ran away from camps in 1931. According to Zemskov 486,320 people vanished from the kulak exile population. Wheatcroft suggests they were transferred to Gulag, citing a report dated 13 July 1931 from Fushman (deputy chairman of TsVKh) to Molotov stating that GUITU, OGPU transferred 625,000 special exiles to Soyuzlesprom. But their return to exile is not documented and Fushman's figure does not match the 427,500 missing from the Gulag Conjunction Reports for 1931 that Wheatcroft recognizes can be interpreted as evidence they were killed.

Famine: Computed by multiplying the estimated 1933 population by the documented mortality rate for 1932 to obtain estimated official deaths, and subtracting the natural component calculated in the same way with the mortality rate for 1932. Wheatcroft reports the same result without explaining his arithmetic (Wheatcroft, 1990).

Executions: Judicial death sentences from NKVD archive reported in Wheatcroft (1995, Table 3) and Getty *et al.* (1993) use the same data.

Gulag Camp: NKVD certified deaths 1934–1939 reported in Getty *et al.* (1993, Appendix, pp. 1048–1049). Estimates 1930–1932 computed from Wheatcroft's Gulag end period population data for these years, and his mean Gulag camp mortality rate 1933–1939 (67 per thousand). The figure for 1933 is calculated in the same way except Wheatcroft's Gulag camp mortality rate of 152 per thousand is used in place of the 1933–1939 mean.

Gulag Prison and Colonies: Getty *et al.* (1993, p. 1024). This figure is for the period January 1935 to the beginning of 1940, and represents a minimum enumeration. It is also stated that 86,582 people perished in prisons 1939–1951, or 6660 per annum.

Exiles: Getty *et al.* (1993, p. 1024), report that 1,473,424 people died from execution, Gulag homicides in prisons and labor colonies and peasants known to have perished in exile. Exile deaths can therefore be obtained by subtraction: 1,473,424 – 724,381 (executions) – 241,642 (Gulag camp deaths 1934–1939 from their Appendix) – 69,566 (prison and labor colonies) = 437,835.

13. Anderson and Silver (1985, p. 523) imply that these data were not suppressed. They suggest that the stresses of the times impaired the quality of the vital statistics collected and that the government probably concluded that it would be imprudent to publish misleading information. This same kind of argument could be advanced to impugn the new information, but the documented homicides make such explanations implausible.

independently confirmed by the Census Board are accurate. We now know that the cumulative consequence of any distortions in these variables cannot reduce excess deaths much below 5.5 million, but what about deviations in the opposite direction? The estimates based on multiple sources often far exceed 9.7 million fatalities and have ranged upward of double that figure. The highest estimates were predicated on information given to Antonov-Ovseenko (Antonov-Ovseenko, 1980) by demographers in Gulag about the 1937 census which Ellman has shown were correct, but incomplete (Ellman, 1992). Given the latest available evidence on the 1937 census it now seems as if Conquest's figures serve as a better benchmark for the high end estimates. They indicate that during the thirties up to the 1939 census 13.5 million people were killed including 7 million famine victims and 4 million collectivization deaths 1930–1936, and 2–3 million great terror fatalities 1937–1938.¹⁴ The relationship of these subestimates to those supportable by the official demographic data can be illuminated by computing excess deaths for the subperiods 1930–1936 and 1937–1938 with the aid of the official 1937 population reported by the Census Board. They indicate that there are 8.6 million excess deaths including 2.8 million subsumed in the mortality rate for 1933 attributable to collectivization and famine, peasants executed by the NKVD, and those killed in Gulag camps, prisons, colonies and transit. Imputable great terror deaths total 1.1 million (Rosefelde, 1996a Tables 5 and 6). Conquest's collectivization and famine victims exceed attributable excess deaths by 2.4 million and his great terror estimate by 0.9 to 1.9 million.

Both these discrepancies could be largely eliminated other things being equal, if the 1937 population were adjusted downward from 162 to 159.5 million (Table 2) and the 1939 census lowered from 167.5 to 163.5 (Table 3). A case can be made for corrections of both these sorts. The adjustment Tolts has made to the 1939 census has not yet been extended to the 1937 census. Van den Berg's population estimate for January 1933 of 158 million derived from data compiled by Gertsenzon and Shlyapochnikov is compatible with a census figure near 160 million for 1937, given the official mortality statistic for 1933.¹⁵

An adjustment of the 1937 census population of this sort, necessarily affects excess deaths in the subsequent subperiod. In this instance it eliminates them, reducing killings below the 0.8 million homicides reported by the NKVD and logically entailing further downward adjustment of the 1939 census of at least the same magnitude. A reduction of 1.6 per cent from a census figure of 166.7 million should suffice to bring Conquest's great terror homicide estimate into agreement with the core demographic data.¹⁶ This is hardly beyond the bounds of plausibility. Conquest indicates double counting in the 1939 census of 3 to 3.5 per cent.¹⁷ The under-registration of births during the famine years provides another potential basis of support. According to Andreev *et al.* (1990) as many as 5.5 million children were excluded from the official crude birth statistics in the early thirties, raising the potential excess death toll 1930–1938 above 15 million (Wheatcroft and Davies, 1994, p. 76).

14. Conquest states that there were 11 million excess deaths up to 1937, including 7 million famine victims and that 2–3 million were shortly to die in camps during the Ezhov period (Conquest, 1991a, pp. 950–951). By the end of 1938 he asserts 5.5 to 6.5 million zeks were alive, 90 per cent of whom subsequently died. These 5.5 million victims and those subsequently sentenced are excluded here because the 1939 census only ran through part of January of that year.

15. See van den Berg (1985, Table 2, p. 117). Also Kurman in a letter to Kraval reported that 1–1.5 million people reported by the NKVD as alive in the 1937 census were dead sources (Conquest, 1994, p. 1038). NKVD Gulag camp deaths reported by Getty *et al.* (1993), updated by Wheatcroft (1995) show only 194,013 fatalities 1930–1937.

16. Alternatively Ellman (1992) asserts that the 1937 census figure was nearer 163 than 162 million, which would add 1 million homicides to the great terror excess death total. This adjustment however would reduce, rather than augment collectivization excess deaths.

17. See Conquest (1994, p. 1039). The evidence Conquest advances could support a downward adjustment of 5 million people, all potential homicide victims.

Table 2. Excess deaths 1927–1936 (Adjusted Official Census Data; Wheatcroft's vital statistics)

| Year | Population 1 January (thousands) (1) | Birth per 1000 population (2) | Deaths per 1000 population (3) | Births (thousands) (4) | Deaths (thousands) (5) |
|---------------------|--|-------------------------------------|--------------------------------------|---------------------------|---------------------------|
| 1927 | 147,135 | 43.6 | 21.3 | 6415 | 3134 |
| 1928 | 150,416 | 42.5 | 18.5 | 6393 | 2783 |
| 1929 | 154,026 | 40.1 | 20.6 | 6176 | 3173 |
| 1930 | 157,030 | 37.9 | 19.7 | 5951 | 3093 |
| 1931 | 159,887 | 35.4 | 19.6 | 5660 | 3134 |
| 1932 | 162,414 | 31.9 | 20.5 | 5181 | 3329 |
| 1933 | 164,265 | 25.3 | 37.7 | 4156 | 6194 |
| 1934 | 162,228 | | | | |
| Discrepancy | - 8526 | | | | |
| 1934 | 153,702 | 25.6 | 19.8 | 3935 | 3043 |
| 1935 | 154,593 | 33.0 | 17.6 | 5102 | 2721 |
| 1936 | 156,974 | 32.6 | 18.2 | 5117 | 2857 |
| 1937 | 159,234 | | | | |
| Actual increase | 12,099 | | | | |
| Expected births | 54,086 | | | | |
| Expected deaths | 33,461 | | | | |
| Births minus deaths | 20,625 | | | | |
| Discrepancy | - 8526 | | | | |

Sources: Rosefelde (1983, p. 393); Conquest (1991a, p. 950); Wheatcroft (1990, Table 1, p. 358).

Data: The 1937 census statistic has been adjusted proportionally for Tolts's 1939 census adjustment. See Table A10.

Method: Estimates 1934–1938 are extrapolated backward according to the formula $P^{t-1} = P^t / (1 + \alpha - \beta)$ where α is the birth rate and β is the death rate in year $t - 1$.

Conclusion

New demographic evidence and NKVD criminal homicide data (TsGAOR) confirm that at least 5.2 million people classifiable as excess deaths perished during the thirties. This validates the reliability of excess deaths as a homicide estimator contrary to Anderson's and Silver's

Table 3. Excess deaths 1937–1938 (Hypothetical Census Data; Wheatcroft's Vital Statistics)

| Year | Population 1 January (thousands) (1) | Birth per 1000 population (2) | Deaths per 1000 population (3) | Births (thousands) (4) | Deaths (thousands) (5) |
|---------------------|--|-------------------------------------|--------------------------------------|---------------------------|---------------------------|
| 1937 | 159,500 | | | | |
| Discrepancy | - 2472 | | | | |
| 1937 | 157,028 | 38.7 | 17.9 | 6228 | 2881 |
| 1938 | 160,294 | 37.5 | 17.5 | 6160 | 2875 |
| 1939 | 163,500 | | | | |
| Actual increase | 4000 | | | | |
| Expected births | 12,088 | | | | |
| Expected deaths | 5616 | | | | |
| Births minus deaths | 6472 | | | | |
| Discrepancy | - 2472 | | | | |

Sources: Rosefelde (1983, p. 393); Tolts (1995, p. 8); Wheatcroft (1990, Table 1, p. 358).

Data: The official census population for 1937 has been adjusted by setting it at a level consistent with Conquest's excess death estimate 1930–1936. The 1939 population is fixed to generate the 2.5 million excess deaths Conquest estimates 1937–1938.

Method: Estimates 1934–1938 are extrapolated backward according to the formula $P^{t-1} = P^t / (1 + \alpha - \beta)$ where α is the birth rate and β is the death rate in year $t - 1$.

assertions, and strongly indicates that 4.2 million other computable excess deaths were victims of Stalinism. Higher homicide tolls in the vicinity of 13.5–14.3 million calculated by Conquest are also demographically possible, given remaining uncertainties about unregistered births during the famine years and the censuses of 1937 and 1939. These findings are consistent with the research of Nove, Ellman, Maksudov, Wheatcroft and Davies based on the new demographic evidence, but disconfirm the NKVD TsGAOR criminal data which Getty, Rittersporn and Zemskov contend do not permit estimates of custodial and exile deaths above 2 million. Recent archival revelations thus clearly establish that the scale of Stalinist lethality was Orwellian. This does not dispose of the further issue of determining how many people were killed intentionally on political grounds and how many perished incidentally as a consequence of collectivization and forced industrialization. It can still be argued that politically motivated homicides did not exceed 1.6 million on the basis of the NKVD (TsGAOR) data, and that only about 1 million of these fatalities are morally equivalent to Hitler's genocidal killings as Wheatcroft recently suggested,¹⁸ but the scale of slaughter indicated by homicide verified excess deaths appears to confute both interpretations.

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18. See Wheatcroft (1996, p. 1348). Wheatcroft argues that only one million of the approximately 10 million excess deaths he and Davies estimate 1927–1938 under Stalin's rule were murders (executions) in a sense comparable with the 5 million Jews, and other civilian minorities he estimates were killed by Hitler. Wheatcroft's estimate of one million includes executions after the January 1939 census until Stalin's death in 1953. This low number is derived by undercounting the gulag population, and hence prison, camp and transit deaths (cf. Rosefield, 1996a), disregarding extrajudicial killings, the gulag military suicide troops in WWII, and treating all other excess deaths (primarily peasants) as lesser crimes. Clearly, comparative appraisals of Hitler's and Stalin's crimes against humanity depend on what analysts choose to compare. If the standard is race hatred, Wheatcroft is surely right. The laurel should go to Hitler; if terror (rationalized as the suppression of class enemies) is the norm, Stalin appears more deserving.

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